



AACSB
ACCREDITED



TWSCB



SIENACollege™
The education for a lifetime

The Seventeenth Annual Ted Winnowski '63 Student Conference in Business

TWSCB 2023

Vol. 16 (1)

Editors:

Nicole Davis ('25)

Cheryl Buff, Ph.D.
Professor of Marketing

Ashley Provencher, Ph.D.
Associate Professor of Economics



Ted Winnowski '63

Ted Winnowski, a financial and corporate consultant, is also a strategic member of Columbia Business Advisors, a private consulting firm in the Northwest, plus Veber partners an investment banking firm. Previously, he served as president and chief executive officer of Centennial Bank and Centennial Bancorp, Portland. He has more than 30 years of financial and banking experience, having begun his career at KeyCorp's flagship bank in Albany, New York. He served as president and CEO of KeyBank of Oregon, KeyBank of Washington, and EVP of KeyCorp's Northwest Region in Seattle. Prior to banking assignments, he served with the IRS in New York City and the U.S. Army in France.

He graduated with a bachelor's degree in economics from Siena College and did post-graduate work in business and management at Rensselaer Polytechnic Institute and at the National Graduate Trust School of Northwestern University. He recently served as a board member for Regence BlueCross and BlueShield of Oregon, is the former Honorary Consul of the Republic of Poland in Oregon, and is honorary board chair for the Portland Chamber of Commerce (currently Portland Business Alliance).

His former community activities include the chairmanship of the Oregon Bankers Association, and membership in the Mayor's Business Round Table, the Association for Portland Progress, the World Affairs Council of Oregon, and the United Cerebral Palsy. He currently serves on the Board of Regents, University of Portland and as past chair for six years.

TABLE OF CONTENTS

BUSINESS

A REVIEW AND COMPARISON OF EATING MOTIVATION SCALES

Author: Liamell Quezada

Faculty Mentor: Dr. Sinem Atakan

ECONOMICS

ASSESSING VARIATIONS IN OPINION ON HEALTH BEHAVIORS AND POLICIES OF NEW YORK STATE RESIDENTS BASED ON AGE, REGION, RACE, AND GENDER

Author: Thomas Ragone

Faculty Mentor: Prof. Travis Brodbeck

CAPITALISM WITH GUARDRAILS- HOW CHINA’S HISTORY HAS LED TO ITS PRACTICE OF AUTHORITARIAN CAPITALISM

Author: Madoka Weldon

Faculty Mentor: Prof. David Liebschutz

CROP ACREAGE MANAGEMENT IN THE CENTRAL VALLEY PROJECT AS A METHOD OF REDUCING IRRIGATION WATER CONSUMPTION AND INCREASING FARMER REVENUES

Author: Jasper Paez

Faculty Mentor: Dr. James Booker

FEDERAL RESERVE CHALLENGE 2022

Research Team: Ashton Britt, Ryan Kasuba, Antonio Pallozzi, Connor Smith, & Prentiss Richardson

Presentation Team: Aidan Gallagher, Koal Kornfield, Daniel Solis, & Olugbenga Adelaja

Faculty Mentor: Dr. Aaron Pacitti

THE COLLAPSE OF LEBANON: AN ANALYSIS INTO LEBANON’S POLITICAL ECONOMY

Author: Hussein Fayad

Faculty Mentor: Dr. Arindam Mandal

THE IMPACT OF CHILD CARE COST AND ACCESSIBILITY ON PARENTAL LABOR FORCE PARTICIPATION

Authors: Jacob Williams & Madeline Trotta

Faculty Mentors: Dr. Ashley Provencher & Dr. Matthew Davis

THE ROLE OF EMOTIONS IN EXPLAINING BEHAVIORAL ECONOMIC ANOMALIES: EVIDENCE FROM NEUROSCIENCE

Author: Bella Kieser

Faculty Mentor: Dr. Matt Davis

ENTREPRENEURSHIP

AIO HEALTH

Author: Maria Carzo, Nick Dupree, Alex Hawkins, & Nate Anderson
Faculty Mentor: Prof. Michael Hickey & Dr. Daniel Robeson

DISCONNECT TO RECONNECT (D2R)

Author: Sean Neeson, Johnathan Masih, & Olivia Martin
Faculty Mentor: Prof. Michael Hickey

PROTEIOS

Author: Kayla Bailey, Luca Santabarbara, Morgan Connally, & John Clifford
Faculty Mentor: Prof. Michael Hickey

FINANCE

FROM INNOVATION TO INSOLVENCY: INVESTIGATING SILICON VALLEY BANK'S DEMISE

Author: Alexander Kelley, Brian Mack, & Emily Nash
Faculty Mentor: Dr. Fang Zhao

MANAGEMENT

A HEALTH STATUS UPDATE ON WOMEN IN AFRICAN COUNTRIES: CURRENT STATISTICS, CRITICAL DILEMMAS AND KEY CORRELATIONS

Authors: Maria Carzo & Gabrielle Hunter
Faculty Mentor: Dr. Andrea Smith-Hunter

MARKETING

COLLEGE STUDENTS' PERCEPTIONS OF MENTAL WELLBEING AND PHYSICAL ACTIVITY: WHAT DOES THIS MEAN FOR THE SIENA STUDENT EXPERIENCE

Author: Emma McLaughlin
Faculty Mentor: Dr. Cheryl Buff

INFLUENCERS: TO FOLLOW OR NOT TO FOLLOW?

Author: Leah Chatalian
Faculty Mentor: Dr. Cheryl Buff

POLITICAL SCIENCE

BEYOND TRIBALISM – WHAT VOTER PREFERENCES OF LEADERSHIP STYLE AND PERSONALITY TRAITS IN PRESIDENTIAL CANDIDATES REVEALS ABOUT AMERICAN POLITICAL LEADERSHIP

Author: Samuel Hearn
Faculty Mentor: Dr. Daniel Lewis

A REVIEW AND COMPARISON OF EATING MOTIVATION SCALES

Liamell Quezada, Siena College
Dr. Sinem Atakan, Siena College

ABSTRACT

Researchers and practitioners have a wide variety of scales to choose from when they want to investigate food consumption motivations. The goal of this research is to review and compare these scales. An extensive literature review revealed five direct scales (in English) that measure eating motivations. Content analysis of the dimensions that make up the scales pinpoints that eating motivations are related to a wide range of physiological, psychological, social, and functional factors. We find that at least eight specific motivations drive our eating behavior: healthy and weight (nutritious, natural content, weight control), mood/affect regulation, reward, sensory pleasure, ethical concerns, social (compliance, socialization, enhancing image, social exposure), mindless eating, and functional/practical concerns. The findings give a comprehensive overview of eating motivations and assists researchers and practitioners to identify the right scale(s) given their research goals.

ASSESSING VARIATIONS IN OPINION ON HEALTH BEHAVIORS AND POLICIES OF NEW YORK STATE RESIDENTS BASED ON AGE, REGION, RACE, AND GENDER

*Thomas Ragone, Siena College
Prof. Travis Brodbeck, Siena College*

ABSTRACT

This past January–February, in partnership with the NYS Department of Health, Siena College Research Institute conducted a mixed-mode survey of 1,658 New York State citizens regarding various public health issues and residents' health behaviors. A variety of question sequences surrounding respondent behaviors, support for public policy, and health risks were inquired from respondents of different demographics such as race, region, age, and education to represent a state-wide sample. To ensure representativeness among the multiple populations within the model, the survey data was adjusted through iterative weighting, which processed multiple variables simultaneously; these included age, region, race/ethnicity, income, and gender. After weighing this data, it was analyzed to reveal any patterns in SPSS Statistics. This paper aims to determine whether patterns observed in initial descriptive statistics are significant such as older residents expressing fewer concerns about health care and health policy initiatives. Additionally, it outlines potential next steps and recommendations for stakeholders in the community based on the data.

1. INTRODUCTION

There is an ever-expanding concern for health issues in New York State. Several significant threats to residents include Cancer, Obesity, Mental Illness, Substance Abuse, and COVID-19. It is substantial that Public Health data is continuously analyzed to help explain why people may be at risk of these diseases and hurdles or to understand why they think they are. A notable amount of inquiries in the SCRI Health Survey were centered around Cancer. The questions targeted what factors respondents thought contributed to Cancer. The representation of this disease through questions was necessary because of the toll Cancer takes on New York residents. According to the New York State Cancer Registry, in 2019, 116,169 new cases were diagnosed, and there were 33,497 deaths due to this disease (New York State Cancer Registry, 2021). Following questions surrounding what citizens think causes these diseases and issues in the community, residents were then asked whether or not they believed public policy implementation would help address general health issues.

Whether residents agree or disagree, public health policies exist in New York and are proven to protect residents from illnesses. For example, New York State has vital immunization requirements that provide mandatory vaccinations for children from diseases such as Measles, Mumps, Rubella, Polio, and

Hepatitis B. Interestingly, there was a recent measles outbreak. In New York State in 2019, there were 649 confirmed measles cases, which ended up being due to delayed vaccination among young children (Rosen et al., 2019). Overall, these lawful requirements have successfully helped prevent the spread of infectious diseases. Before the Measles vaccine was released in the 1960s, there were countless cases, as nearly all children got the disease before they turned fifteen, and between 400-500 citizens would die each year (Centers for Disease Control and Prevention, 2021). In 1989 in New York, Measles vaccine regulations were released, requiring the vaccine for children and citizens who want to attend school and universities (New York State Department of Health, 2018). Cases decreased dramatically until 2000, when the United States declared Measles eliminated (Centers for Disease Control and Prevention, 2021). The NYS Health Connector Website has a dashboard displaying “Measles Watch.” The dashboard shows that there have been 426 cases since the outbreak in 2019 and zero in the last six weeks (New York State Department of Health, n.d.)

Therefore health issues in New York are significant, and health policies can be effective. When examining the results from the SCRI survey, citizens may differ in the belief that public policy is necessary. Therefore health issues in New York are significant, and health policies can be effective. This study pushes to address existing correlations between citizens of different demographics and their feelings on implementing public health policies to affect the overall health of New York State citizens. Answering these questions will help determine New Yorkers’ public health opinions:

- 1) How do different demographics, such as race, region, and age, feel about public health?
- 2) What demographics view Access to Health Care as an obstacle in New York?
- 3) How do people differ based on socioeconomic backgrounds in their opinion of their perceived influence in public health policy?

2. IMPORTANCE OF HEALTH SURVEYS

Collecting data through surveys effectively gathers information from a large sample. Surveys typically use standardized questions and response options that optimize the understanding and accuracy of questions. They are also cost-effective as they save expenses. Another benefit is allowing respondents to remain anonymous.

Health Surveys, in particular, are significant because of the information they provide. For instance, outcomes could be; the identification of health risks to specific groups, the revelation of health trends, differences in access to health care, guidance for health intervention, and many more. Additionally, large-scale health surveys have helped inform policy decisions, such as the National Health Interview Survey (NHIS). The National Health Interview Survey (NHIS), run by the Centers for Disease Control and Prevention (CDC), aims to analyze the health, health behaviors, and healthcare access of the United States population (U.S. Census Bureau, n.d.). The (NHIS) survey supports why the United States government enacted the Affordable Health Care Act (ACA) in 2010. Within the act's title is the regulation's goal of making health care affordable. Analyzed survey results from before and after the enactment displayed an increase of citizens with health insurance by 4.5 million by 2014 (Fingar et al., 2018). There are many more historical events in which health surveys guided the path for regulation or continued support for current legislation. Hence, the responsibility of these surveys in our country holds immense value.

The SCRI survey also shares the potential to be valuable. Analyzing data in this health survey will not change policy; however, it is a piece of a more significant puzzle in understanding health opinions. For example, answers to the survey questions could determine potential relationships between

health habits and specific demographics. While one may not be able to infer health correlations in the SCRI survey accurately, it can promote support to study correlations further. Specifically, in this survey data, if health opinions or issues are significantly recognizable concerning an age group, race, region, or gender, this paper will push for more research regarding these patterns.

2.1 RISKS TO HEALTH SURVEYS

While health surveys assist policy and healthcare actions, discrepancies and risks are noticed when analyzing data. Some possible concerns for these surveys include privacy, limitations, and various forms of bias. Privacy concerns often occur when respondents feel that sharing information over the phone or online is unsafe as they do not trust that their responses will be kept confidential. Secondly, how the survey is conducted could potentially limit the reach and output of results. For example, how questions are framed and asked over the phone may cause hesitation or misinterpretation. Lastly, several forms of bias may interfere with how citizens participate in the survey. These include:

- 1) Non-Response Bias
- 2) Self-Selection Bias
- 3) Social Desirability Bias

Non-Response Bias is an error in the representation of respondents in a survey because the sample size did not achieve its reach or it was not randomly selected (Leopold & Schneider, 2018). Non-response bias could be analyzed in a health survey when persons with specific health issues or socioeconomic backgrounds decide not to participate. For example, a study titled “Socioeconomic Status and Racial or Ethnic Differences in Participation: Web-Based Survey” suggests a significant difference exists between the consent of non-Hispanic White and Asian citizens’ participation in surveys vs. Black citizens’ consent. The study determined that Black citizens were underrepresented in survey data, as they were less likely to engage.

Self-Selection Bias is derived from citizens’ choice of whether or not to participate in a survey because of their beliefs/characteristics. For example, a made-up survey on whether or not people wanted to exercise could result in an athletic group entertaining the questionnaire more, leading to the misrepresentation of a given population (Statology, n.d.). Self-Selection bias in health surveys could be due to responses from the modes utilized (Online, Phone, Paper). If the survey is online through a fitness clothing brand, it will likely not be visible to people not on that website. Additionally, these surveys in specific regions of the country are at risk of indirectly targeting groups subject to particular health issues and ignoring the general population.

Social Desirability Bias is an issue when citizens respond to a survey in a way that makes them believe they are more socially acceptable or desirable instead of representing themselves accurately (American Psychological Association, n.d.). This is a significant issue in health surveys as respondents may want to answer questions to make themselves seem to be engaging in healthier behaviors. For example, one claims they have never used Marijuana because of negative stigmas surrounding the drug’s use when, in reality, they have. More risks are associated with these types of studies; however, there are methods utilized to produce an accurate representation of the general population.

3. METHODOLOGY

The Siena College Research Institute (SCRI) conducted this health survey through phone calls and online services to reach 1,658 residents of New York. They were determined to gather public health opinions. Moreover, residents from all regions of New York, 18 and older, were interviewed to represent

a random state-wide sample (Siena College Research Institute, 2023). While conducting the survey, the researchers seek to accurately represent populations within the study area—requiring specific research methods to be practiced. This survey was enabled to establish accuracy through careful wording and random sampling.

Starting with wording, surveyors utilize inclusive or neutral language. The Linguistic Society of America wrote, “Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities”(Linguistic Society of America, 2021). Therefore, this method of questioning can create a noninfluential and respectful interpretation that encourages the respondent to answer and will not interfere with their opinion. These surveyors also attempt to reduce the words in their questions simply because they do not want to confuse or influence their respondents. Another crucial method used in this survey to protect accuracy was random sampling. This process ensured that the larger population was represented by the fact that respondents chosen to survey were arbitrarily picked from various populations.

3.1 DATA COLLECTION

Surveyors primarily relied on landline and mobile phone calls for their interviews. However, the survey was also online. The data was collected using random digit dialing, and the sample was chosen from wireless telephone exchanges from within New York State. 922 Respondents completed the survey through their cell phone, 427 completed it through landline calls, and 309 completed it online (Siena College Research Institute, 2023). These calls were made from 1:00 PM to 9:00 PM Monday through Thursday and between 2:00 PM and 8:00 PM on Sundays. The landline phone numbers were bought from ASDE Survey Sampler, and the cell phone numbers were purchased from Dynata. The Surveyors would call each number a maximum of seven times to determine if the number dialed existed. Phone calls are determined to have the best probability standard for selection (Siena College Research Institute, 2023).

On the other hand, the online sample was given through Lucid, a market research platform. To ensure representativeness, the samples online matched a set of demographic quotas. An attention check also needed to be completed before taking the survey. Although web panels are known to sometimes display self-selection bias, they are a vital way to collect data. Web panels can gather results quickly and cost less than other polling methods (American Association for Public Opinion Research, 2022).

3.1.1 MARGIN OF ERROR

The margin of error is a statistical measure used to represent how accurate survey or poll results are. It is calculated using the sample size, confidence level, and standard deviation of the survey results, [Margin of Error = $Z * (\text{Standard Deviation} / (\sqrt{\text{SAMPLE SIZE}}))$] (Stat Trek, 2021). The smaller the margin of error, the more reliable the results are. The margin of error in this survey data, given the total sample of 1,658, is +/- 2.7% (Siena College Research Institute, 2023). This was determined using a 95% confidence level weighting the data. Therefore, every 95 out of 100 samples of the same size and type would vary by plus or minus 2.7% from the result of what the entire population would say in an interview.

3.1.2 RESPONSE RATES

Survey response rates are the percentage of people who participated in a survey vs. the total number of people contacted about or shown the survey. Therefore it is the ratio of the completed questionnaires and total surveys released. The importance of response rates in this field of research stems from the impact they hold on representing reliability and accuracy. The rates are affected by which modes are utilized and how long and complex understanding the survey is. A higher response rate helps ensure

representativeness, meaning more people participated in the survey than not. Low response rates take a toll on the worth of the data and the time to gather it, resulting in studies requiring additional funding and resources. Response rates are mainly significant because of the time and cost required to conduct surveys. It is typically calculated as [Response Rate = (Completed Surveys / Eligible Respondents)]. A study on Response Rates conducted by Jack Fincham wrote, “Response rates approximating 60% for most research should be the goal of researchers” (Schaefer, Coyne, & Lazarus, 2007). Conversely, the standard from this piece of literature differs from the response rate the SCRI obtained. This is because they utilized “e,” the eligibility multiplier applied to unknown households. Therefore SCRI used the most conservative version of the response rate applying a high likelihood of eligibility to each potential respondent in the same sample. Most call dispositions are Non-contacts in the form of answering machines or voicemails. A smaller portion of the calls are people who answer the phone but cannot answer the questions or refuse to, and lastly, the tiny portion who answers and participates in the survey. SCRI Health survey used the American Association of Public Opinion Response Rate Calculation, Response Rate #4. The data had an online response rate of 30% and an overall telephone response rate of 1.5% (Siena College Research Institute, 2023).

3.2 WEIGHTING FOR REPRESENTATIVENESS

The SCRI data underwent weighting by age, region, race/ethnicity, income, and gender to ensure representativeness, specifically, Iterative weighting. Researchers use this statistical method to adjust survey data to represent the population better. When rounds of weighting are performed, beginning weights are purely based on the survey results and then used repeatedly to reweight the data until the result is statistically stable (Kohut, Keeter, Doherty, & Dimock, 2018).

We can look at the unweighted information in the SCRI survey to demonstrate the impact of weighting by comparing the two outcomes. Below are tables representing the data of gender and age prior to and after weighing.

Gender	Unweighted	Weighted
Males	774 (46.7%)	781 (47.1%)
Females	858 (51.7%)	851 (51.3%)

Age Groups	Unweighted	Weighted
18-34	332 (20.0%)	486 (29.3%)
35-54	493 (29.7%)	514 (31.0%)
55+	773 (46.6%)	598 (36.1%)

It is visible that each group of gender and each group of age was adjusted to show representativeness, which helped us determine accurate patterns.

3.3 CROSS TABULATIONS

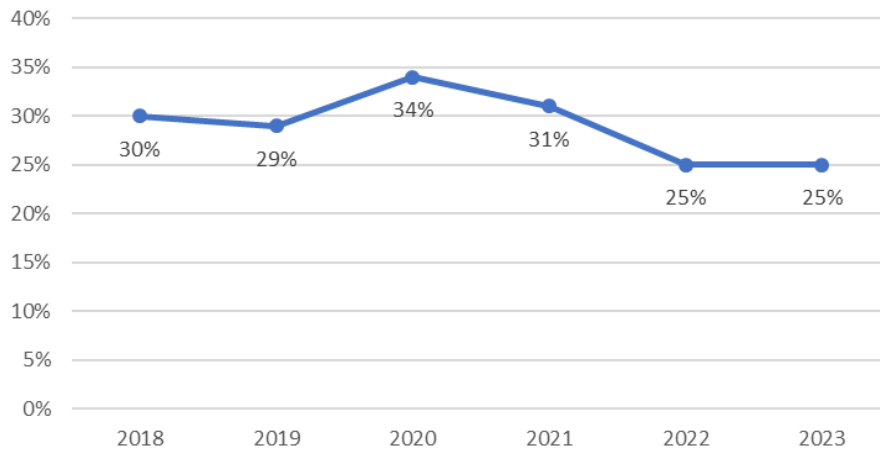
Analyzing this data in SPSS Statistics resulted in the use of cross tabulation, which helps display relationships between multiple variables from answers with different characteristics. This is utilized when numerous inquiries are examined with demographics such as race to find potential correlations. The Crosstabulations utilized in this paper were taken from the SCRI.

3.4 TRENDS OVER TIME

From 2017 until 2023, Siena College Research Institute has displayed the total state-wide answers to the survey questions by percentage in Cross Tabulation tables. **Exhibit 1** shows the crosstabulation tables and trend graphs of questions one, eight, and twenty-one.

Q1. In general, do you think Americans today are healthier than they were a generation ago, less healthy or are they about as healthy today as they were a generation ago?						
	2022/ 2023	2021/ 2022	2020/ 2021	2019/ 2020	2018	2017
Healthier	25%	25%	31%	34%	29%	30%
Less healthy	53%	53%	49%	44%	46%	50%
About as healthy	17%	15%	17%	18%	22%	17%
Don't know/Refused	4%	6%	4%	4%	4%	4%

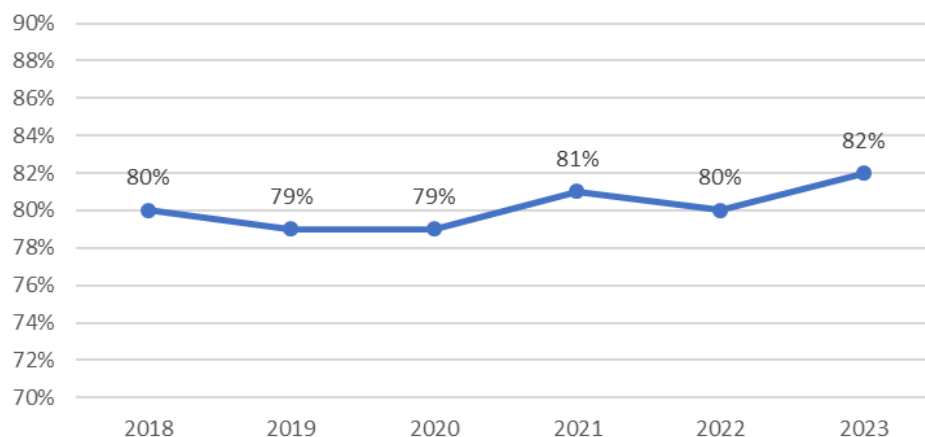
Q1. Percent of Respondents that believe Americans are healthier today than they were a generation ago.



Q8. Access to health care

	2022/ 2023	2021/ 2022	2020/ 2021	2019/ 2020	2018	2017
Very serious public health problem	55%	53%	51%	49%	51%	52%
Somewhat serious public health problem	27%	27%	30%	30%	28%	28%
<i>Total Serious Problem</i>	82%	80%	81%	79%	79%	80%
Not very serious public health problem	10%	11%	12%	12%	12%	12%
Not at all a serious public health problem	6%	5%	6%	6%	6%	6%
<i>Total Not Serious Problem</i>	16%	16%	18%	18%	18%	18%
Don't know/Refused	2%	3%	1%	2%	3%	2%

Q8. Percent of Respondents that believe Access to Healthcare is a Total or Serious Health Problem



Q21. In general, how much influence, if any, do you think people like you can have over which public health problems the government chooses to prioritize?						
	2022	2021	2020	2019	2018	2017
A lot	16%	15%	13%	17%	13%	13%
Some	26%	28%	34%	29%	28%	30%
Total Significant Influence	42%	43%	47%	46%	41%	43%
A little	30%	30%	30%	31%	33%	31%
None at all	25%	22%	21%	21%	24%	25%
Total Insignificant Influence	55%	52%	51%	52%	57%	56%
Don't know/Refused	3%	4%	3%	3%	1%	1%

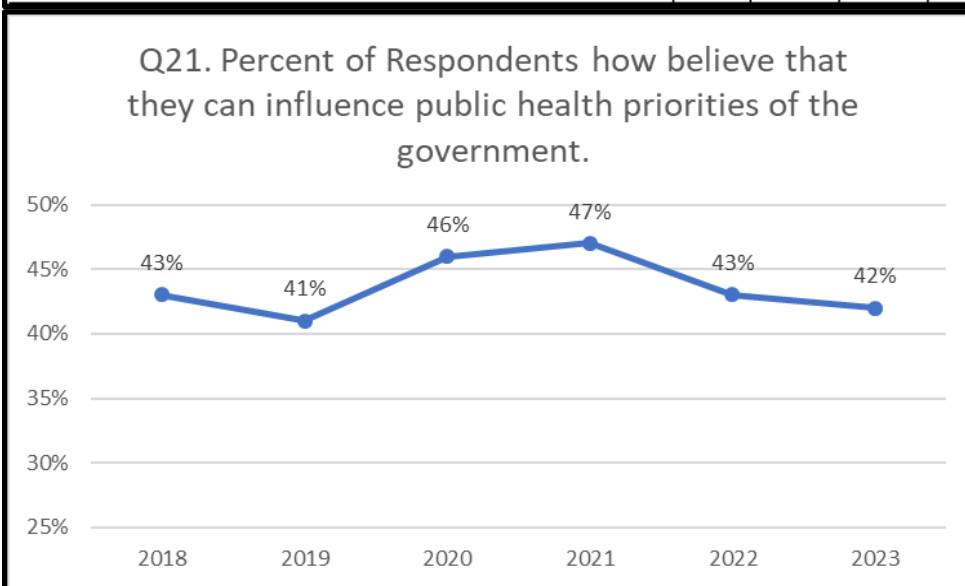


Exhibit 1 - Bigger Picture Questions

3.4.1 ANALYSIS OF PUBLIC HEALTH TRENDS

Questions one, eight, and twenty-one focus on broader, more significant inquiries of opinion by New York State Residents—the trends within question one reveal that more New Yorkers sense Americans are less healthy overall than a generation ago, with an average over the last six years of 49% of people responding “Less Healthy.”

Question eight displays a significant trend with little change over the last six years. Overall more citizens believe access to healthcare is a “Total Serious Problem,” with an average belief of 80% of respondents over the last six years.

Question twenty-one focuses on how much influence residents thought they had over the government in prioritizing public health problems, which reveals mixed feelings. However, 23% of people felt they had no influence during the last six years, and 74.5% believed they had at least a little influence, with an average of 2.5% of respondents answering “Don’t know/Refused.”

3.5 CROSS TABULATIONS IN QUESTION (1) BY DEMOGRAPHICS

Q1. In general, do you think Americans today are healthier than they were a generation ago, less healthy or are they about as healthy today as they were a generation ago?											
	Age				Region			Ethnicity			
	18-34	35-49	50-64	65+	NYC	Subs	Upst	White	Afr Amer	Hispanic	Other
Healthier	27%	23%	21%	30%	27%	29%	21%	28%	21%	21%	24%
Less healthy	55%	51%	59%	47%	52%	52%	55%	50%	57%	60%	53%
About as healthy	15%	20%	17%	18%	16%	15%	20%	19%	16%	14%	17%
Don't know/Refused	3%	6%	3%	5%	5%	4%	4%	3%	7%	5%	6%

Q1. In general, do you think Americans today are healthier than they were a generation ago, less healthy or are they about as healthy today as they were a generation ago?						
	Education		Income			
	Less than college	College degree	<\$25K	\$25K-\$50K	\$50K-\$100K	\$100K+
Healthier	19%	31%	21%	18%	27%	29%
Less healthy	60%	48%	55%	61%	54%	50%
About as healthy	16%	18%	13%	16%	17%	18%
Don't know/Refused	5%	3%	10%	4%	2%	2%

Exhibit 2

3.6 CROSS TABULATIONS IN QUESTION (8) BY DEMOGRAPHICS

Q8. Access to health care											
	Age				Region			Ethnicity			
	18-34	35-49	50-64	65+	NYC	Subs	Upst	White	Afr Amer	Hispanic	Other
Very serious public health problem	68%	59%	46%	40%	61%	57%	45%	47%	67%	65%	64%
Somewhat serious public health problem	21%	24%	34%	31%	22%	25%	34%	31%	20%	20%	23%
Total Serious Problem	89%	83%	80%	71%	83%	82%	79%	78%	87%	85%	87%
Not very serious public health problem	4%	9%	13%	17%	9%	9%	12%	13%	5%	8%	7%
Not at all a serious public health problem	3%	5%	7%	9%	6%	4%	6%	7%	5%	4%	4%
Total Not Serious Problem	7%	14%	20%	26%	15%	13%	18%	20%	10%	12%	11%
Don't know/Refused	3%	3%	0%	2%	1%	4%	3%	2%	1%	4%	2%

Q8. Access to health care						
	Education		Income			
	Less than college	College degree	<\$25K	\$25K-\$50K	\$50K-\$100K	\$100K+
Very serious public health problem	54%	56%	54%	53%	55%	58%
Somewhat serious public health problem	25%	29%	21%	30%	29%	26%
Total Serious Problem	79%	85%	75%	83%	84%	84%
Not very serious public health problem	12%	9%	10%	10%	9%	11%
Not at all a serious public health problem	7%	4%	8%	5%	6%	4%
Total Not Serious Problem	19%	13%	18%	15%	15%	15%
Don't know/Refused	3%	2%	7%	3%	1%	1%

Exhibit 3

3.7 CROSS TABULATIONS IN QUESTION (21) BY DEMOGRAPHICS

Q21. In general, how much influence, if any, do you think people like you can have over which public health problems the government chooses to prioritize?											
	Age				Region			Ethnicity			
	18-34	35-49	50-64	65+	NYC	Subs	Upst	White	Afr Amer	Hispanic	Other
A lot	24%	14%	11%	13%	23%	13%	10%	11%	24%	24%	19%
Some	25%	24%	27%	27%	26%	24%	27%	25%	28%	26%	30%
Total Significant Influence	49%	38%	38%	40%	49%	37%	37%	36%	52%	50%	49%
A little	28%	30%	33%	32%	26%	35%	33%	33%	24%	29%	25%
None at all	19%	29%	26%	26%	22%	26%	27%	27%	20%	18%	25%
Total Insignificant Influence	47%	59%	59%	58%	48%	61%	60%	60%	44%	47%	50%
Don't know/Refused	4%	2%	3%	1%	3%	2%	3%	3%	5%	3%	2%

Q21. In general, how much influence, if any, do you think people like you can have over which public health problems the government chooses to prioritize?						
	Education		Income			
	Less than college	College degree	<\$25K	\$25K-\$50K	\$50K-\$100K	\$100K+
A lot	19%	14%	29%	13%	17%	11%
Some	25%	26%	26%	30%	27%	25%
Total Significant Influence	44%	40%	55%	43%	44%	36%
A little	26%	34%	20%	31%	30%	35%
None at all	25%	24%	18%	23%	24%	28%
Total Insignificant Influence	51%	58%	38%	54%	54%	63%
Don't know/Refused	4%	2%	8%	4%	1%	1%

Exhibit 4

4. DATA ANALYSIS

There are correlations in opinion among the three questions by the respondents' ages, regions, ethnicities, and socioeconomic backgrounds. There is an observable value from each question above.

- 1) **Exhibit 2** shows which demographic groups and socioeconomic backgrounds express a positive opinion on American population health vs. a negative opinion.
- 2) **Exhibit 3** displays the difference in opinion on access to health care by demographics and socioeconomic backgrounds.
- 3) **Exhibit 4** demonstrates how much influence citizens perceive themselves to have over public health by demographics and socioeconomic backgrounds.

4.1 DESCRIPTIVE STATISTICS (QUESTION 1)

- It is essential to note that these results reflect perceptions and beliefs and may not necessarily reflect objective health measurements.
- AGE
 - The age group most likely to believe Americans are healthier today compared to a generation ago is 65 and older. On the other hand, the age group most likely to believe Americans are less healthy today compared to a generation ago is 35-49 years old.
- REGION
 - The results suggest that across all regions in New York, most respondents believe that Americans are less healthy today than a generation ago.

- **ETHNICITY**
 - These results show that the perceptions of health in America differ among certain ethnic groups, specifically African Americans and White citizens. African American respondents have the highest percentage who believe Americans are less healthy, while White respondents have the highest percentage who believe Americans are healthier.
- **INCOME**
 - All income levels had the highest percentage of respondents, suggesting Americans were less healthy than a generation ago. Most respondents that felt Americans were healthier were from the highest income level (\$100k+).
- **EDUCATION**
 - Most respondents with less than a college degree and with a college degree felt that Americans were less healthy than a generation ago. However, more college-educated graduates felt that Americans were healthier than respondents who did not attend college.

4.1.2 DESCRIPTIVE STATISTICS (QUESTION 8)

- **AGE**
 - Younger age groups are more likely to perceive access to healthcare as a severe public health problem, precisely, 18-34-year-olds. Hence, people considering access to healthcare less of a public health problem increases with age, with 65+ being the leader.
- **REGION**
 - Respondents who consider access to healthcare a severe public health problem are from all regions. NYC is the highest, with 83% of respondents stating it is a serious problem.
- **ETHNICITY**
 - All respondents, regardless of race, suggest that access to healthcare is a severe public health issue. However, White residents feel this way somewhat less than others.
- **EDUCATION**
 - Both Education levels below a college degree and above suggested that Access to health care was a serious public health problem. However, college graduates felt this way even more.
- **INCOME**
 - At all income levels, respondents mostly felt that access to health care was a serious public health issue. Interestingly, people below the threshold of \$25,000 per year felt it was less important than any other income level.

4.1.3 DESCRIPTIVE STATISTICS (QUESTION 21)

- **AGE**
 - The youngest age group, 18-34, felt they had the strongest influence over government health policy, at 49%. All other age groups were similar in the number of respondents that felt they had influence and did not.
- **REGION**
 - In New York City, most citizens felt they were influenced by government health policy, and they felt this way significantly more than in other regions. Suburban and Rural regions both suggested similar amounts of perceived influence and no influence but felt more that they had insignificant influence.

- ETHNICITY
 - White respondents stand out as having the least perceived total influence, as all other ethnicities feel they have much more influence.
- EDUCATION
 - Among those with less than a college degree, 44% feel they can have at least some influence over public health policy. While 25% of those with less than a college degree feel they have no influence. 40% of college graduates feel they have at least some influence. In comparison, 24% believe that they have none.
- INCOME
 - Respondents who believe that people like them can influence which public health problems the government chooses to prioritize decrease as income decreases.

5. DISCUSSION

The results were relatively similar among each demographic within the data sets for all three questions. However, interesting discrepancies did appear, such as whites perceiving the least influence over public health policy and the lowest income level suggesting that access to health care was less of an issue than any other income group. This is intriguing because most people may associate no health insurance as an issue for the least wealthy citizens. However, that was not the outcome of the survey. The most valuable piece of data this paper seeks to further research is regarding access to health care.

Almost all respondents in question eight were highly concerned that access to health care is a significant issue. This raises a few questions: Is access to health care minimal, how many people in New York have health insurance, and if healthcare is a significant issue, what policies could help change? Additionally, there was a significant difference in how White citizens felt vs. African American, Hispanic, or others. Between 85 and 87% of people of other ethnicities said this issue was severe, whereas only 78% of White residents feel that way. Another interesting question is how access to health care impacts people that are not white, as the issue may be much worse for other races.

Regarding what policies could help change, it is essential to analyze how past policies helped eliminate trouble accessing health care. Ballotpedia covered the results of the Affordable Health Care Act and wrote, “Between 2013 and 2016, the number of uninsured individuals in New York declined from 2.1 million to 1.2 million, a 42.9% decrease.” (Ballotpedia, n.d.). As mentioned, the Affordable Health Care Act sought to make health care easier to access, and while there was an increase in people with insurance after this act, it may not have been enough.

According to the New York State of Health website, after various health insurance updates, 6,918,942 New York residents were enrolled in health insurance programs this past January (New York State of Health, 2023). Comparing this to the population of all citizens in New York, the census from 2022 would suggest that approximately 35% of New York citizens enrolled in health insurance very recently (U.S. Census Bureau, n.d.). The sudden spark in newly insured residents is due to the American Rescue Act, Inflation Reduction Act, and the Essential Plan, which allowed for more affordable healthcare plans in New York. More from the New York State of Health website states that these programs have been very successful; the Essential plan has “reduced premium and out-of-pocket costs for enrollees by more than \$1,600,” and the American Rescue Act has “over 94,000 new members enrolled in QHP coverage.” (New York State of Health, 2023).

New York has made effective strides to ensure residents have better access to health care. The issue still may exist in how much people pay for health insurance and whether they can sustain it. Also,

expanding inflation in the United States and stagnant wage growth could still cause this problem for some. While the uninsured population of New York is only 5.9% (Statista, 2022), the state should continue to try to get that number down. Without insurance, people are often left to avoid visiting their doctors and receiving treatments. Massachusetts is a local state with some similar demographics to New York as they have a large city and rural population. The rate of uninsured residents in Massachusetts is 3% (Statista, 2022). So while New York may not be terrible, there is room for improvement. In March, Massachusetts released a health care reform that empowered residents with more available health care. While they hold the lowest uninsured rate of any state in the country (Statista, 2022), they still seek to improve and ensure everyone has access to health care. New York should also continue on this path and promote similar regulations.

6. FURTHER RESEARCH

It is fascinating how many people in the SCRI survey suggested that healthcare access is a severe public health issue. This issue seems to move in the right direction as millions enroll in plans. Surveys that request opinions on health behaviors are very intriguing. This paper suggests that respondents should also be asked how often they keep up with policies regarding public health in New York. This would create grounds to analyze the data between how people feel vs. how much they know. Another factor that should be considered for more research is the effect on the quality of life for citizens without health insurance and access to health insurance based on race. This is important even with low rates of uninsured residents because the issue still exists and takes a toll on our society. Also, more patterns from this survey and other New York health surveys should be analyzed to determine any more possible variations and correlations.

7. CONCLUSION

After analyzing the statewide results among different demographic categories, we have discovered the following trends:

- 1) Access to healthcare is viewed as a severe public health problem by 8 in 10 New Yorkers, ranking highest compared to other issues. However, older New Yorkers and those living in upstate New York appear less concerned about this issue than other demographics.
- 2) Half of New Yorkers believe that Americans are less healthy today than a generation ago, although this belief is less common among older, white, and upstate New Yorkers.
- 3) There is a divide among New Yorkers regarding their perceived influence on public health initiatives, with younger residents and non-white residents feeling more influential than their older and white counterparts.

Despite the Affordable Care Act being passed over a decade ago, concerns about access to healthcare persist in New York. Affordability and quality of care may be driving factors behind these concerns. Additionally, while the COVID-19 pandemic has highlighted the importance of public health policy, most New Yorkers do not feel confident in their ability to influence such policies. Given these findings, further research is needed to understand why New Yorkers believe this generation is less healthy than the last.

The strong surveying skills of Siena College Research Institute allowed for this analysis. While nothing significant was determined in the larger questions, it was intriguing to see New Yorkers' mass agreement regarding the perceived lack of health care. Health opinions relayed in surveys vary for many reasons, and they can offer critical guidance in deciding future policies or expanding current regulations.

References

- American Association for Public Opinion Research. (2022). Best Practices for Survey Research Online. Retrieved from <https://aapor.org/wp-content/uploads/2022/12/Online-Panels-508.pdf>
- American Psychological Association. (n.d.). Social desirability bias. In APA dictionary of psychology. <https://dictionary.apa.org/social-desirability-bias>
- Ballotpedia. (n.d.). Effect of the Affordable Care Act in New York (2009-2017). Retrieved April 24, 2023, from [https://ballotpedia.org/Effect_of_the_Affordable_Care_Act_in_New_York_\(2009-2017\)](https://ballotpedia.org/Effect_of_the_Affordable_Care_Act_in_New_York_(2009-2017))
- Centers for Disease Control and Prevention. (2022, February 2). Measles history. Retrieved April 12, 2023, from <https://www.cdc.gov/measles/about/history.html#era>
- Fingar, K. R., Raghavan, R., Barrett, M. L., Caffrey, A. R., & Steiner, C. A. (2018). Trends in health insurance and access to medical care for US adults aged 18-64 years: Data from the National Health Interview Survey, 1997-2012. *Journal of General Internal Medicine*, 33(4), 538-546. doi 10.1007/s11606-017-4222-7
- Leopold, T., & Schneider, S. (2018). Nonresponse Bias. *GESIS Survey Guidelines*. GESIS - Leibniz Institute for the Social Sciences. <https://www.gesis.org/en/gesis-survey-guidelines/statistics/nonresponse-bias>
- Linguistic Society of America. (2021). Guidelines for inclusive language. <https://www.linguisticsociety.org/resource/guidelines-inclusive-language>
- New York State Cancer Registry. (2021). Cancer incidence and mortality in New York State - Table 2: All invasive cancer sites, age-adjusted incidence rates, New York State excluding New York City, 1976-2019. <https://www.health.ny.gov/statistics/cancer/registry/table2/tb2totalnys.htm>
- New York State Department of Health. (n.d.). Measles Watch. Retrieved April 18, 2023, from <https://nyshc.health.ny.gov/web/nyapd/measles-watch>
- New York State of Health. (2023, April). Health Insurance Coverage Update [PDF file]. Retrieved from <https://info.nystateofhealth.ny.gov/sites/default/files/Health%20Insurance%20Coverage%20Update%20-%20April%202023.pdf>
- Pew Research Center. (2018). How different weighting methods work. *Pew Research Center Methods*. Retrieved from <https://www.pewresearch.org/methods/2018/01/26/how-different-weighting-methods-work/>
- Rosen, J. B., Arciuolo, R. J., Khawja, A. M., Fu, J., Giancotti, F. R., Zucker, J. R., & Zimmerman, C. M. (2019). Consequences of undervaccination — Measles outbreak, New York City, 2018–2019. *New England Journal of Medicine*, 381(24), 2293-2294. <https://www.nejm.org/doi/full/10.1056/NEJMoa1912514>
- Schaefer, C., Coyne, K. S., & Lazarus, C. J. (2007). The case for using a revised WSS to calculate response rates for surveys. *Survey Practice*, 1(2). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2384218/>
- Siena College Research Institute. (2023). Survey methods and sample characteristics. Retrieved April 21, 2023, from <https://www.siena.edu/scri/>
- Statology. (n.d.). Self-selection bias. Retrieved from <https://www.statology.org/self-selection-bias/>
- Statista. (2022). Health insurance status of the total population of Massachusetts in 2021. Retrieved April 21, 2023, from <https://www.statista.com/statistics/238766/health-insurance-status-of-the-total-population-of-massachusetts/>
- Statista. (2022). Health insurance status of the total population of New York in 2021. Retrieved April 21, 2023, from <https://www.statista.com/statistics/238805/health-insurance-status-of-the-total-population-of-new-york/>
- Stat Trek. (2021). Margin of error. Retrieved April 19, 2023, from <https://www.statisticshowto.com/probability-and-statistics/hypothesis-testing/margin-of-error/#WhatMofE>
- U.S. Census Bureau. (n.d.). National Health Interview Survey (NHIS). Retrieved April 18, 2023, from <https://www.census.gov/programs-surveys/nhis.html>
- U.S. Census Bureau. (n.d.). QuickFacts: New York. Retrieved from <https://www.census.gov/quickfacts/NY>

CAPITALISM WITH GUARDRAILS- HOW CHINA'S HISTORY HAS LED TO ITS PRACTICE OF AUTHORITARIAN CAPITALISM

*Madoka Weldon, Siena College
Prof. David Liebschutz, Siena College*

ABSTRACT

China's extensive dynastic history has given it the foundation atop which authoritarian regimes could be unwavering in their dominance over the Chinese people for its entire history. From the tyrannical and imperious Qianlong Emperor of the Qing dynasty, to the peaceful Tang Dynasty, authoritarian rule has characterized Chinese governance in many different forms, and has never been challenged by outside forces such as the aristocracy or the church. Even during Mao Zedong's Cultural Revolution, Mao managed to maintain China's ancient tradition of absolute power over the people while advocating for the rejection of all traditional Chinese practices, values, and ideas. This paper will discuss the modern state of China and analyze how its history has allowed it to experience the fastest economic growth of any other country in the world without loosening the grip they have on their citizens. It is assumed that authority and legitimacy of the state is a function of democracy, but the Chinese have more authority and legitimacy than many other states and they certainly do not exercise democracy. From when Deng Xiaoping instituted the Open Door Policy in 1978, to what China's "open door" looks like today, this paper will go over all of China's enormous strides economically (until recently) using this authoritarian capitalism model, and it will also critique some of the perceived accomplishments that has earned China the reputation it has. This will include discussion regarding the limitations of such centralization in today's global market and what China's future could potentially look like. Is there a limit to how big China can grow? What are the sources of these limitations? Will China ever be forced to prioritize its culture over its economy? What are the true costs and benefits of this shift? This paper seeks to answer these questions.

China's dynastic history of authoritarian rule

A clear understanding of China's roots is crucial when identifying and analyzing China's economy in the modern era, as China's dynastic history laid the foundation for the values and principles upon which other decisions have been made. This is most exemplified by the unwavering presence of an authoritarian power throughout China's 3,500+ years of existence as a nation state¹. As rare as it is to see a single element of a civilization endure, it is indeed the case that China has been unwavering in its implementation of centralized rule, and it is for that reason that we are unlikely to see democracy or any semblance of liberalism in China. This is because Chinese culture, since its formation, has viewed the

¹ A nation-state would be a sovereign territory with one group of individuals who share a common history.

national government as a kind of paternalistic figure. By contrast, those of us in the West would see the government as an entity to be tamed and limited with the stronger the grip a government uses, the greater the resistance from its people. The struggle to balance the power between citizen and state is virtually universal, with the exception being China. The Chinese government sees far less resistance to government control and far more celebration of its leaders, and this is not because the Chinese are a special race wired to embrace authoritarian control. The reasoning for this respect, and what would later be better described as forced acceptance, of central authority can be traced back to the days of Chinese dynasties.

The Tang Dynasty (618 AD - 907 AD) exemplified centralization in a wide variety of forms. It developed a strong government, oversaw daily life, but they also patronized the arts and scholarship, creating a flourishing culture and intellectual climate. By promoting cultural elements that were widely enjoyed and accessible to society, many of the Tang Emperors fostered loyalty and trust among their subjects, as seen in other historical examples, such as Augustan Rome.²

Emperor Xuanzong is considered the most significant patron of the arts from the Tang Dynasty and actively supported numerous cultural and scientific achievements that are widely recognized as some of China's most significant.³ The Tang Dynasty can be described as supportive of intellectual freedom, as seen through the production of some of its finest lyric poets in Wang Wei, Li Bo, and Du Fu. The Tang also allowed for a variety of new inventions and innovations such as gunpowder, gas stoves, and air conditioning, to name a few. Although this allowance to create and consume art freely not only saw positive social consequences, but strengthened loyalty to the emperor as well, Emperor Xuanzong's model of government would not work in today's China. This dynastic time period in China's history is unique and, although these freedoms yielded positive results for the Tang, creative and intellectual freedom in the modern context wouldn't just mean a freer and more open-minded Chinese population, it would mean the opportunity for defiance of authority. Intellectual freedom in the 7th and 8th centuries did not see the kind of vocal defiance of the government as often or commonplace as we do in modern-day Western countries. If it did happen, that defiance was promptly quieted as expected, and this censorship would not be questioned. The 600s and 700s were a time in which basic human rights such as freedom of expression were not yet considered basic, and to give the people an opportunity to intellectually express themselves was otherwise feared as an opportunity to rebel against authority, a line of thinking which ultimately became the primary basis for what has been China's principle of governance for most of its history after. Entrepreneurship and intellectual freedom were not linked the way it is in modern times, and the invention or innovation of products, and the subsequent wealth that could be accumulated as a result of it, were not yet considered evil or exploitative as would later be established during Mao's cultural revolution. While these intellectual freedoms or freedom to innovate can lead to economic benefits, they also create opportunities for dissent against the government, which the Chinese authorities may not tolerate if it poses a threat to their firm control over the populace. Particularly when it also includes things like journalism, entertainment such as movies and TV shows, and music, to name just a few, which are not uncommonly used as outlets for criticism of government and authority in countries that protect free speech. The freedom to express unfiltered opinions in places like America that often hurt the reputation of public officials or public perception of government is a function of our democracy, which also sees the

² The Cambridge Companion to the Age of Augustus. United Kingdom: Cambridge University Press, 2005.

³ Mark, Emily. "Emperor Xuanzong of Tang." World History Encyclopedia. Last modified March 31, 2016. https://www.worldhistory.org/Emperor_Xuanzong_of_Tang/.

freedom to create and innovate and grow our economy through entrepreneurship. Despite the economic gains China could see if they were to also adopt this “business-positive” approach, they will not choose this model because centralization is the precedent set throughout their history, and to allow Chinese citizens the freedom to grow and run their business with little restriction would betray their perception as the ultimate authority figure over what the Chinese can do.

Nonetheless, this allows us to pose some important theoretical questions that it would seem the Chinese government would rather not test out: if Xi Jinping gave entrepreneurs and journalists intellectual freedom, would it allow China to overcome the obstacles that have stalled their growth? Or would this freedom spiral and allow the Chinese to defy the government that had long since suppressed their dissidence? What would happen if Xi adopted Emperor Xuanzong’s philosophy and supported artistic cultivation in modern China? On the one hand, giving intellectual freedom to entrepreneurs and journalists would potentially unlock new levels of innovation and growth in China. By allowing these groups to express their ideas and perspectives more freely, it would lead to new products, services, and ways of doing things that would give the Chinese economy a competitive edge. On the other hand, there is a risk that this newfound freedom without enough control could spiral and lead to challenges to the government’s authority, an area in which the Chinese are not known to welcome or tolerate. The Chinese government has long relied on strict control over the media and the economy to maintain stability and prevent dissent. If entrepreneurs and journalists were suddenly given more freedom, they may use their newfound influence to push back against the government when unpopular decisions are made, leading to social unrest and instability, as has often happened throughout other moments in history.

Emperor Qin Shi Huangdi of the Qin Dynasty

The Qin Dynasty (221 BCE - 206 BCE) is thought to be China’s first dynasty. Qin Shi Huangdi, also known as Qin Shi Huang, the first emperor of Qin (259–210 BCE), established a centralized and organized bureaucracy, dividing the state into provinces and prefectures governed by appointed officials. This system of administration has been a model for the government of China ever since. Emperor Shi Huangdi aimed to standardize various aspects of Chinese life, such as weights and measures, coinage, and the writing system, with these standards lasting for centuries after his dynasty’s collapse. He also launched numerous construction projects, including the expansion of the country’s road and canal network and the building of the first Great Wall (not the one that exists today). However, despite the many accomplishments of the Qin dynasty, Shi Huangdi was a harsh ruler who could not tolerate any potential or existing threats to his power. To maintain control, he imposed severe laws and had books burned if they were not about useful subjects, such as agriculture and medicine, reportedly even going so far as to bury hundreds of scholars alive and use forced labor to build many of his projects, a stark difference from the intellectual freedom that those under the Tang Dynasty would later enjoy. His famous suppression of the intellectual diversity of his China is often summed up by ‘burning the books and burying the scholars’. This would set an important precedent that was later seen by Mao’s cultural revolution in multiple ways, one of which is when on October 10, 1950, Mao issued a new "Directive on suppression of counterrevolutionary activities" which was also known as the "Double-ten Directive". This was a speech Mao gave in which he called for the rapid industrialization and collectivization of agriculture in China. The speech set ambitious production targets for both industry and agriculture and emphasized the importance of mass mobilization and ideological purity. However, the policies implemented in response

to the directive, including the Great Leap Forward⁴, led to widespread famine and economic disaster. This directive is often cited as a prime example of Mao's authoritarianism and his willingness to impose his will on the country, regardless of the human cost. What is arguably the most significant evidence that Qin Shi Huan set an important precedent, however, is when Mao would declare in 1958: "The First Emperor only buried 460 alive scholars, while we've buried 46,000. When we suppressed counterrevolutionaries, didn't we also kill some counter-revolutionary intellectuals? I once debated with people in the Democratic Parties: You accuse us of acting like the First Emperor, but you're wrong; we've outdone him 100 times over!" The lack of any attempt by Mao to conceal his efforts at silencing thought or speech that goes against the government, and more importantly, him, should be a highly concerning indication of his willingness to suppress what we in the West consider inalienable rights. What's more, these sentiments have echoed even to modern times under China's current president Xi Jinping. In 2017, Cambridge University Press (CUP) announced that they would no longer comply with Beijing's pressure to censor the China Quarterly site, which included articles on sensitive topics such as Tibet, Xinjiang, the 1989 Protest Movement, and the June Fourth Massacre. This decision was commended by CUP for upholding the principle of academic freedom, and they reinstated the online content of the journal available in China. Academic freedom has long been considered a privilege throughout many periods of China's history, and Shi Huangdi may have been the first leader in China's history to establish this privilege as one that would not be characteristic of China's governance. This topic of intellectual suppression, however, will be discussed further in this paper.

Emperor Yongzheng of the Qing Dynasty

While some of China's best-known leaders tend to come from either its earliest or latest history, there are emperors between the bookends who it could be argued have made their mark as well. Emperor Yongzheng of the Qing Dynasty was the fifth emperor of the Qing dynasty in China, who ruled from 1722 to 1735. He succeeded his father, Emperor Kangxi, and during his reign, he implemented various reforms to strengthen the central government, including improving the tax system and cracking down on corruption. He also expanded China's territory by conquering Tibet and parts of Mongolia. The unexpected ascent of Yongzheng to the throne surprised many insiders in the palace, as he was not favored among the 24 offspring of the elderly Emperor Kangxi. However, the official historical narrative does not portray Yongzheng as one of the favored emperors. In an attempt to eliminate what he perceived as a corrupt bureaucracy governed by Confucian principles, Yongzheng resorted to burning books and executing Confucian scholars. His harsh actions are regarded as comparable in brutality to those of China's first emperor, Qin, in official Chinese histories. His brutality towards his enemies and dissenters, and the execution of many Confucian scholars and burning of books that he deemed subversive, once again cement the practice of intellectual persecution into China's governing style from its formation to its

⁴ The "The Great Leap Forward" involved the mandatory collection of agriculture and industrialization in rural areas. After touring China and observing the capabilities of its people, he formulated a plan with two main objectives: collectivizing agriculture and promoting extensive industrialization. The primary targets of the plan were to boost grain and steel production. This initiative caused a significant decline in the Chinese economy, and an estimated 30 to 45 million individuals died due to starvation, execution, torture, forced labor, and even suicide due to despair. This was the largest non-wartime campaign of mass killing in human history. Mao Zedong's objective was to transform China from an agrarian society to a modern industrialized one capable of competing with Western nations.

current day. While his leadership is also credited with the strengthening of various areas of the economy, it paints the broader economic model under which China always has and always will operate: create and trade and do whatever needs to be done in order to grow and strengthen the economy, so long as it does not include a level of certain intellectual freedom of the citizens.

Mao Zedong's Cultural Revolution- summary, how his iron fist punched out years of tradition and culture

Fast forward to 37 years after the end of four millennia of dynastic rule, to China's most extreme modern example of how autocratic rule defines China: Mao Zedong. Mao's rule over China was a significant era in China's economic history, marked by a series of policy shifts that ultimately led to the country's opening to the free market. However, Mao's China is also considered to be a prime example of the lengths to which China is willing to go to maintain its centralized power. Under Mao's leadership, China's economy was centrally planned, and dissent was suppressed through strict ideological control and the use of force. Mao's Great Leap Forward, for instance, resulted in one of the world's most devastating famines, which killed tens of millions of people. It was during this era when it was made clear Mao's willingness to see 40 to 80 million of his own people die through starvation, persecution, prison labor, and mass executions, all in the name of his communist state. In addition, Mao's Cultural Revolution led to widespread persecution and imprisonment of millions of people considered counterrevolutionaries. The political campaigns, often characterized by arbitrary detentions, torture, and killings, were intended to consolidate Mao's power and suppress dissent. These events demonstrated the extent to which China's leaders are willing to maintain political control, even at the cost of human lives and livelihoods.

Mao's rise to his role as one of, if not the most, influential communist revolutionaries in the world started during the winter of 1924-25, when Mao went back to his hometown of Shaoshan for a break from his role as a leading member of the Nationalists' Executive Bureau. There, he was exposed to demonstrations by peasants who were politically awakened after several Chinese were shot by foreign police in Shanghai in May and June of 1925. This experience made Mao suddenly realize the revolutionary potential of the peasant population. Despite being born into a peasant household in the village of Shaoshan, Mao, during his student years in the 1910s, held the traditional view of intellectuals towards workers and peasants as being ignorant and unclean. His conversion to Marxism led to a revision of his views towards the urban proletariat, but he still held Marx's disdain for the backward and disorganized peasantry. However, after witnessing the events in Shaoshan, Mao shifted his focus to the rural world that describes his upbringing, but this time, he was looking through the lens of a rising revolutionist and saw it as the key to China's revival. This demonstrates it was so less so his desire to aid those in need, and more so his desire to rise to power. His motivations were more selfish and politically motivated than they were charitably-motivated.

Mao Zedong's insincerity would be seen in multiple instances throughout his rule. In the 1950s, Mao launched a series of campaigns aimed at centralizing power and transforming Chinese society. These campaigns included the land reform movement, which redistributed land from wealthy landlords to poor peasants. One initiative, however, that stood out among the rest was the Hundred Flowers Campaign, which encouraged intellectuals and artists to speak out and criticize the government. During this period, Mao encouraged and would consequently see a great deal of intellectual and artistic freedom in China, with many intellectuals and artists expressing their views and ideas openly. He famously opened this campaign with a speech titled "On the Correct Handling of Contradictions Among the People," where Mao provided an overview of socialism and the relationship between China's bourgeoisie and working

class, while also criticizing Stalin's handling of class unification in the Soviet Union. Mao also discussed China's own mistakes, such as the killing of "counterrevolutionaries," which he acknowledged had resulted in the deaths of 700,000 people between 1950 and 1952. However, he claimed that such killings had ceased and were necessary for the liberation of productive forces, as demanded by the people. This section of the speech was later deleted by the Communist Party before the text was published in the Peoples Daily and, unsurprisingly, this period of relative freedom was short-lived, as Mao soon launched the Anti-Rightist Movement, which cracked down on intellectuals and artists who had expressed critical views, ultimately resulting in a betrayal of both the principle it was founded upon and the individuals who had been invited to participate.

In more recent years, China has undergone another period of centralization under the leadership of President Xi Jinping. Since coming to power in 2012, Xi has launched a series of campaigns aimed at strengthening the control of the Communist Party over all aspects of Chinese society, including intellectual, creative, and academic pursuits. However, it is difficult to say to what extent these campaigns have resulted in suppression, as the Chinese government exercises strict control over the media and public discourse, making it difficult to get a clear picture of the state of intellectual and artistic freedom in the country.

The legacy of Mao's China continues to shape the country's political landscape today, as the government maintains tight control over dissent and exercises centralized power.

China's Economy 1912-1978

China's economy after its dynastic period ended Before Deng Xiaoping implemented the "Open Door" policy in the late 1970s, China's economy was largely isolated from the rest of the world and heavily controlled by the central government. The economy was based on a system of central planning, where the Chinese government determined what goods and services should be produced, how much, and at what price. The government also owned and controlled most industries and businesses, which were organized into a series of large state-owned enterprises. Under this system, the economy was heavily geared towards heavy industry, such as steel and coal production, at the expense of light industry and consumer goods. This resulted in a lopsided economy that was not well-equipped to meet the needs and demands of its population. The state's focus on heavy industry also came at the cost of environmental degradation, with little attention paid to environmental protections. Agriculture was collectivized, with farmers working on large state-owned farms and receiving a fixed wage. This system led to low productivity and limited incentives for farmers to improve their output. As a result, China was often unable to produce enough food to feed its growing population, leading to famines and food shortages.

The economic policies of this period also had a significant impact on the standard of living for most people. There were shortages of basic consumer goods, and what was available was often of poor quality. Housing was in short supply, and many people lived in overcrowded and unsanitary conditions. Health care and education were also limited, and many people did not have access to these basic services.

During Mao Zedong's reign specifically, China's GDP was relatively low compared to the rest of the world. Mao's Great Leap Forward (1958-1962) and Cultural Revolution (1966-1976) policies further disrupted the economy, leading to decreased productivity and output. According to data from the World Bank, China's GDP per capita in 1950 was \$89.33 (in 2010 constant US dollars), which ranked it among

the poorest countries in the world. By 1976, the end of Mao's reign, China's GDP per capita had increased to only \$154.70 (in 2010 constant US dollars), still ranking it among the poorest countries in the world.⁵

China's economy was characterized by inefficiency, stagnation, and a focus on heavy industry at the expense of light industry and consumer goods. The central planning system led to limited innovation, low productivity, and a lack of incentives for workers to improve their output. Overall, China's economy was stagnant and struggling to meet the needs of its growing population. There were shortages of consumer goods, and the standard of living for most people was relatively low. This all changed with Deng Xiaoping's "Open Door" policy, which introduced market-oriented reforms and opened China's economy to the world. It would be a time when China would truly create their own, trademark style of economics: capitalism with guardrails.

Deng Xiaoping's Open Door Policy

Mao's People's Republic of China would see its first and arguably most significant shift when Deng Xiaoping first introduced China's Open-Door Policy in December of 1978. China began opening up to the global market when Deng Xiaoping launched a set of economic reforms, known as the "Reform and Opening Up" policy or the "open door" policy that set China's economy on a transformational path aimed to modernize China's economy, increase foreign investment, and promote international trade. Prior to this policy change, the USSR and its satellites were China's primary trading partners. Deng recognized the need for Western technology and investment and welcomed foreign companies to establish operations in China. To this end, four special economic zones were created in southern China, offering tax incentives to attract foreign capital and businesses, particularly from overseas Chinese residing in places like Hong Kong and Taiwan. Along with domestic agricultural reforms, these initiatives propelled China's economy, resulting in one of the fastest periods of economic growth in world history since the early 1980s, (although these statistics remain a subject of debate⁶) and helped China integrate into the global economy, even joining the World Trade Organization (WTO) in 2001, which is responsible for establishing global trade regulations. China sought membership in the hope that it would protect and encourage the growth of its transformed, market-driven economy.

Since opening up to foreign trade and investment and implementing free-market reforms in 1979, China has been among the world's fastest-growing economies, with real annual gross domestic product (GDP) growth averaging 9.5% through 2018, a pace described by the World Bank as "the fastest sustained expansion by a major economy in history." Its per capita yearly income in the early 2000s shot up from the rough equivalent of \$1,500 to over \$13,000. Such growth has enabled China, on average, to

⁵ "World Development Indicators." DataBank. Accessed April 5, 2023.
<https://databank.worldbank.org/source/world-development-indicators>.

⁶ The Chinese government is known for its lack of transparency, especially when it comes to economic data. Some critics argue that China's official economic statistics may not be reliable or may even be manipulated for political purposes. Additionally, in China, local officials are often evaluated based on their economic performance. This creates an incentive for them to inflate economic data to make their regions look more successful, even if the data is not entirely accurate. Generally speaking, collecting accurate economic data in a country as large and diverse as China is a difficult task. The country's vast size and bureaucratic complexity make it challenging to collect data consistently and accurately across all regions. China's economic data also may be reported using different methodologies than those used in other countries, which can make it difficult to compare economic data across countries accurately.

double its GDP every eight years and helped raise an estimated 800 million people out of poverty. Yet, China's Gini index shot up from under .4 to over .55.⁷

By opening up to the rest of the world, China managed to get their foot in the door for the first time and surround themselves with the countries that had long since dominated them economically. Many of these countries, such as Japan and the U.S., had managed to reach the position they did thanks to, in part, the business that flourished under their pro-innovation and entrepreneurial style of governance. China, however, found themselves amongst the upper economic ranks with these countries without having to change their own way of dealing with private businesses, or loosening up their own restrictive stance on business and entrepreneurship.

Manufacturing Prowess

Another reason for China's rapid growth has to do with their focus on increasing their manufacturing prowess, most evident immediately after the outbreak of Covid. The Chinese have a reputation for being highly skilled at generating wealth, constantly seeking out potential avenues for profit. During the initial months of the COVID outbreak, Chinese manufacturers recognized an opportunity to produce essential items such as masks, rubbing alcohol, and other forms of personal protective equipment, given the current climate. Another area in which China has employed its strong manufacturing capabilities is in the area of solar energy. The US government, along with European countries, conducted a significant amount of science R&D and basic research on solar technology to establish its fundamental scalability. China, on the other hand, waited for the science to mature before focusing on scaling up manufacturing capabilities for solar PVs. While China may not possess world-class scientific capabilities, it excels in manufacturing, and took advantage of this by waiting for the science to mature before scaling up the technology. Solar power serves as an example of China's ability to leverage manufacturing to outcompete the US once the science has matured. Without the US prioritizing the development of a robust manufacturing ecosystem and workforce to scale up emerging technologies, it is a common concern that China will continue to outcompete the US in different industries. This concern can be put into numbers as well with statistics as early as February 2023 showing China's factory activity continuing to expand, as indicated by data from the National Bureau of Statistics. The official manufacturing purchasing managers' index⁸ climbed to 52.6, surpassing the threshold of 50 that

⁷ The Gini index is a measure of income inequality in a society. It ranges from 0 to 1, with 0 representing perfect equality (where everyone has the same income) and 1 representing perfect inequality (where one person has all the income and everyone else has none). The Gini index is commonly used to assess income distribution in a population or a country. It is calculated by plotting the cumulative shares of income against the cumulative population, and the Gini coefficient is equal to the area between the line of perfect equality and the actual distribution curve, divided by the area below the line of perfect equality. The resulting value represents the extent of income inequality in a society, with higher values indicating greater inequality. Often used by economists, policymakers, and social scientists, it is a general tool that can analyze the distribution of wealth and income, and evaluate the effectiveness of government policies aimed at reducing inequality.

⁸ The PMI, or Purchasing Managers' Index, is a gauge of the predominant direction of economic patterns in the service and manufacturing industries. Its diffusion index condenses whether market conditions, as perceived by purchasing managers, are growing, stagnating, or declining. The primary objective of the PMI is to furnish decision-makers, analysts, and investors with data on present and upcoming business conditions. The PMI relies on a monthly survey sent to senior executives from over 400 companies in 19

distinguishes growth from contraction. This represents the highest reading since April 2012, when it reached 53.5. Economists surveyed by Reuters expected the PMI reading for February of 2023 to be 50.5, but it exceeded expectations by reaching 52.6, which is higher than the January reading of 50.1. Furthermore, the non-manufacturing PMI also experienced growth, rising to 56.3 from January's 54.4, buoyed by a recovery in services and construction activity. The administration reported that February's reading indicated a sustained improvement in production and business conditions, also highlighting a significant increase in total activity. According to a note by economists at Citi, the noteworthy improvements in both Manufacturing and Non-Manufacturing PMIs in February demonstrate the steady pace of post-reopening recovery. The economists added that although expectations for stimulus policies are low, the People's Bank of China is likely to consider inflation risks and may shift to a neutral policy stance once the economy stabilizes.

Despite the stifled economic growth that had been apparent as a result of zero-covid, China at the very least appears to be finding other ways to boost themselves by placing themselves in a position to excel in other ways. While they may not have been the ones that got to profit off being responsible for inventing solar panels, they can certainly out-manufacture other countries with them, and they didn't have to invest the money that goes into researching and developing those solar panels either. China has figured out various different ways to have their cake and eat it too, and their manufacturing prowess is inarguably among their best ways in which to do so.

Belt and Road

China's Belt and Road Initiative (BRI) is another way in which China has made efforts to bolster their economic status. Also known as the New Silk Road⁹, the BRI is an enormous infrastructure project that aims to connect East Asia and Europe via physical infrastructure. The project was launched in 2013 by President Xi Jinping and has since expanded to include Africa, Oceania, and Latin America, increasing China's economic and political influence around the world. However, some analysts view the project as a concerning extension of China's growing power. As the costs of the projects have soared, opposition to the BRI has grown in some countries. Additionally, some in Asia share concerns that the BRI could be a Trojan horse for China-led regional development and military expansion. Despite President Joe Biden's continuation of his predecessors' skeptical approach to Beijing's actions, the US has struggled to offer

primary industries, with the weights assigned based on their contributions to the US GDP. It takes into account five key areas: new orders, inventory levels, production, supplier deliveries, and employment, with each of these areas weighted equally by the ISM. The survey questions cover business conditions and changes, including whether they are improving, unchanged, or deteriorating.

The headline PMI ranges from 0 to 100, with a reading above 50 indicating expansion compared to the previous month. Conversely, a PMI reading below 50 indicates contraction, while a reading of 50 suggests no change. The further away from 50 the PMI is, the more significant the degree of change.

⁹ The original Silk Road was a network of ancient trade routes that connected China with the Mediterranean and Europe, as well as parts of South and Central Asia. It was named after the valuable Chinese silk that was traded along the route, but many other goods were also exchanged, including spices, tea, ceramics, jade, and precious metals. The Silk Road was not a single road, but rather a network of trade routes that developed over time, connecting China with different regions and civilizations. The earliest routes developed during the Han Dynasty (202 BCE-220 CE), connecting China with Central Asia and India. Later, during the Tang Dynasty (618-907 CE), the Silk Road became a major trade route connecting China with the Islamic world, including the Abbasid Caliphate in the Middle East.

participating governments a more attractive economic alternative. Xi Jinping's vision aimed to establish an extensive network of railways, energy pipelines, highways, and streamlined border crossings, both westward - through the mountainous former Soviet republics - and southward, to countries such as Pakistan, India, and Southeast Asia. The development of such a network would increase the international use of the Chinese currency, the renminbi, and "eliminate the bottleneck in Asian connectivity," as stated by Xi. According to the Asian Development Bank's 2018 estimate, the continent faces an annual infrastructure financing shortfall of more than \$900 billion. In addition to physical infrastructure, China has provided funding for hundreds of special economic zones - industrial areas aimed at generating employment - and encouraged countries to adopt its tech offerings, such as the 5G network, powered by telecommunications powerhouse Huawei. Currently, 147 countries, which represents around two-thirds of the world's population and 40% of global GDP, have either signed on to projects or expressed a desire to participate.

The Belt and Road Initiative (BRI) has both economic and geopolitical motivations behind it. For Chinese President Xi Jinping, the BRI serves as a pushback against the U.S. "pivot to Asia" and a way for China to develop new trade linkages, cultivate export markets, and export China's excess productive capacity. Additionally, China is motivated to boost global economic links to its historically neglected western regions, such as the province of Xinjiang, where separatist violence has been on the upswing. The BRI is also an attempt to avoid the middle-income trap and restructure China's economy to produce higher-value goods and services. Finally, China could seek geopolitical leverage over BRI countries through debt financing contracts that restrict restructuring with the Paris Club¹⁰ and give Beijing the ability to use funding as a tool to enforce Chinese hot button issues. So far, the downsides of the Belt and Road Initiative (BRI) for both the United States and recipient nations significantly outweigh its advantages. The BRI poses a major challenge to U.S. economic, political, climate change, security, and global health interests. The Task Force has found that China is advancing the initiative in concerning ways. China is:

- Increasing the likelihood of debt crises in the coming years by funding economically questionable projects in heavily indebted countries and avoiding debt sustainability analysis.
- Offering privileged market entry for state-owned and non-market oriented Chinese companies.
- Pressing its technology and preferred technical standards on BRI recipients, locking them into Chinese ecosystems.
- Ensuring countries' dependence on carbon-intensive power for decades by exporting coal-fired power plants, also making it harder to mitigate climate change.
- Foregoing rigorous environmental and social-impact assessments and tolerating corruption, which ignores project management best practices and makes it harder for traditional lenders to insist on high standards.
- Leaving countries more vulnerable to Chinese political pressure while giving China greater ability to project its power more widely.

¹⁰ The Paris Club comprises creditor nations that operate informally with the aim of resolving payment difficulties faced by debtor nations. The club consists of 22 permanent members, mostly hailing from western Europe and Scandinavia, as well as the United States, the United Kingdom, and Japan. Emphasizing its informal nature, the Paris Club lacks official statutes and a formal inception date, despite having held its initial meeting with a debtor nation, Argentina, in 1956.

The United States has contributed to its own economic and strategic predicament by not meeting the inherent needs of the region. U.S. withdrawal created the vacuum that China filled with BRI. While the United States has repeatedly invoked the imagery of the Silk Road and identified an interest in promoting infrastructure, trade, and connectivity throughout Asia, it has not provided the necessary support. Its own lending and investment in many BRI countries was limited and is now declining. The United States has also cut back on research and development and investments in advanced technologies, which has allowed China to move ahead in several areas. Despite its leading role in the World Bank and regional development banks, the United States has watched these institutions move away from backing significant infrastructure projects. Additionally, Washington has not joined regional trade and investment agreements that could have strengthened its economic ties to Asia. China was able to address a genuine need for new infrastructure globally and fill the gap in infrastructure financing and construction, benefiting itself, due to a variety of factors. These include support from the Chinese Communist Party, the financial strength of its state-owned banks, surplus capacity in crucial sectors, and the development of large, technologically advanced manufacturing and technology firms. If there is little competition or opposition to BRI, Beijing could become the center of global trade, establish important technical standards that would disadvantage non-Chinese companies, tie countries to carbon-intensive power production, have more influence over their political choices, and gain greater power projection capabilities for its military.

There's something to be said about the way in which Deng Xiaoping's "open door" has, 30+ years later, become China potentially creating a new silk road that includes signing on small, poorer countries. By taking an element of the nation's economy, trade, and going to the extreme with it in the form of this massive project, China can basically compensate even further from the growth they miss out on when entrepreneurs are restricted from creating and innovating and growing big businesses that would otherwise bring wealth to China.

Made in China 2025

A final major effort to note that has, in recent years, given China much to look forward to economically, is China's "Made in China 2025" initiative. Launched in 2015, Made in China 2025 is a ten-year plan aimed at revitalizing the country's manufacturing industry by focusing on ten high-tech sectors such as electric cars, new energy vehicles, next-gen IT and telecommunications, advanced robotics, and AI. Other significant industries include agricultural tech, aerospace engineering, new materials, advanced electrical equipment, biomedicine, high-tech rail infrastructure, and maritime engineering. These industries are crucial for the fourth industrial revolution, which involves integrating big data, cloud computing, and emerging technologies into global manufacturing supply chains. China aims to reduce its reliance on foreign technology and promote its high-tech manufacturers globally, with semiconductors being a particular area of focus, as they are essential to almost all electronic products. The plan sets specific targets, including achieving 70% self-sufficiency in high-tech industries by 2025 and achieving a dominant position in global markets by 2049, the hundredth anniversary of the People's Republic of China. The Chinese government, however, has downplayed the plan's significance in recent years due to concerns from Western leaders, and Premier Li Keqiang did not mention it in his annual report to the National People's Congress in 2019. Additionally, this is the last time in which we have heard anything about "Made in China 2025" making it nearly impossible to gauge any progress or future effects the plan will have not just on China's economic future, but on the rest of the world as well. This is because of the Chinese government's extension of its censorship to include its own economic policies. As

the US and China engaged in a trade dispute, Chinese news organizations had reportedly been instructed not to discuss the Made in China 2025 campaign, presumably in part because of its becoming a target of the Trump administration's accusations that Beijing is using unfair methods to acquire American technology. Despite talks, the US and China had yet to reach an agreement and the Trump administration had threatened to impose penalties on up to \$450 billion worth of Chinese goods. To avoid drawing more attention to the issue, Chinese media outlets have been told to avoid mentioning the campaign, though it is unclear how widely this directive has been enforced. This has fueled the argument by many that this censorship is more so a strategic and contextual move rather than an ideological one¹¹, as it was not just former U.S. president Trump's comments that encouraged China to hide their plans, but within a year after the announcement of Made in China 2025, reports by American and European business groups raised concerns about the unfair advantages that Chinese companies could gain in overseas markets, bringing wider attention to the initiative in the West. Consequently, the Chinese government first simply downplayed certain controversial aspects of the plan, such as domestic firms' targets for their share of the Chinese market in specific industries. Chinese officials even dismissed foreign business groups' concerns about a technical roadmap for carrying out the plan as "just a think tank exercise," with no formal standing in policy. Beijing has used state media to counter criticisms of the campaign. For instance, in 2018, the Global Times, a nationalistic state-run tabloid, published an article arguing that a survey by the European Union Chamber of Commerce in China reflected a misunderstanding of the Made in China 2025 plan when respondents reported experiencing "increased discrimination" in the country. Regardless of the government's motivation for censoring their media, Chinese news organizations have no choice but to comply with government directives that dictate the removal of specific articles, as well as provide guidance on the tone and content of coverage through phone conversations. Even influential outlets like Caixin Media¹² have articles critical of the government deleted. Censors frequently remove images and posts from social media, however, even before these orders, media coverage of the recent economic tensions with the United States in China had largely avoided nationalistic or inflammatory language. Chinese media organizations often engage in self-censorship to avoid provoking the authorities, in the absence of official guidance against covering certain issues.

As China's economy has matured, its real GDP growth has slowed significantly, from 14.2% in 2007 to 6.6% in 2018, and that growth is projected by the International Monetary Fund (IMF) to fall to

¹¹ David Bandurski, co-director of the China Media Project in Hong Kong and a fellow at the Robert Bosch Academy in Berlin, explained that the Chinese Communist Party's restrictions on information are mainly strategic and contextual rather than ideological or based on intrinsic sensitivity of a story or topic. This implies that any story, fact or image can quickly become sensitive due to extrinsic factors such as excessive online attention and speculation, according to Mr. Bandurski.

¹² Caixin Media, an investigative news website in Beijing, made headlines on March 7, 2016, when it published an article revealing that the Cyberspace Administration of China had taken down an article on its website for "illegal content." The original article, which was published on March 3, discussed the idea that advisors should be allowed to give suggestions to Communist Party and government agencies on various issues. Caixin's decision to publicly expose the censorship was considered highly unusual in China, and it referred to the CAC as "a government censorship organ." On October 21, 2021, the Cyberspace Administration of China removed Caixin from its list of news media that can be re-published, effectively silencing it as a news source. The Cyberspace Administration of China is the central agency responsible for regulating, censoring, overseeing, and controlling the internet in the People's Republic of China.

5.5% by 2024. However, it is worth noting that, while this type of growth is no doubt impressive considering where China had been even 40 years prior, less developed countries tend to grow faster because of marginal rate of return- the productivity gains are going to be substantially larger than what you'd see in most countries when China, which already holds the largest population in the world, decides to take advantage of its manpower and produce more. The concept of diminishing marginal returns suggests that as an economy invests more resources in a certain sector, the marginal benefit gained from each additional unit of investment decreases over time. In many cases, less developed countries may experience higher levels of productivity gains from investments in certain sectors due to the fact that they are starting from a lower base. This can lead to faster economic growth in these countries compared to more developed ones, where the marginal returns may be lower due to the saturation of certain markets. However, there are many other factors that contribute to economic growth, including factors such as infrastructure, institutions, and access to capital, which can play a critical role in determining the rate of economic development in a given country.

Xi Jinping's China

By the time current People's Republic of China president, Xi Jinping, came to power, China's economic growth had already been steadily declining, and ever since becoming China's leader in 2012, Xi has pursued an ambitious domestic agenda focused on economic reform, social stability, and strengthening the role of the Communist Party in all aspects of Chinese society. He also, however, has led an anti-corruption campaign that has targeted both high-ranking officials and business leaders and has cracked down on dissent- tightening controls over the media, civil society organizations, and the internet. This tightened consolidation of power has been reflected in many areas of Chinese governance, and while Chinese acceptance of this continued centralization continues to go unprotested, the consequences of that control has proven itself to be a detriment rather than an aid to China's continued economic growth.

This centralization has been exemplified in not just areas of media and civil society organization, but in health protocol as well. While the slowdown of China's growth can best be attributed to multiple major factors, Xi's highly restrictive zero-covid policy is among those most to blame. The Chinese economy suffered one of its worst performances in decades in the previous year, due to several Covid lockdowns and a deadly outbreak that spread rapidly across the country. Stats reveal that China grew only 3 percent in 2022, falling short of Beijing's 5.5 percent target and significantly lower than the growth achieved in 2021. This was the most disappointing performance since 1976, when the economy declined by 1.6 percent, the year of Mao Zedong's death. The government spent a considerable amount of money on this strategy, and the policy reversal on December 7, 2022, without warning after nearly three years, led to a surge in infections and the deaths of many older residents. It also left factories, offices, and restaurants with a shortage of workers and customers. The lifting of the policy by Xi Jinping, however, has raised expectations that the economy will recover this spring. A senior government official, Liu He, predicted at the World Economic Forum in Davos, Switzerland, that the Chinese economy would have a significant turnaround in 2023. The Chinese economy's performance is crucial to the world, as Chinese consumers provide significant revenue for both domestic and foreign companies. China's factories produce a larger share of the world's manufacturing output than the United States, Germany, and Japan combined, and the Chinese Communist Party has historically relied on growth for its political legitimacy. Xi Jinping's restrictive stance on Covid-19 before lifting the policy comes as no surprise given his aforementioned ultra strict stances in nearly all other aspects of governance as well. Despite

recommendations from experts to shift away from China's expensive strategy and adopt a coexistence approach with the coronavirus, particularly with a less severe yet more transmissible strain, Beijing had chosen to disregard this advice and continue with their strategy since 2020 that hinges on widespread testing, quarantining, and imposing lockdowns, despite this method having caused the suspension of daily life for millions of people, forced tens of thousands into makeshift quarantine facilities, and resulted in many non-Covid patients being denied medical care. Concerns over the government's handling of the pandemic is now exacerbated by the idea that the zero Covid policy was simply a political campaign driven solely by Xi, despite its detrimental effects on the entire population. This outright demonstration of his authority has most certainly served him in terms of flexing his tight control, with many believing Xi is just using his repressive policies as a cover for suppressing dissent and further consolidating political control, at the expense of civil liberties and human rights. These last few years in China have been all-too reminiscent of Mao's era also for when he implemented the "Four Pests" campaign. In 1958, the Chinese government launched a nationwide campaign to eradicate sparrows, which were deemed pests by Mao and blamed for destroying crops. Across China, people were instructed to create a cacophony of noise by banging on pots, lighting firecrackers, and waving flags to prevent the birds from landing, causing them to die from exhaustion. It is estimated that within months, nearly two billion sparrows were killed. The massive reduction of sparrows resulted in an increase in insect populations, which then caused widespread damage to crops and ultimately contributed to the Great Famine. This famine caused the starvation of tens of millions of Chinese over the course of the next three years. This political campaign's eerie similarity to the strict COVID-19 policies in the country have been criticized as unnecessarily heavy-handed and disruptive tactics. Much like Mao's equivalent zero-sparrow, the concern is that zero-Covid, while aimed at controlling the spread of the virus, may have unintended consequences for the population, such as economic hardship and disruption of everyday life. The situation highlights the difficulties of balancing public health needs with individual freedoms and the importance of transparency and accountability in decision-making during a pandemic. The same way in which Mao ignored scientists' advice against sparrow extermination and suppressed opposition, Xi Jinping had been ignoring expert advice suggesting that it would be better for China to abandon the costly zero-covid strategy they have committed to, and to begin transitioning into a country that can coexist with the virus, especially when it comes to milder variants. Xi had until the start of 2023 insisted on the 2020 strategy to lock China down, mass test, and keep millions of lives paused, while still depriving actual Covid patients of the proper medical treatment they need. While most countries also had to temporarily strip certain personal freedoms, for the sake of containing the virus before enough people were vaccinated, the Chinese could adopt a far stricter than usual stance. Their policies trumped that of most, if not all other, countries and allowed those to remain in place long after the rest of the world had opened up, and this was possible while not surprising for many because it is in China's history and tradition to use strict authority in areas they see fit. The Chinese leaders who preceded Xi Jinping had routinely suppressed dissent and fostered a culture that understood the Chinese government was the ultimate central figure, who would make decisions highly impactful to the citizens. Even if those decisions negatively impacted the businesses of the Chinese as well. In a country where private business owners do not have a history of being prioritized or actively looked after by the government, it would come as no shock when those same businesses must accept the government's prioritization of other economy drivers, such as the aforementioned spike in the production of masks, rubbing alcohol, and other forms of personal protective equipment. As long as

China can support their economy in ways that do not require them to see unrestricted business liberties for their private citizens, they will absolutely continue to utilize those methods.

Recently, however, the Chinese government appears to have become more aware of the damage that they have created for themselves, and appear to be attempting, as of recently, to go back on some of these strict stances they have taken on Covid not just for the sake of ending the pandemic, but for the economy after abruptly scrapping their policies. After the removal of "zero Covid", consumer spending has increased, leading to a more positive outlook for the world's second-largest economy as the Chinese economy has started to recuperate. Despite the scrapping of these measures having resulted in severe consequences including the spread of the virus among the population, consumers have begun spending again. Additionally, factories and ports are operating smoothly as the end of citywide lockdowns has resolved the issues that disrupted global supply chains over the past three years. However, the severe pandemic restrictions have left lasting effects.

Additional crackdowns such as arbitrary economic regulations at times also appear to be lightened up to an extent, such as after China lifted "zero Covid" measures, there has been an improvement in consumer spending, which has brightened the prospects for the world's second-largest economy. However, the strict pandemic restrictions have left lasting impacts. It always seems however, that with China, Xi Jinping will always be taking one step forward and then three steps back. This has been made especially clear at the annual Two Sessions meeting¹³, with this year's sessions carrying significant weight as delegates are anticipated to restructure various critical Communist Party and state organizations. Additionally, they plan to strengthen their hold over entities that regulate the finance sector, scientific and technological fields, and to bolster the "party-building work" within private enterprises, as stated by state media. These actions may continue to obscure the boundaries between the Chinese Communist Party and the government, and solidify the party's command over the private sector. This occurs amidst a continuous crackdown on corruption that has led to the aforementioned disappearance of prominent business figures in recent years. Mr. Xi's emphasis on the importance of the Communist Party could lead to a shift in the world's second-largest economy towards an even more state-controlled model. This consolidation of power by Mr. Xi suggests a new era for China where national security and ideology would take precedence over maintaining a strong rate of growth, potentially having negative consequences for an economy that has already been impacted by zero-Covid. The reasoning for this is because the Chinese government does not appear to believe that allowing their Chinese to grow their own businesses, and accumulate wealth that would ultimately benefit China as a whole. It is my personal belief that the aforementioned projects that China has been known to work on, as well as their manufacturing prowess, are all the things that Xi Jinping sees as sufficient enough to continue driving the Chinese economy. Chinese citizens have demonstrated their adeptness at creating highly successful businesses, particularly in the tech space. They've demonstrated the kind of entrepreneurial zest and capabilities they possess, and have even accumulated large amounts of wealth which in turn, benefits the Chinese economy as a whole. This success, however, has always hit a ceiling at a certain point, and not

¹³ Every year, the Two Sessions are held in Beijing, bringing together numerous representatives from all over China. The National People's Congress, the nation's most dominant state organ, effectively functions as a rubber-stamp institution for the ruling Chinese Communist Party. It endorses crucial legislation on verdicts that have already been established. The Chinese People's Political Consultative Conference (CPPCC) comprises members from diverse segments of society, but lacks genuine legislative authority. Nonetheless, their deliberations are significant in highlighting emerging social and economic concerns.

because of the shortcomings of those owners of business. The ceiling is created by the government, as entrepreneurship will never be taken seriously as an economic driver by the government because unrestricted intellectual freedom could lead to unrestricted dissent as well. Perhaps if the Chinese get a taste of what capitalism looks and feels like it does in the West, and in other capitalist-like countries around the world, the next thing will be greater personal freedoms. Other, non-communist wishes will be had of the government, and the Chinese simply can't afford to break the centralized hold they've had for thousands of years up until now.

After China abandoned its strict "zero Covid" policies and allowed the virus to spread with fatal consequences, the country's economy is still in recovery months later. Consumer spending is picking up again after a prolonged pause during lockdowns in Shanghai and other cities in China. The country's factories and ports are operating smoothly now that citywide lockdowns have ceased, resolving the disruptions that plagued global supply chains in recent years. However, despite the progress, there are still some weaknesses, and the expected surge of "revenge spending" after the pandemic has not yet occurred. Domestic air travel, tourism spending, and subway use have increased significantly compared to last year, but they have not yet reached pre-pandemic levels in 2019. Furthermore, Premier Li Keqiang stated after a cabinet meeting that the most significant potential for the Chinese economy is in the consumption by its 1.4 billion people. With the world closely monitoring, numerous investors and economists anticipate that China will perform significantly better than its 3 percent growth rate from last year. However, there are no expectations for a rebound similar to the country's rapid recovery and 8.4 percent growth in 2021, following the 76-day lockdown in Wuhan at the beginning of the pandemic. Additionally, China's cities are facing a predicament with a large number of quarantine rooms, Covid testing booths, labs, and other facilities that were mandated by the central government but are difficult to repurpose for other uses. Recently, Jinan, the capital of China's Shandong Province, declared its plan to transform 650 rooms in a newly constructed quarantine center into affordable housing for skilled factory workers at an adjoining industrial park. On the other hand, China's enormous manufacturing industry appears to have coped well with the fast-spreading Covid outbreak in December. However, the economic benefits of such spending for China are expected to be short-lived. Additionally, with uncertainties in exports, insufficient funds for local government construction projects, and a struggling real estate sector, the country's economy relies heavily on continued spending by Chinese consumers. According to experts like Daniel Rosen, a partner at New York-based advisory firm Rhodium Group, what China needs now is a significant increase in household consumption.

Entrepreneurs Take Flight

What is inarguably one of China's bigger obstacles to overcoming stalled growth and reaching their full potential is their refusal to give entrepreneurs, and other business leaders, the ability to properly grow their businesses and innovate in a way that has allowed so many other countries to flourish economically. This has led to places like Singapore, Dubai, Malta, London, Tokyo, and New York experiencing an influx of Chinese immigrants who seek the intellectual freedom that Xi Jinping and his predecessors have long restricted. Chinese businessmen and entrepreneurs have been flocking to Singapore specifically to escape government crackdowns, particularly following the Shanghai lockdown¹⁴. This is because Singapore not only is three quarters populated by ethnic Chinese, but

¹⁴ In March 2022, the Chinese government initiated the largest city-wide lockdown ever in response to an outbreak of the Omicron variant in Shanghai. This resulted in the confinement of a majority of the city's

Singapore has a reputation for being economically and financially stable, attracting foreign investment and having a stable legal system. The country has a capitalist market economy and a low tax rate, which makes it attractive to Chinese businesses. However, it also imposes strict laws and regulations, particularly in areas such as speech and political expression, that some consider as limiting individual freedoms. Nevertheless, individual freedoms have proven to be lower on the list of priorities for Chinese business owners and entrepreneurs when it comes to escaping China's arbitrary regulation changes and company crackdowns, as the rule of law is upheld and the Singaporean government is seen as far more transparent and efficient. The frustrations felt among these entrepreneurs can perhaps best be summed up by a 28-page article by Chen Tianyong, a Chinese real estate developer in Shanghai and former judge and lawyer who boarded a flight to Malta with no intention of returning soon. Mr. Chen shared an article on social media entitled "Why I Left China: An Entrepreneur's Farewell Admonition." In the article, he expressed his belief that China's economy is headed for disaster without fundamental changes, and urged his friends to make arrangements to leave the country as soon as possible. The article was later removed from China's heavily censored internet, but Mr. Chen's sentiments reflect a growing lack of confidence among China's business community in the country's leadership and future prospects. The intensity of this emigration, which is even responsible for the viral online catchphrase "runxue", or, running away from China, is the result of years of Chinese crackdown on not just those who choose to exercise financial and business freedoms, but other important personal freedoms as well. As Aginny Wang, co-founder of a crypto banking start-up who relocated from Beijing to Singapore, said, "When you don't have a say in how a government makes rules, you don't have to stay there. There are many other places where you can do things."¹⁵ The exodus of Chinese businessmen and entrepreneurs does not appear to be slowing down anytime soon as, according to Mr. Huo, the founder of Lotusia, an advisory firm in Singapore, his Chinese client list has been expanding rapidly over the past year, particularly those in education, gaming, cryptocurrency, and fintech industries, which have been targets of government crackdowns. Even during the recent weeks when the Chinese government has become more business-friendly and Hong Kong has aimed to attract cryptocurrency talent from mainland China, Mr. Huo's services have been in high demand. During the Shanghai lockdown, wealthy individuals realized the harsh reality of "zero Covid" restrictions and had to scramble for basic necessities. Despite recent positive developments, entrepreneurs remain pessimistic and continue to seek registration services in Singapore to safeguard their assets. Singapore is an attractive option because it is business-friendly, global-minded, upholds the rule of law,

25 million inhabitants to their homes or workplaces, with some even sleeping on the floor. Food and water shortages became so dire at points that some residents died of dehydration or malnutrition, and medical services had been made unavailable due to all their medical resources being devoted to fighting Covid which saw residents also die from a lack of medical attention. However, on Chinese social media, the narrative of the lockdown was recounted through a disappearing digital medium. Despite expressing their grievances about food shortages or medical mishaps, or uploading footage of large protests, people would find their posts erased from the internet by the Chinese government's team of censors. The word "Shanghai" became unsearchable for a while, suggesting that the Communist Party was trying to deny the city's existence while it struggled with the COVID-19 outbreak. The most vocal protests were reinterpreted as memes and enigmatic slogans before being deleted during another round of "harmonization," a colloquial term used by locals to describe the government's elimination of any form of opposition.

¹⁵ Writer, Staff. "China's Great Entrepreneur Exodus." Bold Business, February 3, 2023.
<https://www.boldbusiness.com/society/chinas-great-entrepreneur-exodus/>.

and three-quarters of its citizens are ethnic Chinese, many of whom speak Mandarin. Singapore's restrictions on individual freedom may not sit well with Westerners, but for most Chinese, a government that upholds the rule of law and doesn't arbitrarily alter its policies is satisfactory. According to Chen Yong, founder of cryptocurrency exchange Pionex, who relocated to Singapore from Beijing in 2021, "Singapore will not crack down on a company or an industry outside its legal framework. Its policies have more continuity." Mr. Chen and others who spoke in Singapore said they had no plans to move to Hong Kong, despite the city's recent efforts to entice entrepreneurs like them. For decades, Hong Kong has served as a safe haven for mainland entrepreneurs due to its autonomy from China. However, that changed when Beijing implemented a national security law in 2020, leading to the arrest of activists, the confiscation of assets, the detention of newspaper editors, the rewriting of school curriculums, and what many consider the undermining of judicial independence. Mr. Chen moved to Singapore because his industry, crypto trading, is prohibited in China. He kept some developers in the country, but most of his operations are conducted elsewhere. Being in Singapore, he explained, helped him think more globally. Additionally, he expressed doubt that Hong Kong could disentangle its crypto policies from Beijing's. Mr. Chen elaborated with "When entrepreneurs chose to move to Singapore, it means they have chosen to leave China," further stating that Hong Kong is not attractive to people who have made that choice. Singapore has emerged as a formidable challenger to Hong Kong as a destination for China's ultra-wealthy to invest their fortunes. According to Forbes's billionaire list, four of the top 10 richest individuals in Singapore are recent Chinese migrants. According to Yu-Ning Liu, founder of Beijing's Karma Games, Hong Kong is considered to be part of China by the rest of the world, whereas Singapore is not. As such, Mr. Liu is relocating his Hong Kong operations to Singapore, where he plans to use his Singapore entity to release and market games for global audiences. Singapore has also emerged as a safe haven of sorts amid the mounting geopolitical tensions between China and the United States. Some people view a Singaporean passport as desirable because Singapore has good relationships with both countries. Governments worldwide are increasingly concerned about Beijing's influence over Chinese businesses. They want assurances that these firms are keeping personal data of their citizens safe, and that investments made by Chinese entities do not have implications for national security. This scrutiny has led some Chinese entrepreneurs to pursue foreign passports or permanent residency status in other countries. A few have even expressed concerns that their Chinese passports could make them vulnerable if China were to invade Taiwan, and they could face the same sanctions that have been imposed on Russia and its businesses since the war in Ukraine began. Ultimately, Singapore is vying with Hong Kong to attract mainland Chinese companies to register separate entities for their international operations. This is because some entrepreneurs aim to establish their global brands by identifying their companies as Singaporean, and it is this last, small fact that I believe could prove to be a sign that if any pattern of unrelenting loyalty to the Chinese authority is going to break anytime soon, it is this one. It may just be a detail on a piece of paper to identify one's company as Singaporean, but it is certainly worth examining whether or not this is potentially foreshadowing the re-identification from Chinese to Singaporean (or wherever else these businessmen flee to) not just from one's business perspective, but from a personal one as well. This, for the Chinese, is especially upsetting considering the fact that this initial wave out of China is purely for business-related reasons. Despite all that China is criticized for in terms of the government's philosophy and principles, the Chinese would like to remain Chinese. If the circumstances were different, most of the entrepreneurs would have preferred to remain in China. Particularly when one considers the fact that China has a huge market with excellent infrastructure, the world's best supply chain, and plenty of

programmers who are willing to work overtime. Mostly, this desire to stay in their homeland but being left with no choice, as business owners, but to leave, demonstrates the fact that the Chinese people have accepted the government as the central authority over them, as it is part of China's history to see various personal freedoms treated as a privilege. Now that we live in a time, however, where becoming "self-made" is common more than ever, the Chinese are finding themselves wanting a personal freedom that does not have as much precedence in history as it does now. The Chinese may not be leaving the country out of a desire for free speech or freedom for the press, but they will if it means gaining the right to successfully grow their business and accumulate wealth.

Although most of these business owners and entrepreneurs still maintain some business operations in China, they are not going to hurry back, invest more, and launch new businesses just because the government urged them to do so. "The entrepreneurs are no longer willing to take risks," said Mr. Huo. "They must think twice before taking any action and consider whether it will jeopardize their safety." Not only does China discourage business leaders and entrepreneurs crucial to their continued economic development with strict, anti-business regulations, but they limit the personal freedoms required to have a chance at fighting against these measures. This includes arresting activists, suppressing dissent and opposition, and limiting freedoms of expression, assembly, and the press. Additionally, there have been numerous cases of journalists being arrested, sometimes without due process, and the seizing of assets of individuals and companies it deems a threat to its authority. They have rewritten school curriculums to align with its political ideology, all having to do with what many see as the intentional compromising of judicial independence. This suppression of outspoken vices, however, is only a repetition other times during China's past. It has always been commonplace for threats to authority to simply be removed, it seems that much of this is coming to light now with more extreme government actions being criticized more than ever due to this being a highly connected modern era. As easy as it is for the Chinese people to share their thoughts online, it has proven just as easy for the government to censor what they seem fit. What started as burning of the books has turned into deleting of the tweets.

Notable Chinese Entrepreneurs

That Xi Jinping is willing to see so many people who hold wealth and businesses in China flee to other, less-restrictive countries, those who are quite valuable to China's economy, all in the name of maintaining his totalitarian state is a testament to his commitment to an authoritarian style of government that has not been a rare occurrence throughout history. China has managed to disincentivize innovation and individual success by reinforcing societal anti-capitalistic sentiments. This is very apparent with China's villainization of who had been once, and still should be, celebrated entrepreneurs. The shift in the Chinese perception of successful entrepreneurs has been influenced by the Chinese government's increased criticism of large business empires, and the perception of some of these entrepreneurs as corrupt and lacking in social responsibility. This pattern reflects a broader trend of the Chinese government seeking to exert greater control over the country's economy, and rein in the influence of wealthy business people. Regarded as a highly esteemed giant in China's technology industry, Bao Fan is the founder of the investment bank China Renaissance, whose roster of clients has encompassed internet powerhouses such as Tencent, Alibaba, and Baidu. Fan played a key role in the merger of two major ride-hailing startups in China in 2015, which were supported by tech beasts Alibaba and Tencent respectively following a costly price war between the companies. Bao Fan successfully negotiated the deal while navigating the conflicting interests of the founders and investors involved, however, rumors began to spread that Bao

Fan had disappeared eight years after his key role in the merger of two ride-hailing startups in China. His company subsequently confirmed this in a regulatory filing, and Chinese media reported that he had been summoned by authorities to aid in the investigation of a former senior executive of his firm who had previously worked at a state-owned financial institution. His disappearance nonetheless exacerbates the increasing concerns that Beijing will not let up on their crackdowns on China's business elites who are seemingly targeted for their Western-educated, vocal, and wealthy characteristics, as it has now been seen as a common trend for billionaires to begin disappearing following their involvement in major business deals and subsequently, the Chinese government. While the Chinese government maintains that its actions against some of the wealthiest individuals in the country are solely based on legal grounds and its commitment to eliminating corruption, these moves are taking place in the context of decades of liberalization in what is now the world's second-largest economy. There is a growing apprehension among the Chinese populace that the government has the ability to arbitrarily make individuals vanish without due legal procedures, leading to a widespread sense of unease that this could potentially happen to anyone, anywhere, and at any time. The tech industry in China is now keeping a close eye on the situation surrounding Bao Fan, given his extensive connections and experience with nearly every influential figure in the sector. Although not as widely recognized beyond the business realm, he has become a representative of the consequences of ambition in China. However, Fan is not the only prominent businessman that the Chinese government has made an example out of. In 2015, there were reports of at least five executives who became untraceable, including Guo Guangchang, the chairman of the conglomerate Fosun International, which is best known in the West for owning the English Premier League football club Wolverhampton Wanderers. Mr. Guo disappeared in December of that year, and upon his return, his company disclosed that he had been cooperating with investigations. Two years later, Chinese-Canadian entrepreneur Xiao Jianhua was seized from a luxury hotel in Hong Kong. He had previously been among China's wealthiest individuals and was subsequently imprisoned for corruption last year. In March 2020, billionaire real estate magnate Ren Zhiqiang disappeared after referring to Mr. Xi as a "clown" for his handling of the pandemic. After a one-day trial, Mr. Ren was sentenced to 18 years in prison on corruption charges later that year.

The most notable missing billionaire was Jack Ma, the wealthiest person in China at the time. He disappeared in late 2020 after criticizing the country's financial regulators. Figures such as Jack Ma, who were initially considered success stories, whose ambitions were seen as that which should be emulated and modeled after, have gradually become vilified for capitalistic-like success. Jack Ma is a Chinese entrepreneur and philanthropist, best known as the founder and former executive chairman of Alibaba Group, one of the world's largest e-commerce companies. Ma founded Alibaba in 1999, which became one of the most successful e-commerce platforms in China, offering a wide range of services, including online shopping, payment systems, and cloud computing. Under Ma's leadership, Alibaba became one of the largest technology companies in the world, with a market capitalization of over \$500 billion as of 2021. Ma has been known for his charismatic personality and innovative vision, as well as his philanthropy work, including the creation of the Jack Ma Foundation, which focuses on education, the environment, and public health. However, in spite of his once-popular public persona and the charity he has given back toward his home country, Ma has faced increased scrutiny in recent years from the Chinese government over his outspoken views on the country's regulatory system and the role of private enterprise in society, and it this criticism from the Chinese government that has bled into the public perception as well. Before the tides had turned on him, Ma had been living a rock-star life of appearing in

movies among major Chinese movie stars, singing with Chinese pop stars, and painting multi-million art with famous artists. He lived a life not unlike other celebrated billionaires in the West. However, over the course of the last few years, Ma has gone from being affectionately called “Daddy Ma” to being called a “villain,” an “evil capitalist” and a “bloodsucking ghost.”¹⁶ The success that was once considered to be worthy of being emulated is now being likened to by writers as “10 deadly sins.” Where his story was once spoken of in tones of awe and admiration, it has now been replaced with comments quoting Marx, with phrases such as “Workers of the world, unite!” This shift has implications for the entrepreneurs who have driven China's economic growth in recent decades, and for the future of business and economic development in the country. Although some may argue this is a reflection of the government's efforts to address concerns about income inequality, corruption, and the role of the private sector in society, China's increase in rural poverty would suggest otherwise as China's efforts do not appear to be aimed at reducing income inequality, rather, it aims to shut down any capitalistic sentiment within the nation. This is evidenced by how China has more billionaires than the United States and India combined, yet, only about 600 million of its people earn \$150 a month or less. Additionally, consumption by the largest population in the world fell in the first 11 months of this year by about five percent nationally, yet China's luxury consumption is expected to grow nearly 50 percent this year compared with 2019. This quite contradicts the Marxian sentiment that ironically is still echoed by so many Chinese loyalists and governmental officials.

Ultimately, the flood of business elites in China such as tech entrepreneurs, private investors, and executives, who previously avoided involvement in politics, are now beginning to wonder if they still have a role to play within a system that is primarily governed by one leader, Xi Jinping. Prior to Xi Jinping's tightened control over business regulations, but after Mao's reign, China's business class had an implicit agreement with the Communist Party - they could focus on making money while turning a blind eye to the party's exercise of power. Like most Chinese citizens, they believed that the party's one-party governance was more efficient. However, the unspoken contract that entrepreneurs relied on is now eroding. Xi Jinping has indicated, through the Communist Party Congress, that he holds near-absolute power and has prioritized security over the economy. Similar to many Chinese citizens, they anticipated that Xi Jinping would secure a third term in 2023, which would break a tradition followed since the 1980s. Nevertheless, they retained the belief that his authority would be balanced by other influential groups within the party. However, Xi Jinping's resounding triumph, achieved by removing those deemed moderate in favor of loyalists, signaled that the system would be dominated by one person, with the potential to endure for many years. The last Chinese leader to flex centralized power as much as Xi was Mao Zedong whose reign, as we have seen, caused numerous deaths, societal turmoil, and economic devastation.

Economic Outlooks

Now that China has hit its peak and growth has slowed, the government has embraced slower economic growth, referring to it as the “new normal” and acknowledging the need for China to embrace a new growth model that relies less on fixed investment and exporting, and more on private consumption, services, and innovation to drive economic growth. Such reforms are needed in order for China to avoid

¹⁶ Yuan, Li. “Why China Turned against Jack Ma.” The New York Times. The New York Times, December 24, 2020. <https://www.nytimes.com/2020/12/24/technology/china-jack-ma-alibaba.html>. tPosition=51

hitting the “middle-income trap,” when countries achieve a certain economic level but begin to experience sharply diminishing economic growth rates because they are unable to adopt new sources of economic growth, such as innovation. China 2025 is consistent with Beijing's longstanding development objectives. Since the market liberalization policies of Deng Xiaoping in the 1980s, the Chinese Communist Party (CCP) has pursued a mixed economy that incorporates socialist planning with private enterprise. The plan builds on existing initiatives by allocating more resources and intensifying centralized policy coordination across government, private businesses, and academia. While the plan includes publicly stated policies, there are also less transparent actions that some experts suggest are aimed at shielding China from accusations of WTO violations and evading retaliatory measures. Some of these strategies include: While the plan includes publicly stated policies, there are also less transparent actions that some experts suggest are aimed at shielding China from accusations of WTO violations and evading retaliatory measures. Some of these strategies include: explicit target setting, direct subsidies, foreign investment and acquisitions, mobilizing state-backed companies, and forced transfer agreements. China has utilized these rules to gain access to outside technologies, ranging from high-speed rail to electric vehicle batteries. Some of these rules, especially those affecting automakers, have since been relaxed.

Critiques of Growth

Despite the aforementioned efforts on China's part to essentially back-pedal a bit on their restrictive measures, entrepreneurs who have lost money, confidence, and revenue, will not easily be convinced to return. Many of them have now experienced the freedom of living in other countries and are hesitant to submit to the control of the Chinese Communist Party again, as they believe the government is not held to the same laws as citizens. China has been known for its optimism that tomorrow will be better than today for more than a generation. However, this sentiment has shifted, and while a crash is not predicted, the worry over China's long-term prospects is increasing, and some businesspeople are even drawing comparisons to Venezuela, where the government took control of the economy without easing up.¹⁷ A 2019 survey of 465 wealthy individuals conducted by Shanghai-based research firm Hurun found that only one-third of China's affluent population expressed a high level of confidence in the country's economic future. This figure is a significant decline from 2017 when nearly two-thirds expressed high confidence. Conversely, the percentage of those with no confidence at all has doubled from 2018, now at 14 percent. Additionally, nearly half of those surveyed stated that they are either considering migrating to a foreign country or have already begun the process.

The citizens of China are not the only ones who have lost their faith in the country either. In 2014, for the first time, known state actors were charged with hacking when the U.S. government filed criminal charges against five Chinese military hackers. The charges were related to cyber espionage against U.S. corporations and a labor organization for commercial gain. According to the indictment, the accused individuals collaborated to unlawfully access American entities' computer systems and obtain

¹⁷ After taking over the presidency in 2013 following the death of his mentor Hugo Chávez, Nicolás Maduro has presided over a severe deterioration of Venezuela's economy. Although he has attributed the country's economic downfall to sanctions imposed by the United States, others have pointed to mismanagement and corruption as the cause. Maduro has consolidated power within the executive branch, utilizing violence and intimidation to quell dissent and earning the military's allegiance by granting them control over profitable industries.

information that would benefit their Chinese competitors, including state-owned enterprises (SOEs). The indictment alleges that the conspirators stole trade secrets that would have been highly advantageous to Chinese companies at the time they were taken. Additionally, the accused individuals allegedly acquired confidential internal communications that would give a competitor or an adversary in litigation an understanding of the American entity's strategy and weaknesses. Attorney General Eric Holder stated that the theft of significant trade secrets and other sensitive business information in the recent case requires a robust response. He expressed that success in the global market should be based on a company's ability to innovate and compete, rather than a foreign government's ability to spy and steal corporate secrets. This was described as the most direct confrontation with China over its theft of corporate secrets. The indictment specifically named members of Unit 61398, the Shanghai-based cyber unit of the People's Liberation Army, including well-known hackers with online aliases "UglyGorilla" and "KandyGoo." The F.B.I. and American intelligence agencies tracked the activities of the hackers and located them inside the heavily guarded military tower of the cyber unit. However, as there is a slim chance of China turning over the indicted members of the People's Liberation Army, the move by the Justice Department is mainly symbolic. The indictment accuses the hacking unit of infiltrating the networks of American corporations and systematically copying their emails, while also infecting their computers with malware.

It's not just the U.S. who found reason to distrust China, either. According to a survey published in 2020 by the Pew Research Center, negative views of China in the United States and other wealthy democracies have reached new heights due to the pandemic. The survey indicated that the illness, deaths, and disruption caused by the coronavirus in these countries have exacerbated already strong public distrust of China, where the virus first emerged in late 2019. The survey, which was conducted in 14 countries including Canada, Germany, Italy, Japan, South Korea, and other European nations, revealed that unfavorable opinions of China have significantly increased. These findings demonstrate how negative attitudes towards China have taken hold globally in recent years, which could pose challenges for the Communist Party's ambitions to expand Beijing's influence. The tide of public distrust could make cooperation on issues where national interests align more difficult. Natasha Kassam, a research fellow at the Lowy Institute in Sydney who studies public opinion and foreign policy, noted that "public opinion is a powerful constraint" and that souring public opinion about China in countries like Australia and the United States has driven governments to be more vocal about their concerns. In the same week, U.S. Secretary of State Mike Pompeo met with his counterparts from Japan, Australia, and India - all nations that have had strained relations with China. Pompeo has been criticized by Chinese officials as an ideological warrior determined to subdue Beijing. The pandemic seems to have amplified concerns about China and its leader, Mr. Xi, in many Western nations. A Pew Research Center survey conducted across 14 countries showed that on average, 61% of respondents believed that China had not responded well to the outbreak. In the United States, negative attitudes toward China rose by 13 percentage points compared to the previous year, with almost 75% of the 1,003 American respondents having a somewhat or very unfavorable view of China. Suspicion about Mr. Xi's intentions in international affairs surged to new heights in every country except Japan and Spain. Roughly half of respondents in the United States, Canada, Australia, Japan, and several Western European nations expressed "no confidence at all" in Mr. Xi. Jessica Chen Weiss, an associate professor of government at Cornell University who studies Chinese foreign policy, believes that negative views of China are likely to continue due to China's growing repression. She suggests that as long as the Chinese Communist Party prioritizes its current order, it will be challenging to reverse the trends in public opinion abroad. This reversal is not just crucial to the

international perception of China, but to the continued trade with other countries and subsequent continued growth as a result of it. The US government, for example, has imposed tariffs on Chinese goods in an effort to reduce the trade deficit between the two countries, and has also taken steps to limit the ability of Chinese companies to acquire US firms. China's broader political and military ambitions have led many countries to view China's efforts to expand its military and territorial influence in the South China Sea and beyond as a threat to regional stability. This has led some countries to take steps to limit their economic ties with China, either through reduced trade or increased scrutiny of Chinese investments. All of these factors have contributed to a growing sense of unease about China's role in the global economy. If this lack of trust continues, it is possible that we could see a reduction in trade with China¹⁸, which could have a negative impact on economic growth. This could be particularly problematic for countries that are heavily reliant on exports to China, such as Australia and many Southeast Asian nations.

One additional obstacle that the Chinese government could be potentially getting themselves into are sanctions of the same magnitude that Russia felt when they invaded Ukraine. China's potential invasion of Taiwan could lead to global backlash due to many prominent countries (unofficially) having significant security and commercial interest in Taiwan- which is technically a violation of one of the People's Republic of China's (PRC) one China policy. This backlash would be especially significant from the U.S.- which has formally recognized China's One China Policy¹⁹. With China's global market share nearing 20%²⁰, this could have enormous effects not just on the rest of the world, but it could backtrack much of the economic progress China has made in the last 4 decades.

China's Future Outlook- discussions

There is a counter-argument often made to resistance to China's growth which suggests that the U.S. should embrace China's economic rise rather than attempting to thwart it, because China's large population poses a major advantage over other countries when it comes to overcoming the economic obstacles presented as a result of border and migration regulations, or, deglobalization. They often point

¹⁸ This would be no shift change, either. In 1995, China's import and export of goods were valued at \$280.9 billion, accounting for only 3% of global trade. However, by 2018, its total trade in goods surged to \$4.6 trillion, which represents 12.4% of global trade, making it the world's top trader for that year.

¹⁹ China's "One China Policy" is the diplomatic principle that maintains that there is only one sovereign state called China, and that the government of the People's Republic of China (PRC) is the sole legal government representing the whole of China, including Taiwan. The policy asserts that Taiwan is a part of China and that any country wishing to establish formal diplomatic relations with China must first break official ties with Taiwan.

The One China Policy has its roots in the Chinese Civil War that took place from 1927 to 1949.

Following the victory of the Chinese Communist Party in 1949, the Nationalist government fled to Taiwan and established a separate government. The PRC, however, claimed that Taiwan was a part of China and that the Nationalist government was illegitimate.

Since then, China has been seeking to isolate Taiwan diplomatically, both bilaterally and multilaterally. Most countries, including the United States, have recognized the PRC as the sole legitimate government of China and do not officially recognize Taiwan as a separate country. However, many countries maintain unofficial relations with Taiwan, such as through trade and cultural exchanges.

²⁰ Published by C. Textor, and Feb 6. "China: Share of Global Gross Domestic Product 2027." Statista, February 6, 2023. <https://www.statista.com/statistics/270439/chinas-share-of-global-gross-domestic-product-gdp/>.

out that China is not simply reverting back to their previous state-controlled economic model that did not prioritize an open market and saw isolationist policies, they are instead reacting to a difficult external environment and taking advantage of the potential a large population has. This is backed by technological advances in a highly populated country that are improved when migration becomes restricted, and favors the idea that the U.S. should instead work with China so they can also reap the benefits of China's economic rise, while China could still learn a lot from America's advanced economy.

The Chinese government at times seems to want to change their attitude towards business, particularly when the economy is in an especially fragile state. Chinese officials are taking steps to address mounting economic issues, including urging banks to lend more and allowing local governments to invest in large projects. The government has also intervened to stabilize the value of the country's currency and to support the stock market to prevent a collapse like the one in 2015. These actions have been taken amid the ongoing trade war with the United States, which has already affected more than \$100 billion of goods and cast a shadow over China's growth prospects. To ensure that companies and consumers have enough money, China's central bank has pledged to provide enough credit, while the banking regulator is encouraging state-controlled banks to provide ample credit to exporters, small and medium-sized businesses, and infrastructure projects. Additionally, the Finance Ministry is allowing indebted local governments to borrow more money to restart stalled infrastructure projects. Among these are the construction of five subway and light rail lines in Changchun, a large industrial city in northeastern China where Toyota has significant facilities. Additionally, during his annual New Year's Eve speech in 2021, Xi Jinping praised the patriotic achievements of the Chinese people but made no direct reference to the economy or business, despite this being amidst a year marked by aforementioned crackdowns on tech companies, restrictions on borrowing by property firms, and unyielding Covid policies. In the first minute of his most recent address, Mr. Xi praised China's economy, which remains the world's second-largest. He mentioned tax and fee reductions as well as measures to ease the burden on businesses. In a meeting outlining policy goals for 2023, Mr. Xi and other high-ranking officials emphasized the need to strengthen the economy and pledged support for the private sector. This sudden shift to an almost cheerleader-like tone saw Xi stating "The Chinese economy enjoys strong resilience, tremendous potential and great vitality. The fundamentals sustaining its long-term growth have remained strong," and urging the Chinese people to "stay confident."²¹ Chinese officials have recently been using more business-friendly language, a marked departure from the anti-business stance of recent years, and this shift is due to the country's economic fragility, as growth is at its slowest rate in decades, and local government coffers are depleted. The pandemic and China's growing ideological influence on its economic policies have caused many businesspeople to question whether the country is still a reliable place to operate. This change in tone can be seen as a reversal of President Xi Jinping's aforementioned previous initiatives, and even Big Tech may be emerging from the regulatory doghouse. However, with entrepreneurs already leaving China for better opportunities, even companies like Apple are looking to diversify outside China as a result. Regardless, it would appear that even other Chinese officials are not totally convinced of Xi's stance change, such as Xiang Songzuo, a former official at the People's Bank of China and a Chinese economist, who stated that he believes that the Chinese leaders' approach to business has not undergone a significant change at its core, but rather that their rhetoric has become less

²¹ Wakabayashi, Daisuke, and Claire Fu. "From Disciplinarian to Cheerleader: Why China Is Changing Its Tone on Business." The New York Times. The New York Times, January 12, 2023. <https://www.nytimes.com/2023/01/12/business/china-economy.html>.

harsh due to the sluggish economy. According to Xiang Songzuo, a former official at the People's Bank of China and economist, due to the sluggish economy, the government needs private firms to invest more, hire more, and pay more in taxes. This has resulted in a change of tone to "reassure and pacify them," Mr. Xiang said. Nevertheless, there is still tension because China wants to maintain control over private companies and is not willing to solely rely on the markets or existing laws for oversight. They must be the primary overseer of China's private businesses because, although they have shifted toward an open market and gotten a taste of what sort of successes and wealth China could experience with the minds of brilliant Chinese entrepreneurs, they will always govern their economy with guardrails. Much like guardrails keep cars in as well as keep cars out, they want to keep their citizens with their opinions, and businesses, and strategies in, while keeping the influence of other countries and cultures out.

Regardless of what China's actions are, it will always be difficult to track with certainty the economic progress they make because of the government censorship of news exposing slow economic growth. It has been a longstanding policy in China to prohibit the coverage of politics, civil society, and delicate historical occurrences. According to a reviewed copy of a government directive sent to journalists in China, there are six economic topics that have been instructed to be "managed." The list includes reporting on worse-than-expected economic data, local government debt risks, the impact of the trade war with the United States, signs of declining consumer confidence, the risks of stagflation, and hot-button issues that highlight the difficulties of people's lives. This directive reveals the growing anxiety among Chinese leaders about the country's potential economic slump. There is a possibility that the situation is more serious than previously thought or that the government wants to prevent panic. However, this expanded censorship strategy may cause people to believe rumors about the economy more readily, as stated by Zhang Ming, a retired political science professor from Renmin University in Beijing. Furthermore, another notice sent on Friday instructed online news outlets to remove comments that criticize the development prospects of China, such as those related to consumption downgrading, China's stagflation, China's economic downturn, and new refugees. The Chinese propaganda department could not be reached for comment. The transmission of negative economic news could compromise the cautious message that Chinese officials have been trying to convey to the public in recent months. They have asserted that China's growing number of consumers and technological advancement would enable it to withstand any adverse effects caused by rising US tariffs. Historically, the economy has been a freer area of reporting in China, even after the government began managing its economic message more closely in 2015. Nonetheless, this has not stopped tenacious journalists from covering topics such as the fallout of peer-to-peer online lending schemes and local government debt issues. According to the Journalism and Media Studies Center at the University of Hong Kong, censors have removed online commentary containing sensitive phrases, such as "consumption downgrade," taxes, debt, and unemployment. The regulation of economic news is just one example of China's trend of tightening control over media since President Xi Jinping assumed power in 2012. The government has concentrated and strengthened regulatory agencies that monitor content, particularly online, where they have recently focused on curtailing entertainment news and celebrity gossip in addition to political and social issues. David Bandurski, co-director of the China Media Project at the University of Hong Kong, stated that "What we're seeing is this constant battle by the state to control the narrative in China."

China's long history of tightly controlling the country's cultural rhetoric includes a key factor: malleability of the nation's youth. Chinese leaders have recognized that the youth are particularly vulnerable to ideological manipulation, and have sought to shape the narrative around important political

and social issues in a way that reinforces the state's power and authority. However, recent years have proved a shift in China's generational dynamics, with the emergence of a new generation of young people who are increasingly disillusioned with the country's political and economic system. This generation, composed primarily of millennials, has grown up in a period of rapid change and modernization, and has been exposed to a wide range of new ideas and perspectives. Under Xi Jinping's leadership, there has been a renewed emphasis on ideological conformity and political control, particularly in the wake of growing social unrest and political opposition. However, this renewed emphasis on ideological conformity has had unintended consequences, particularly among the younger generation, who have grown increasingly frustrated with the government's heavy-handed approach to social and economic issues. This is evident in the aforementioned trend of entrepreneurs leaving China to find more flexible regulatory environments that will allow them to pursue their ideas and business ventures without the constraints of government intervention, particularly prevalent among the Chinese millennial generation, which is increasingly drawn to the ideals of free-market capitalism and individual liberty. As China continues to grapple with the challenges of modernization and economic growth, it is likely that the generational divide between the government and its young people will only grow wider. While Xi Jinping's China has sought to maintain control over the country's cultural rhetoric, it remains to be seen whether this control will be sustainable in the face of growing discontent and disillusionment among the country's millennial generation.

Bibliography (Chicago)

Barmé, Geremie R, Huynh Tam Sang, Jennifer Hsu, and Richard McGregor. "Burn the Books, Bury the Scholars!" Home, January 24, 2022. <https://www.lowyinstitute.org/the-interpreter/burn-books-bury-scholars>.

BBC News. BBC. Accessed April 13, 2023. http://news.bbc.co.uk/2/shared/spl/hi/in_depth/china_politics/key_people_events/html/8.stm.

BBC News. BBC. Accessed February 20, 2023. http://news.bbc.co.uk/2/shared/spl/hi/in_depth/china_politics/key_people_events/html/8.stm.

Bradsher, Keith. "As Trade War Intensifies, China Moves to Bolster Its Economy." The New York Times. The New York Times, August 23, 2018. <https://www.nytimes.com/2018/08/23/business/china-economy-trade.html>.

Bradsher, Keith. "China's Economy Stumbled Last Year with Covid Lockdowns Hobbled Growth." The New York Times. The New York Times, January 17, 2023. <https://www.nytimes.com/2023/01/16/business/china-gdp-fourth-quarter-2022.html>.

Bradsher, Keith. "Flowers, Fresh Fish and Movies: China Is Spending Again, Cautiously." The New York Times. The New York Times, February 5, 2023. <https://www.nytimes.com/2023/02/05/business/china-economy-lunar-new-year.html?searchResultPosition=1>.

Buckley, Chris. "Distrust of China Jumps to New Highs in Democratic Nations." The New York Times. The New York Times, October 6, 2020. <https://www.nytimes.com/2020/10/06/world/asia/china-negative-pew-survey.html?searchResultPosition=1>.

CGTN, "Live: Chinese President Xi Jinping delivers 2023 New Year Address," YouTube Video, 16:45, December 31, 2022, https://www.youtube.com/watch?v=NcQBv5gT_uc

Chan, Lois Mai. "The Burning of the Books in China, 213 B.C." *The Journal of Library History* (1966-1972) 7, no. 2 (1972): 101–8. <http://www.jstor.org/stable/25540352>.

Chien, Amy Chang, and Chang Che. "With Record Military Incursions, China Warns Taiwan and the U.S." *The New York Times*. The New York Times, December 26, 2022. <https://www.nytimes.com/2022/12/26/world/asia/china-taiwan-jets.html>.

"China's Economy, in Six Charts." *Harvard Business Review*, August 7, 2014. <https://hbr.org/2013/11/chinas-economy-in-six-charts>.

"China GDP Growth Rate 1961-2023." *MacroTrends*. Accessed April 3, 2023. <https://www.macrotrends.net/countries/CHN/china/gdp-growth-rate>.

"China's Massive Belt and Road Initiative." *Council on Foreign Relations*. Council on Foreign Relations. Accessed March 22, 2023. <https://www.cfr.org/backgrounder/chinas-massive-belt-and-road-initiative>.

Chun, Lin. *The Transformation of Chinese Socialism*. Duke University Press, 2006. <https://doi.org/10.2307/j.ctv113199n>.

Cook, Alexander C., ed. *Mao's Little Red Book: A Global History*. Cambridge: Cambridge University Press, 2014. doi:10.1017/CBO9781107298576.

Countries that recognize Taiwan 2023. Accessed February 27, 2023. <https://worldpopulationreview.com/country-rankings/countries-that-recognize-taiwan>.

Department of Asian Art. "List of Rulers of China." In *Heilbrunn Timeline of Art History*. New York: The Metropolitan Museum of Art, 2000–. http://www.metmuseum.org/toah/hd/chem/hd_chem.htm

Green, Michael J., and Bonnie S. Glaser. "What Is the U.S. 'One China' Policy, and Why Does It Matter?" *CSIS*. Accessed February 27, 2023. <https://www.csis.org/analysis/what-us-one-china-policy-and-why-does-it-matter>.

Hayes, Adam. "Gini Index Explained and Gini Co-Efficients around the World." *Investopedia*. Investopedia, January 13, 2023. <https://www.investopedia.com/terms/g/gini-index.asp>.

Hayes, Adam. "Paris Club." *Investopedia*. Investopedia, July 8, 2022. <https://www.investopedia.com/terms/p/parisclub.asp>.

Hoskins, Peter. "Bao Fan: Why Do Chinese Billionaires Keep Vanishing?" *BBC News*. BBC, March 8, 2023. <https://www.bbc.com/news/business-64781986>.

"How the U.S. Should Respond to China's Belt and Road." *Council on Foreign Relations*. Council on Foreign Relations. Accessed March 22, 2023. <https://www.cfr.org/report/chinas-belt-and-road-implications-for-the-united-states/>.

“Is China the World's Top Trader?” ChinaPower Project, August 25, 2020. <https://chinapower.csis.org/trade-partner/#:~:text=In%201995%2C%20the%20value%20of,by%20Germany%20at%207.7%20percent.>

“Is 'Made in China 2025' a Threat to Global Trade?” Council on Foreign Relations. Council on Foreign Relations. Accessed March 22, 2023. <https://www.cfr.org/backgrounder/made-china-2025-threat-global-trade>.

John Grady “High Cost of Taiwan Invasion Will Dissuade China, Pentagon Official Says.” USNI News, March 2, 2023. <https://news.usni.org/2023/03/02/high-cost-of-taiwan-invasion-will-dissuade-china-pentagon-official-says>.

Lewis, Mark Edward. China’s Cosmopolitan Empire : the Tang Dynasty. Cambridge, Mass: Belknap Press of Harvard University Press, 2009.

Magazine, Smithsonian. “The Silence That Preceded China's Great Leap into Famine.” Smithsonian.com. Smithsonian Institution, September 26, 2012. <https://www.smithsonianmag.com/history/the-silence-that-preceded-chinas-great-leap-into-famine-51898077/>.

Mark, Emily. "Emperor Xuanzong of Tang." World History Encyclopedia. Last modified March 31, 2016. https://www.worldhistory.org/Emperor_Xuanzong_of_Tang/.

Mark, Emily. "Tang Dynasty." World History Encyclopedia. Last modified February 28, 2016. https://www.worldhistory.org/Tang_Dynasty/.

Nierenberg, Amelia. “Your Tuesday Briefing: China Menaces Taiwan.” The New York Times. The New York Times, December 26, 2022. <https://www.nytimes.com/2022/12/26/briefing/china-taiwan-airspace-jets.html?searchResultPosition=3>.

Nienhauser, William H, and Kang-I; Stephen Sun Chang; Owen. “Book Reviews: ‘The Cambridge History of Chinese Literature,’ Edited by Kang-I Sun Chang and Stephen Owen.” Bulletin of the School of Oriental and African Studies. United Kingdom: Cambridge University Press, 2011.

Page, Vanessa. “Primary Drivers of the Chinese Economy.” Investopedia. Investopedia, August 2, 2022. <https://www.investopedia.com/articles/investing/042815/fundamentals-how-china-makes-its-money.asp>.

“Qin Dynasty (221–206 BCE).” Smithsonian's National Museum of Asian Art, September 3, 2020. <https://asia.si.edu/learn/for-educators/teaching-china-with-the-smithsonian/explore-by-dynasty/qin-dynasty/#:~:text=At%20the%20end%20of%20the,in%20the%20north%20and%20south.>

Schram, S. Reynolds. "Mao Zedong." Encyclopedia Britannica, December 22, 2022. <https://www.britannica.com/biography/Mao-Zedong>.

Schmidt, Michael S., and David E. Sanger. “5 In China Army Face U.S. Charges of Cyberattacks.” The New York Times. The New York Times, May 19, 2014. <https://www.nytimes.com/2014/05/20/us/us-to-charge-chinese-workers-with-cyberspying.html>.

“Shanghai's Covid-19 Lockdown Is Not Even Close to Over.” The Economist. The Economist Newspaper. Accessed April 14, 2023. <https://www.economist.com/china/shanghais-covid-19-lockdown-is-not-even-close-to-over/21809221>.

SHIH, HU. "The Struggle for Intellectual Freedom in Historic China." *World Affairs* 105, no. 3 (1942): 170–73. <http://www.jstor.org/stable/20663742>.

Solar, Peter M. "China's GDP: Some Corrections and the Way Forward." *The Journal of Economic History* 81, no. 3 (2021): 943–57. doi:10.1017/S0022050721000309.

Somers, Robert M. "Time, Space, and Structure in the Consolidation of the T'ang Dynasty (A.D. 617-700)." *The Journal of Asian Studies* 45, no. 5 (1986): 971–94. <https://doi.org/10.2307/>

Specia, Megan. "What Is Happening in Venezuela and Why It Matters." *The New York Times*. The New York Times, April 30, 2019. <https://www.nytimes.com/2019/04/30/world/americas/venezuela-crisis.html>.

"Tang Dynasty - History." Accessed March 20, 2023. <https://www.history.com/topics/ancient-china/tang-dynasty>.

Team, The Investopedia. "Great Leap Forward: What It Was, Goals, and Impact." Investopedia. Investopedia, November 21, 2022. <https://www.investopedia.com/terms/g/great-leap-forward.asp>.

Team, The Investopedia. "Purchasing Managers' Index (PMI) Defined and How It Works." Investopedia. Investopedia, January 13, 2023. <https://www.investopedia.com/terms/p/pmi.asp>.

TED, "Understanding the rise of China | Martin Jacques," YouTube Video, 24:39, January 24, 2011, <https://www.youtube.com/watch?v=imhUmLtlZpw>

The Cambridge Companion to the Age of Augustus. United Kingdom: Cambridge University Press, 2005.

"The Economy, 1949–1978." obo. Accessed February 21, 2023. <https://www.oxfordbibliographies.com/display/document/obo-9780199920082/obo-9780199920082-0016.xml>.

TheJihyeLee. "China's Factory Activity Grows Further, Marks Its Highest Reading in Nearly 11 Years." CNBC. CNBC, March 1, 2023. <https://www.cnbc.com/2023/03/01/chinas-factory-activity-bounces-further-into-expansion-in-february.html>.

"U.S. Charges Five Chinese Military Hackers for Cyber Espionage against U.S. Corporations and a Labor Organization for Commercial Advantage." The United States Department of Justice, July 22, 2015. <https://www.justice.gov/opa/pr/us-charges-five-chinese-military-hackers-cyber-espionage-against-us-corporations-and-labor>.

Wakabayashi, Daisuke, and Claire Fu. "From Disciplinarian to Cheerleader: Why China Is Changing Its Tone on Business." *The New York Times*. The New York Times, January 12, 2023. <https://www.nytimes.com/2023/01/12/business/china-economy.html>.

Wakabayashi, Daisuke. "Star Banker Vanishes in China, Stoking Fears of Renewed Beijing Crackdown." *The New York Times*. The New York Times, February 17, 2023. <https://www.nytimes.com/2023/02/17/business/bao-fan-china-banker.html>.

Wee, Sui-lee, and Li Yuan. "China Censors Bad Economic News amid Signs of Slower Growth." The New York Times. The New York Times, September 28, 2018. <https://www.nytimes.com/2018/09/28/business/china-censor-economic-news.html>.

Wong, Tessa. "Two Sessions: China Looks at Reforms to Deepen Xi Jinping Control." BBC News. BBC, March 5, 2023. <https://www.bbc.com/news/world-asia-china-64819857>.

Yao, Shujie. 2000. "How Important Is Agriculture in China's Economic Growth?" Oxford Development Studies 28 (1): 33–49. doi:10.1080/713688306.

Yuan, Li. "China's Business Elite See the Country That Let Them Thrive Slipping Away." The New York Times. The New York Times, November 7, 2022. <https://www.nytimes.com/2022/11/07/business/xi-jinping-china-party-congress.html>.

Yuan, Li. "China's Entrepreneurs Are Wary of Its Future." The New York Times. The New York Times, February 23, 2019. <https://www.nytimes.com/2019/02/23/business/china-entrepreneurs-confidence.html>.

Yuan, Li. "China's Tech Rainmaker Vanishes, and so Does Business Confidence." The New York Times. The New York Times, February 22, 2023. <https://www.nytimes.com/2023/02/22/business/fan-bao-china-renaissance.html?shttps%3A%2F%2Fwww.nytimes.com%2F2023%2F02%2F22%2Fbusiness%2Ffan-bao-china-renaissance.html%3FsearchResultPosition=34earchResultPosition>.

Yuan, Li. "China's 'Zero Covid' Mess Proves Autocracy Hurts Everyone." The New York Times. The New York Times, April 13, 2022. <https://www.nytimes.com/2022/04/13/business/china-covid-zero-shanghai.html>.

Yuan, Li. "Entrepreneurs Flee China's Heavy Hand: 'You Don't Have to Stay There'." The New York Times. The New York Times, January 19, 2023. <https://www.nytimes.com/2023/01/19/business/china-singapore-immigration-entrepreneurs.html>.

Yuan, Li. "Why China Turned against Jack Ma." The New York Times. The New York Times, December 24, 2020. <https://www.nytimes.com/2020/12/24/technology/china-jack-ma-alibaba.html.tPosition=51>.

Zhong, Raymond, and Li Yuan. "As Trade Fight Looms, China Turns Censors on Its Own Policies." The New York Times. The New York Times, June 26, 2018. <https://www.nytimes.com/2018/06/26/business/china-trade-censorship.html>.

Zhu, Ying. "'Yongzheng Dynasty' and Chinese Primetime Television Drama." Cinema Journal 44, no. 4 (2005): 3–17. <http://www.jstor.org/stable/3661122>.

李齐. "Sea Change Witnessed in Consumption Patterns of Wealthy Individuals." Chinadaily.com.cn. Accessed April 3, 2023. <http://www.chinadaily.com.cn/a/201901/17/WS5c3fe163a3106c65c34e4faf.html>.

CROP ACREAGE MANAGEMENT IN THE CENTRAL VALLEY PROJECT AS A METHOD OF REDUCING IRRIGATION WATER CONSUMPTION AND INCREASING FARMER REVENUES

*Jasper Paez, Siena College
Dr. James Booker, Siena College*

ABSTRACT

In California and specifically the Central Valley Project (CVP), cotton and alfalfa—two of the most water intensive crops—are also among the three highest subsidized crops along with almonds. If the planted acreage of cotton and alfalfa are reduced, then irrigation water use will be reduced while farmer profits will be increased. The subsidization of both cotton and alfalfa contributes to a historical trend of the overuse of both groundwater and surface water in this area. Basic data on crop acreage, water use, crop revenues, and government crop subsidies was found. Using this, key metrics of water efficiency per crop and crop revenue per acre-feet of water were calculated. With the use of crop data analysis and scenario proposals, I have created different allocations of cropland that would both reduce water use and increase revenues for the farmers located in the CVP. I was able to decrease annual water use by 26% while increasing annual revenues 27%. This solution could demonstrate an approach towards more sustainable water use within the CVP area.

FEDERAL RESERVE CHALLENGE 2022

Opening Statement

Good afternoon. The United States has successfully recovered from a sharp and severe but short economic recession and high levels of unemployment due to the coronavirus pandemic. We are in the midst of a period of rapid economic growth and now have historically low unemployment. Due in part to this previously booming economy as well as geo-political issues, we have encountered another issue, a high inflation rate that is plaguing consumers and businesses both here in the United States and globally. Inflation is eating into households' buying power, as the same goods and services that they may have purchased last year are now more expensive. This negatively impacts those who make less as they may already have a difficult time buying essential goods and services, and are unable to afford the price hikes. This negative real wage growth will inhibit the purchasing power of consumers creating a recessionary risk. If the economy continues to progress at this rate, inflation expectations will become unanchored, this means that households and firms will be expecting high inflation and shaping their decisions based on this, potentially causing a wage price spiral that could be detrimental to the whole economy.

Since the March meeting, the Fed has been raising the target Federal funds rate in an effort to combat this stubbornly high inflation. Being aggressive imposes a tradeoff, on the one hand there is an increased possibility of creating a recession, and on the other hand it is likely to reduce inflation at a much faster pace. We believe two things with regards to this tradeoff; the first, is that the economy is currently strong enough to withstand the stronger policies, reducing the probability of a recession. We also believe that the threat of continued high inflation and unanchored expectations poses a greater threat to economic stability than the possibility of overshooting and causing a recession.

While current raises to the target Federal funds rate have shown some effects of breaking high inflation, there is still more work to be done and the pace of federal fund hikes must continue in order to ensure inflation is no longer a problem. In order to achieve our dual mandate of an average inflation rate of 2% inflation and full employment, our monetary policy recommendations are to raise the target range for the federal funds rate to 4 to 4 ¼ percent from the current rate of 3 to 3 ¼, and to continue the clearing of the balance sheet assets.

Inflation

As shown in **Exhibit 1**, Headline and Core PCE inflation have been rising steadily since January 2021, reaching levels not seen in decades. Part of this increase is the result of the pandemic shifting consumer demand from services to goods. This increased demand for goods strained supply lines already struggling from government restrictions. These factors pushed up the prices of household goods. However, both Headline and core PCE inflation have most recently shown signs of moderating, yet inflation remains stubbornly high. Headline PCE still remains higher than core PCE. This is most likely due to recent shocks in food and energy prices caused by ongoing global geopolitical instability.

Exhibit 2 shows that FOMC projections have the PCE inflation rate falling from its current high levels to 3 percent by 2023 and falling to below 2.5 percent by 2024. This is an optimistic projection by the FOMC that shows hope that inflation will break next year. This also gives credence to the belief that inflation expectations have been depressed and are anchored at a rate of 2%. This is good since this means that markets are expecting inflation to fall, and they will not be taking high inflation into account when making decisions. It is important to consider inflation expectations when considering policy recommendations as expectations can cause reality. If households and firms are expecting high inflation, then workers will request higher wages and firms will raise prices, which will cause a vicious wage-price spiral as the wages will rise in response to price increases and prices will rise in response to wage increases.

Unemployment

There is data indicating that unemployment may not rise as high in response to interest rate hikes as may be assumed. **Exhibit 3** displays the amount of unemployed workers to the amount of job openings, and shows that there are more job openings than unemployed workers. With job openings being higher than the unemployed by roughly 6 million, it is possible that businesses will contract the amount of job openings that they have, before laying people off in response to increasing the Federal funds rate. After COVID, companies are used to working with a decreased staff or streamlining operations.

One of the outcomes of a tight labor market is that wages will eventually increase. This will negatively impact the fight on inflation because of the wage-price spiral. When employees ask for higher wages, prices increase to compensate and the cycle continues. Consider **Exhibit 4**, there is a general trend of employer costs and wages moving in the same direction. Another key takeaway is that wage growth is currently around 5%. With inflation currently running at over 8%, real wage growth is currently negative. With this in mind, there is a clear need to act against inflation as worker's purchasing power is eroding, and soon they may begin to ask for larger wage increases if expectations become that the inflation rate will remain high.

As seen in **Exhibit 5**, despite GDP growth softening off of maximum potential, there are enough signs that GDP is near potential that the target Federal funds rate can be raised without instigating a major recession. **Exhibit 6** takes into account plans for the future regarding GDP growth accounting for projected policies and increased interest rates. This forecast shows a return to standard growth rates by 2024, showing low recession expectations even in light of expected rate increases.

Final Recommendation:

The data shows that there is trending in the right direction of slowing down the economy and that there are some factors working in our favor, but that high inflation has not yet been broken. Inflation remains at the highest level seen in the U.S. since the 1980s and Unemployment at historic lows. Continuing high levels of inflation poses a detriment to the economy and especially those in the lower levels of the income bracket. Being aggressive in raising the federal funds rate 100 base points will show a full commitment of the Fed to fighting inflation and bring the economy out of its current transitory phase. The Fed has room to move with recent reports showing more job openings to unemployed workers, meaning the economy can contract before any worker is laid off. Foreign central banks have

shown an aggressive stance in fighting the current economic problems and the Fed should be no different in bringing down inflation.

This aggressive path does not come without risks. It is possible that the target federal funds rate is raised too high and the economy plunges into a recession. If this happens then the people that we are aiming to aid in this policy by stemming high inflation may be impacted in another way, by losing their job. Being aggressive also carries the risk of causing markets to react negatively potentially leading to a downturn in the economy. This is why it is necessary to continue monitoring economic conditions.

All policy recommendations are contingent on the continuing of economic conditions and upcoming reports, including the release of the unemployment report and the CPI.

The Collapse of Lebanon: An Analysis Into Lebanon's Political Economy

Hussein Fayad, Siena College

Abstract:

This paper studies the trends of the Lebanese economy shortly following its independence in 1943 until the present day, taking into account all the historical, political, and social elements that have shaped the country as a whole and subsequently the trajectory of its growth. The Lebanese economy, once a vibrant powerhouse unmatched in the Middle East, has weakened over the course of more than seven decades to become one of the world's most inflated economies with a rigid sectarian structure and a government incapable and unwilling to enforce any form of change for fear that it may disturb the functioning system of corruptive self-enrichment that has been festering since the end of the civil war in 1990. The comprehensive dysfunction of the Lebanese political and economic institutions has classified the nation as a quasi-failed state. This paper provides a comprehensive analysis of the chronology of Lebanon's principal events that have brought forth the economic failure witnessed today.

1. Introduction:

The weakened Lebanese economy of today, plagued with record-breaking inflation rates, soaring public debt, trade deficits, low production, and high unemployment can all be attributed to the hallmarks of the Lebanese confessionalist political system, one built from the ashes of the civil war, with sectarianism at its center, and all other fractions revolving around it. The institutionalism of power politics through sectarianism has metastasized across all aspects of Lebanese citizens' life. The civil war has brought about political parties with an inherent sectarian identity where citizens of that sect can be automatically attributed to said parties regardless of their affiliation and has produced a decisive division of the country through regionalism, which had become one of the defining features of the post-war reconstruction failures.

Lebanon's history did not begin with this extreme case of sectarian identity that ravaged all forms of life. It began with a rather circumstantially successful economy that seized the opportunities provided by free market liberalism, characterized in Lebanon by its iconic banking sector. Dubbed the "Golden Age" prior to the civil war, the serenity of the economy was masked with the obscure festering of a corrupted system that failed to build Lebanon a solid footing in the face of plausible economic hardships amid a turbulent and volatile region, where conflict and war is no stranger; especially when the entirety of the economy was upheld by a banking sector dependent on foreign capital and investments.

Therefore, in order to understand Lebanon's economy today, it is of utmost importance to look into what preceded the crisis and what allowed it or even paved the path for its existence. The reader may find it important to look into the wider political and historical perspectives that this paper may not explicitly mention or extensively elaborate upon; however, there remain numerous events in Lebanon's history that play an elemental role in molding the crisis as we see it today.

2. Lebanon's Post-independence Economic Aspiration

Lebanon's most potent political class, its merchants, desired their country to represent a free market economy characterized by a noninterventionist government, attracting the free flow of foreign capital and establishing itself as a prominent regional hub that economically connects the West to the Arab world. They sought for Lebanon to become a politically neutral state where investors, corporations, and individuals were able to find and administer all their commercial, financial, and other needs through the Lebanese services sector.

Those laissez-faire advocates sought to mold Lebanon into a nation that thrived by its place as an attractive economic sanctuary where tariffs were low and global manufactured products were unrestricted and available throughout the market at competitive prices for Beirut to manifest its position as the model economy where all organizations desired to establish their businesses, supply bases, headquarters, offices, and all sorts of other services. As far as they were concerned, advocates of such an economy desired a government that only interested itself in maintaining internal security and political neutrality (to maintain confidence in the economy; more on that later), stabilizing the currency, as well as preserving and improving infrastructure and facilities such as roads, airports, electricity, and so on.

Lebanon was by no means a large-scale industrial nation (as we will observe later); nonetheless, its merchants believed that it was capable of balancing its unfavorable trading status through the development of non-commodity services that thrived in a socially, economically, and politically stable country that incentivized, remarkably, the flow of foreign capital and investors into its welcoming economy.

The environment that characterized Lebanon and the Arab region in the 1950s was ideally suited for a laissez-faire economic system to take root. Numerous domestic, regional, and international elements supplemented and reinforced Lebanon's growth, granting it an ideal and unprecedented opportunity to rise as an economic powerhouse in a region plagued with political uncertainty and insecurity. Nonetheless, Lebanon was moving towards an economic and political model far more different than its Syrian neighbor and, more widely, some of its fellow Arab countries in the region at large. Those differences created some friction between the politically divergent nations of Lebanon and Syria, despite their sharing of extremely closely-knit historical and cultural realities.

Culturally, Lebanon was suitable for the job. Lebanon represented the Arab world's leading assimilator of Western culture and lifestyle, with an abundance of religious diversity where over 18 sects of different religions coexist. Through its liberal economy and versatile society, it had become a blending point joining the West and the Arab East. Further, Lebanon's temperate climate, mountainous landscape, and famous beaches cemented its reputation as an excellent tourist destination, continuously fostering its transnational character. The development of housing, hotels, entertainment facilities, and tourist attractions was an integral element of its newfound economy, especially since Lebanon sought to prove itself as a charming place to live and work.

2.1 Lebanese-Syrian Economic Proximity & Divergence

During the French Mandate of Lebanon and Syria²², both countries shared complete economic unity through all aspects of economic relations: joint customs, a shared currency and tax structure, unfettered labor freedom in both countries, and unrestricted movement of people and capital. However, soon after the independence of both countries—Lebanon in 1943 and Syria in 1946—uneasiness in relations began to emerge due to diverging political and economic perceptions surrounding the restructuring of the newly emerging states, and immediate strains on the customs union commenced. Many Syrian leaders expressed, with evident regret, that the price of France's withdrawal was Syria's resignation of four *qada'a* (districts) to Lebanese territory. Syria had felt that following the loss of Alexandretta to the Turkish army in 1939, the country became reliant on the ports of Beirut and Tripoli after the loss of Alexandretta. Accordingly, Syria had essentially become reduced to a mere customs zone dependent on Beirut. The Syrian-Lebanese customs union was viewed as a Syrian concession to Lebanon (54).²³

*"No member state of the League of Arab States has sacrificed as much as Syria. We hope that they will be satisfied with mentioning, in future independence celebrations, what an exorbitant price Syria has paid for Lebanon's independence."*²⁴

Such Syrian sentiment encountered firm opposition among the growing group of Lebanese nationalists. Consequently, the Lebanese people and government refused to conform to the Syrian territorial claim or inherent influence, and both countries began to pursue dramatically different economic policies. This was especially exacerbated by the continuously unproductive monetary and trade union established between the two nations.

Pressures were mounting on the Lebanese government over public outcries over the high price of bread, a necessary commodity and economic indicator characterized as the benchmark of Lebanon's price index. The Syrian Prime Minister stated in parliament that he intended to introduce legislation that would continue restricting grain trade to the Mira. However, a majority of Members of Parliament and Mira's director lobbied to ensure that the government continued to purchase grain directly from farmers, although the free market price of grain was 20% lower than the Mira price. As public opposition grew, Jamil Mardam Bey reconsidered and announced in parliament that grain transportation and trade would be free and unrestrained beginning in January 1947.

²² The League of Nations mandate for Syria and Lebanon was established in the aftermath of World War I and the partitioning of the Ottoman Empire, and it comprised Syria and Lebanon. The mandate system was supposed to be different from colonialism in that the ruling nation was expected to operate as a trustee until the people were deemed eligible for self-government.

²³ Alexandretta was an important port along the eastern Mediterranean coast that the French controlled following the First World War, incorporating the city into French-controlled Syria under the League of Nations French Mandate of Syria and the Lebanon

²⁴ Al-Qabass, 3 January 1947. Editorial by Najib al-Raiyyes

However, the Syrians were reluctant to lift trade restrictions on wheat in Lebanon or allow them to import grain from other countries selling them for far cheaper rates. Syrian grain prices were 50% higher than Egypt's, 40% higher than Turkey's, and 60% higher than Iraq's. Syrian wheat was even rejected by Europe, who were able to get them from Egypt, Turkey, and Syria at a 30% markdown. Syria's best bet was to maintain Lebanon's exclusive trade that only allowed her to purchase her grain needs from Syria. However, Syria's exploit did not go unnoticed by the Lebanese government. Through their shared economic union and the political desire to maintain it, preserving friendly relations with Syria compelled Lebanon to pay a higher price for low-quality wheat imported from Syria (45 piastres per kilogram) while claiming that the Lebanese government had offers for higher-quality, cheaper wheat (20 piastres per kilogram) that lay outside that trade and customs union.²⁵

Nonetheless, the grain issue was a significant indicator signifying the withering relationship between the two states. Mounting strains on trade imbalances and the dramatic differences in political and economic policies brought about a growing rift concerning the relationship between the Syrians and the Lebanese.

The Syrian public also desired to leave the union. They perceived their economy to favor Lebanon by stating that *"the French have made Syria an exploitation farm and a milk cow to fatten Lebanon; and our government, after having assumed the economic affairs of the country, has continued to follow the same policies. It reveals itself soft and conciliatory before the demands and whims of the Lebanese, giving them everything at the expense of the impoverished Syrian taxpayer."*²⁶

The Lebanese public did not see eye-to-eye with that form of reasoning since it had long been historically prevalent that Lebanon, a non-producing state, consumed, at high prices, what Syria produced, bearing the weight of economic hindrances. Moreover, Lebanese nationalists saw that the economic policies pursued and implemented by the French, which ultimately resulted in the establishment of the Syro-Lebanese economic union, was primarily created to serve French and Syrian interests. Accordingly, the union is artificial and has no underlying foundation; they suggested breaking off the partnership and allowing Lebanon to trade freely without fear of retribution or consequence. Furthermore, they predicted that the economic union would be destroyed by Syrian greed and envy for Lebanon's resources and Syria's desire to subjugate Lebanon to her loaf of bread.

Soon enough, there had been talks of Syria's wishes to develop their independent port, one utterly separate from Lebanese ports, marking a tremendous step in tearing down the customs union and moving toward economic independence. As a result, calls on the Lebanese government to rapidly prepare for what seemed like an inevitable break-up were growing. By 1948, the two states had separated their currencies, semi-officially partitioning what once was complete unity.

After numerous back-and-forth memorandums, statements, meetings, and speeches, the nations' growing dissatisfaction with one another's policies reached a breaking point. The Syrians had given an ultimatum to the Lebanese government, pressuring it to either completely and fully comply and integrate with Syria on

²⁵ Beirut to Foreign Office, 6 February 1947, FO 371/621710 and Le Commerce du Levant, 1 January 1947.

²⁶ Le Commerce du Levant, 15 January 1947.

economic union and policies, monetary and customs regulations, and import/export, or to impose total separation lacking any form of economic partnership. The Lebanese government was given until the 20th of March 1950 to respond officially, the date being strategically chosen to be one day ahead of the Arab League summit, wishing for no further delay or influence through Arab mediation. Riad Al-Solh, Prime Minister of Lebanon (who had survived an assassination attempt that same month by the Syrian Socialist Nationalist Party due to political reasons unrelated to the customs union), expressed his deepest regrets at the Syrian ultimatum, which the Lebanese government viewed as a threat unfamiliar to the spirit of friendliness and brotherhood the two states were supposed to share.

The Lebanese government officially responded by publishing a memorandum listing all their grievances with the behavior the Syrian government has been demonstrating. It was especially notable that the memo was made public and was not kept secret or confidential. The memorandum highlighted the Lebanese government's regret that its efforts to maintain friendship elicited no acknowledgement from its Syrian counterpart. Furthermore, the sudden limitation of grain shipments to Lebanon, while Syria allowed grain exports to international countries, was emphasized. Lebanese nationalists, particularly Michel Chiha (considered one of the founders of the Lebanese constitution), made it clear that they were not interested in following Syria blindly, particularly when they were experiencing political trouble—in reference to Syria's 1949 coup d'état. They held that philosophical, political, and ideological differences the Lebanese and Syrian governments shared made them incompatible in the 1950s.²⁷

Khalid al-Azm (Prime Minister of Syria at the time) called a cabinet meeting at 10 PM on March 13, 1950. The meeting produced the final communiqué announcing the dissolution of the Syro-Lebanese customs union.

2.2 Investment in Lebanon

Some fears arose regarding Lebanon's stability as an economy outside of the customs union with Syria. Some were apprehensive that Lebanon would not be able to support itself independently of Syria and worried that should Lebanon fail economically, terms for rejoining the customs union would be far too drastic to accept. Moreover, there were some significant concerns regarding Syrian expansionist aims that Lebanon was seen as subject to. Due to political, cultural, and historical contexts, many Syrians thought of Lebanon as a historical extension of its broader former presence in the region—an issue that sparked fears that, at any moment, the Syrian army would find a pretext for marching into Beirut²⁸. Further, Lebanon's southern border shared with the newly founded state of Israel was viewed as problematic since a protracted conflict that cemented regional instability and obstructed growth, marking the lasting development of Lebanon's economy as unlikely.

²⁷ (Chaitani 2007, 157-158)

²⁸ (Persen 1958, 277)

Despite those fears, both Arab and foreign investors, especially ones from western capitalist nations, scurried to invest in the small Lebanese economy. Although the small Mediterranean country had its disadvantages, there remained many factors that lured the assets of foreign capital:

- 1) Strategically, Lebanon is located favorably along the eastern coast of the Mediterranean. Its location and proximity to both Arab and European countries marked Beirut as the only consequential port of the Arab world, especially since the closure of Haifa to Arab goods in 1948 (following the establishment of the state of Israel)²⁹. Beirut, therefore, became the natural entry port of foreign goods into the Arab world, creating a tremendous opportunity for the flow of goods and capital into Lebanon and the Arab world at large.
- 2) Lebanon's closer cultural and historical ties to Europe, especially considering its then Maronite Catholic Christian majority and its comparatively high literacy rates (illiteracy was down to 20% according to a 1957 US Operation Mission Report), Lebanon produced much of the Arab world's intellectual and entrepreneurial class, laying exceptionally solid foundations for the implementation of Western capitalist concepts.
- 3) Lebanon was not burdened by the question of land distribution that plagued many newly independent states. Most of Lebanon's land was cultivator-owned, and the few absentee landlords that lived in the city were capable of properly managing their properties due to Beirut's relative proximity to cultivated lands in Lebanon.
- 4) Income inequality was substantially low during the early 1950s, especially in comparison to other Arab states, such as Iraq, Egypt, or Syria. Unlike the rest of the region and most underdeveloped countries, Lebanon's income distribution was similar to that of the United States during the 1920s, relieving it from the sociopolitical challenges of land reform.
- 5) The diversity of the Lebanese commercial sector and the large inflow of foreign capital granted its economy a balanced quality. Lebanon's heterogeneous output of *invisible exports* ranges from banking, tourism, international trade, and the transit of goods such as gold and oil. In contrast to many Arab states that depended on a singular commodity to uplift the entirety of their economy (cotton in Egypt and oil in Saudi Arabia), Lebanon's economy was upheld by several sectors that held their proportion and stabilized the country's economy. Thus, if a crisis were to occur and affect an important sector, the entirety of the Lebanese economy would not collapse due to its dependency on that one commodity but would rather maintain some form of functionality, owing its survival to that diversity. Moreover, Lebanon also retains a significant amount of remittances from the country's dispersed immigrants.

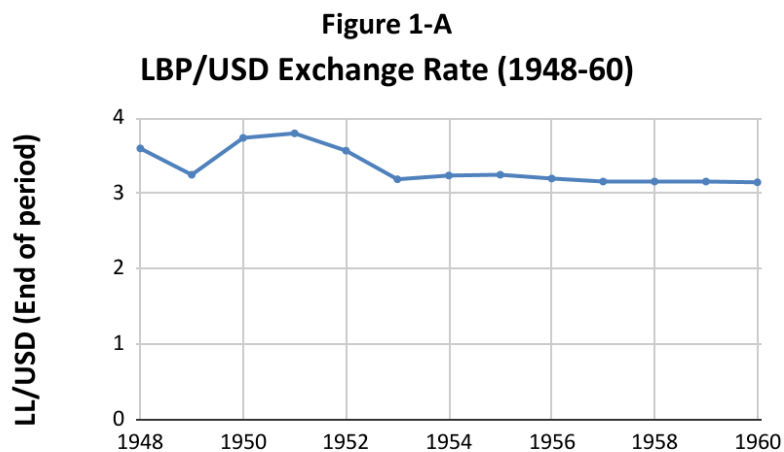
Those factors motivated investors and instilled a sense of confidence in the potential of the Lebanese economy. The low price and high return, coupled with reasonable political stability, brought investors rushing in. Lebanon's free market economy, backed by a stable currency, was unique among the Arab world

²⁹ All points expressed above can be referenced to data found in (Persen 1958, 279)

at the time. Lebanon enjoyed a sense of stability that the Middle East had been deprived of at the time. Countries affected by political, economic, and security instability all transferred their money into Beirut's banks. Simply, when confidence in the governments of Egypt, Syria, Jordan, or others waned, private flight money poured into Beirut, a safe haven of foreign capital—and once it arrived, it usually stayed.

With the desire to maintain the prosperous streamlining of foreign capital and in hopes of further increasing it, Lebanon established Law No. 1/1956 that effectively instituted a banking secrecy law that prohibits, with some restricted circumstances, bank managers and staff from disclosing customer identities or information about client assets and holdings to any person or public administration, law enforcement, or judicial entity³⁰. Passing the Bank Secrecy Law dramatically increased banking deposits and advances, doubling the deposits from LBP 215 million in 1950 to over LBP 564 million by the end of 1956. Time deposits increased around eightfold during that time period, from LBP 5.5 million to LBP 42.2 million, with a significant portion of them likely being of foreign origin³¹. To put Lebanon's exceptionally rapid growth into perspective, the Lebanese economy doubled the growth rate experienced by the United States between 1950-1956, years that are generally considered to be particularly prosperous for the U.S. economy.

The value of the Lebanese pound in relation to the U.S. dollar was stable (hovering slightly above LBP 3



to USD 1), and the Lebanese market saw an increase in demand for the Pound, a sign reflecting the increased number of tourists, increased payment for commercial, transportation, or financial services, and increased inflow of capital. It represents confidence in the Lebanese economy. The chart below shows the average stability of the LBP/USD exchange rates between 1948 and 1960, visualizing the consistency and reliability of the Lebanese Pound during that time

period,

2.3 Trade Deficit

Since the early 1950s, Lebanon produced an unfavorable trade imbalance begrudged with a ratio of 5 to 1. That chronic deficit did not recover with the sharp increase of foreign capital; Lebanon rather plummeted deeper into its imbalance as time persisted, with the imbalance starting at around \$58 million in 1951, \$314

³⁰ (Tohme Law Firm, n.d.)

³¹ (Persen 1958, 285)

million in 1960, to \$489 million in 1970 ³². Lebanon was not a producing country, yet with the growth of its economy through the successful commercial and banking sectors, the increased demands and consumption of the Lebanese population prompted the government to increase imports amidst a continuously weakening commodity-producing sector (more information on that later). By 1973, imported products made upwards of 47.5% of the total amount of agricultural and industrial commodities consumed annually. The trade deficit was maintained only by the high inflow of foreign capital and the success of the Lebanese banks in maintaining and growing them.

3. Wider Politics of the Region

Politically, Lebanon was surrounded by challenges that threatened its growth and laid solid foundations for many of the future domestic and international conflicts the country will encounter near its post-independence future. Most prominently, the growing influence of Arab-nationalist and Pan-Arabist movements across the middle east were growing with exceptional prominence, particularly with the increasing popularity and power of a charismatic general from Egypt, Gamal Abdel-Nasser. Leading the Egyptian Revolution of 1952 that toppled the reign of Egypt's monarchy under King Farouk, Gamal Abdel-Nasser assumed power over Egypt and officially became president of Egypt in June of 1956. His favorability among Egyptians throughout that turbulent period was tremendous; However, Nasser captivated the entirety of the Arab world following the nationalization of the Suez Canal Company, popularizing Pan-Arabism and Arab-nationalism across the Middle East. His views matched closely with that of Syria, who has been experiencing a period of tremendous political instability, yet the growing influences of Arab-nationalist sympathizing parties, such as the Syrian Communist Party and the newfound Ba'ath party, gained enough power to culminate in the establishment of the United Arab Republic (UAR) in 1958. The UAR was a short-lived union between Egypt and Syria, a materialized political manifestation of the growing influence of secular Arab-nationalism.

3.1 Lebanon 1958 Conflict

The UAR presented a major conflict within Lebanon. Nasser's calling for Arab Unity, sparked a division within the population. At the time, Lebanon's Maronites, the poplar majority and most politically influential sect, had opposed the unification of Lebanon into the UAR, in contrast to the majority of Muslims and Druze that had advocated for Lebanon's integration as part of its Arab identity and political independence from Western influence. The United States' support for Camille Chamoun, Lebanon's president at the time, was steadfast. Seeing Chamoun as the only openly anti-communist leader, the United States saw it in its best interest to preserve that sentiment among the Lebanese leadership, especially at the height of the Cold War and considering the United States pledge to combat international communism under the Eisenhower Doctrine.

Following domestic pressure, and fearing possible sectarian unrest and Lebanon's subversion and coercion by the UAR, the Lebanese government issued a formal complaint to the United Nations 22 May 1958,

³² (Nasr 1978, 3) *All figures adjusted to inflation*

accusing the UAR of meddling in the nation's affairs ³³. On 15 July 1958, Eisenhower responded by launching Operation Blue Bat, the first implementation of the Eisenhower Doctrine since the US declared that it would interfere to support regimes deemed endangered by international communism. The operation involved over 14,000 men whose mission was to bolster the Chamoun regime and protect strategic Lebanese locations, namely the naval and air ports from any internal or external compromise that may arise ³⁴. Tensions were gradually lowered, and U.S. troops withdrew from Lebanon on October 25, 1958.

Following the conclusion of the 1958 crisis, the Lebanese government, led by Prime Minister Rashid Karami, formed a national reconciliation government.

3.2 Impact on the Economy

Lebanon's entanglement in external crises, and the tough political stance it played within the early periods of its economic growth proved to be harmful in some way to the economy, and to the politically "neutral" portrayal it attempted to showcase to the world in hopes of luring additional foreign capital. The British, French, and Israeli invasion of Egypt following the Suez Canal's nationalizations contributed directly to the 13% decline of foreign deposits into Lebanese banks ³⁵. Fearing a spillover into the wider region, that decline highlights the importance of domestic as well as regional stability into the economic model that Lebanon desired to maintain. The non-guarantee of Lebanon's freedom and stability, regional tensions led to the capital flight from the banks of Lebanon to Swiss and American banks.

Despite that setback, Lebanese banks retained their role as the most reliable and familiar safe haven for foreign capital, particularly for the booming Arab oil economy. Further, Lebanese banks tapped into an important demographic segment of wealthy Egyptian, Iraqi, and Syrian bourgeoisie whose government's drastic and sweeping implementations of socialist policies, agrarian reforms, and economic intervention frightened their wealthy economic class into transferring their assets to Lebanon.

Consequently, the number of banks increased dramatically from 10 in the mid-1950s to 55 in 1965. To which the proportion of total deposits to the national income concurrently increased from 28% in 1950 to 122% in 1974 and was the highest globally ³⁶.

3.3 Banking System in Lebanon and the 1966 Crisis

³³ (Brewer 1958, 4)

³⁴ (Bryson 1980, 126-40)

For more information Eisenhower and the UN speech see this video:
https://en.wikipedia.org/wiki/File:1958-08-14_Ike_Tells_UN.ogg

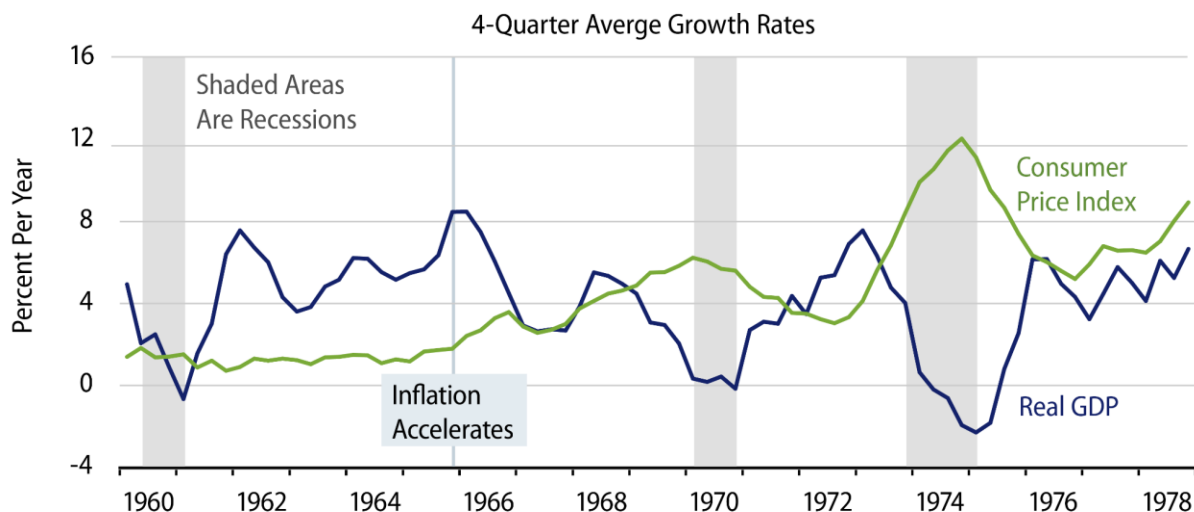
³⁵ (Persen 1958, 286)

³⁶ (Nasr 1978, 4)

Lebanon's banking system was exceptionally Western-oriented. As previously mentioned, Lebanon's free market economy was unique among the Arab world, a region dominated by either socialist economies, or economies kept afloat by the booming oil industry. The Lebanese example, however, was presented differently, with a strong banking system and a special emphasis on the commercial and service sectors, Western industries found in Lebanon an opportunity to introduce their industries to the Middle East by establishing a base of operations in Lebanon. Lebanon's banking system, however, similarly swayed by the massive influence of Western economies in the Middle East, was tested by the looming financial crisis in 1966.

The U.S. dollar (as well as the British sterling) was experiencing periods of tumultuous instability, rising inflation and unemployment, and the substantial devaluation of the dollar. Dubbed as 'The Great Inflation' in the United States, the period was characterized by what renowned economist Jeremy Siegel called "the greatest failure of American macroeconomic policy in the postwar period". Prompted by increase in the price of oil and President Johnson's Great Society programs resulted in substantial expenditure projects across a wide range of social projects amid a difficult US fiscal situation that was already stretched thin due to the strains and burdens of the Vietnam War ³⁷. The cost of living for Americans thus increased significantly, as shown by the Consumer Price Index (CPI) in Figure 3-A .

Figure 3-A



Source: Bureau of Economic Analysis, Bureau of Labor Statistics. As of March 31, 2022

It was only natural for Lebanon, whose strong ties and economic integration to Western financial markets, to experience immediate impact of 'The Great Inflation' for many reasons which this paper cares to briefly outline:

³⁷ (Bryan and Federal Reserve Bank of Atlanta, n.d.)

- 1) The International liquidity squeeze effect was inevitably reaching Lebanon, in view of the open channels that connect the Lebanese money market to those of Western Europe and the United States. That connection was especially emphasized when considering the free exchange system that existed at the time, which Lebanese banks benefited from by shifting funds heavily from local to external markets in order to benefit from higher interest rates and yields found abroad. The reversal of which—meaning the increasing inflation, and spiraling devaluation of the dollar—would undoubtedly harm the Lebanese banking sector ³⁸.
- 2) The Lebanese banking system heavily favored foreign currency deposits by attracting them with higher interest rates. Considering the difficulty of individual banks to distinguish between resident and non-resident accounts (despite the Central Bank's efforts to organize them), and the Lebanese resident depositors' attraction to the higher interest rates placed on foreign currency deposits, heavy conversions of local currency to foreign currency occurred, further contributing to the shifting of funds to foreign markets. Local banks, therefore, now have an increased liability in foreign currency which they need to supply by purchasing that foreign currency with the local pound, contributing to increased inflation ³⁹.
- 3) Lebanese banks' total cash assets fell significantly, from LBP 1354 million in December of 1965 to LBP 838 million in September of 1966, a decrease of 42% ⁴⁰. Concurrently, demand deposits increased from LBP 922 million in the first quarter of 1965, to LBP 1026 million by September 1966, and time deposits also increased from LBP 1390 in Q1 of 1965 to LBP 2175 million in September 1966. Meaning numerous local banks witnessed a dramatic drain in their liquidity and therefore were unable to maintain their cash assets, and were soon declared bankrupt.

“In the absence of measures to prevent runs ⁴¹, such as was the case in Lebanon, the degree of exposure of the average bank to liquidity problems or the chances of liquidity casualties in the whole system, mark a significant measure of the system's safety.”

Subsequently, the number of Lebanese banks fell from 55 in 1966 to 38 in 1969 and 25 in 1974 ⁴². The 1966 crisis revealed the fragility and ill-preparedness of the banking sector, and exposed the low level of concentration within Beirut's banks, given that 33 or the 55 banks had deposits of less than LBP 10 million. Further, the Western multinational advanced and quickened the collapse of local Lebanese

³⁸ (Ghattas 1971, 32)

³⁹ (Ghattas 1971, 34)

⁴⁰ (Ghattas 1971, 36) Table II

⁴¹ Bank runs is a phenomenon where people rush to withdraw their money from their accounts since they believe that the bank will collapse in the near future.

⁴² (Nasr 1978, 4)

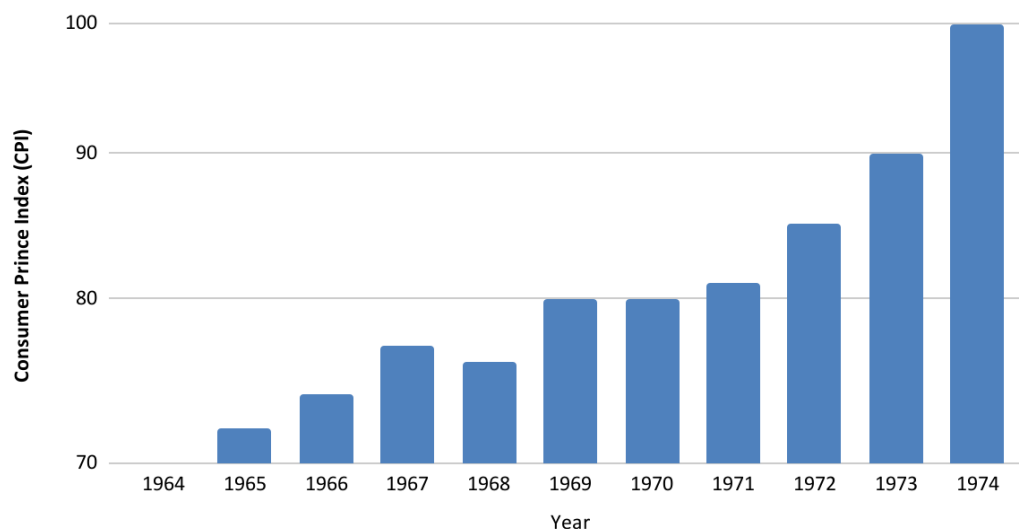
banks—multinational banks began buying up Lebanese banks and consequently establishing affiliates in Beirut to accrue profits and continuously attract the increase of Arab petromoney capital.

Most of all, the people felt the brunt of the collapse. Lebanon's inflation rate skyrocketed during that time period, increasing 46 between 1964 and 1974. The public, despite the growth in GDP, was beginning to face serious challenges resulting from the banking system that had been put in place, one that proved to be weak and unable to support its weight in the face of fiscal challenges. The determinant factor as to why this crisis afflicted Lebanon was due to the exposure of the underlying yet massive underdevelopment that lay bare beneath a seemingly successful banking business flooded with foreign capital. Yet all that success was profitable to the banks and their foreign beneficiaries, and not the public and its institutions.

Figure 3-B

Consumer Price Index (1964-1974)

Source: International Monetary Fund (February 1995)



During the 1970-1974 era, the foreign-dominated banking industry diverted credits and resources that could have contributed to national economic growth by investing 40 to 50 percent of its resources outside Lebanon. More than half of the savings accumulated by foreign-dominated banks have been moved to their central offices or to international financial markets, rather than being invested in strengthening the Lebanese economy. Moreover, what was left to be invested domestically was strategically placed to the advantage of local commercial sectors with direct ties to their Western counterparts.

Additionally, credit distribution was tailored to the interest of foreign financial institutions, where the commercial sector received twice as many credits as all productive sectors combined. Trade (53.6 %); Industry (16%); Construction (10.3 %); Financial institutions (5%); Agriculture (4.3%); Other (10.5). Additionally, only particular industrial firms with assets connected to western capital received financing

from the dominant banks of Beirut, and thus, by and large, the vital sectors of the Lebanese economy such as irrigation, housing, and education were ultimately left underfunded and underdeveloped ⁴³.

“On the eve of the civil war one could observe the strange co-existence of a banking sector with excess deposits, organizing international loans for the likes of Renault and the World Bank, and a public sector in deficit, trying to borrow from external sources and proclaiming its inability to finance social and economic projects”

4. Laying the Foundations for Failure: Corruption and Monopolies

The weakness of the Lebanese productive sectors was unable to provide for its population, and amid increasing demand and population, the government had to rely on imports to feed its people. Imports increased from 34.8% in 1967 to 53.6% in 1973. This increase in imports further drove Lebanon’s chronic deficit, which increased from LBP 223 million (\approx \$58,684,000) in 1951 to LBP 968 million (\approx \$314,285,000) in 1960 to LBP 1.6 billion (\approx \$489,296,000) in 1970 ⁴⁴. By 1973, imports constituted 47.5% of the total agricultural and industrial commodities consumed annually, with Western capitalist states providing 75% of that total ⁴⁵. The international domination of international capital and sectors over the Lebanese economy allowed for a small group of monopolies to succeed in seizing important economic sectors with the help of internal governmental corruption.

According to Law No. 34 (1967), foreign businesses with representatives in Lebanon are not permitted to replace their commercial agents without their consent, and punishes international companies in case of the agent’s termination by no fault or “justifiable” reason by enforcing them to pay a termination indemnity equivalent to the agent’s average net annual profits⁴⁶. Meaning the law had provided the agent with powerful judicial protection and privileges vis-à-vis the major international entities, enabling them to increase the price of imported products without fearing termination or the transfer of representation to another agent.

Moreover, the Ministry of Trade had set an import quota that sets the maximum permissible quantity of products allowed to be imported. Meanwhile, the Ministry of Economy imposes import licenses on international products that can compete with domestic products in order to protect local commodities prior to their importation. These import licenses are then sold to a small group of politically powerful businessmen who implement the most lucrative pricing and distribution strategies, knowing that there would be no competition.

Internal market weakness, selective bank lending and favoritism, limited credit, persistent rises in input costs, and a growth in imports have all culminated in the hands of a few monopolies that control the vast

⁴³ (Nasr 1978, 4)

⁴⁴ Exchange rates calculated through period average rates provided by the International Monetary Fund. 1951: USD 1 = LBP 3.8; 1960: USD 1 = LBP 3.17; 1970: USD 1 = LBP 3.27

⁴⁵ (Nasr 1978, 5)

⁴⁶ (Nasser & Associates Law Firm, n.d.)

majority of food products, agricultural inputs, construction materials, and textile goods. The groups that control all these imports also control local production and industries of sugar, poultry, cement, and wood⁴⁷. This massive reliance on imported products contributed to a rural crisis in Lebanon, where agricultural production, namely cereal, fell from 38% between 1948-1952 to 18% between 1968-1970. Lebanon thus had to import 60-70% of its consumption needs of cattle and dairy products, all of which contributed to the rising rate of inflation in the late 1960s and early 1970s.

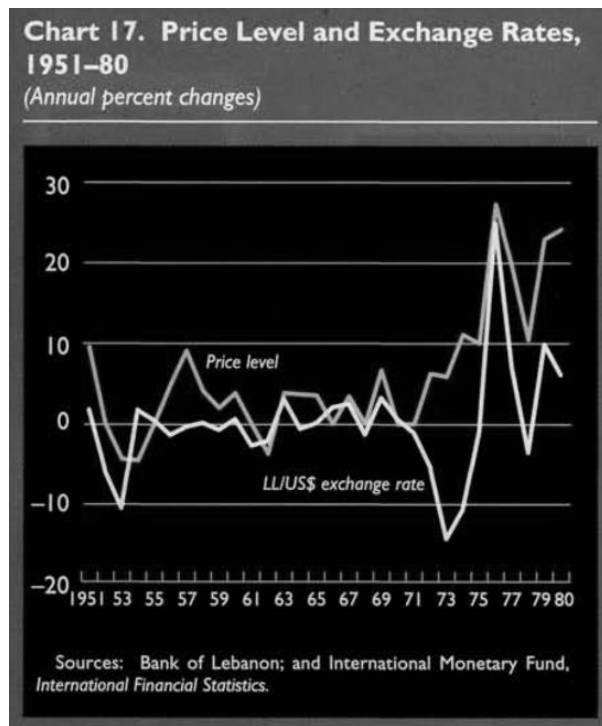


Figure 4-A

4.1 Corruption in the “Industrial” Sector

To remain competitive and ensure profits comparable to their commercial and financial counterparts, industrialists maintained heavy pressure on their workers and developed an employment policy heavily influenced by the speculative and short-run nature of the majority of Lebanon's economic activity. It was a policy characterized by exploiting and wasting a seemingly endless workforce.

The security and stability of employment are entirely up to the employer's discretion under Lebanese labor law. They only need to pay 2 months' salary as indemnity to fire a worker at any time without having to provide a reason for doing so (Article 50). This allowed businesses to hire and fire large numbers of workers each year, allowing them to respond to market fluctuations and replace workers who were becoming "old" with contingents of young workers when they could pay much less than the mature workers. Article 50 of the Lebanese labor law allows an organization to pay workers under the age of 20 less than the minimum

⁴⁷ (Nasr 1978, 6)

legal wage. Unqualified adolescents, some of whom begin working at the age of ten, were frequently paid half the minimum wage. A 1974 study of 26 large businesses in Beirut's eastern suburbs, revealed that 29% of wage earners had worked for their company for less than a year, 43.6% had done so between 1 and 5 years, and only 27.4% had done so for more than five years. Additionally, the study revealed that 36% of all workers were under the age of 20. workers over the age of 40 made up about 10% of the workforce ⁴⁸.

Considering the aforementioned spike in the Consumer Price Index, industrial workers' average monthly pay increased from LBP 215 to LBP 217 between 1964 and 1974, while the official cost of living index increased by at least 110%.

4.2 The Rural Crisis

The infiltration of capitalist companies into the agricultural sector impacted the population of sharecroppers in rural Lebanon, whose population among the agriculturally active demographic was 25% in 1950, falling dramatically in 1970 to around 5%. After the takeover of companies, the sharecroppers were forced to relocate to the city or in some cases outside the country. On the other hand, some were permitted to stay and work the land as wage laborers at extremely low rates and harsh working conditions, threatened by their easy replaceability with Palestinian and Syrian immigrant who served as capitalists' labor reserves⁴⁹.

Lebanon's success in the commercial and service sectors naturally impacted the share of agriculture in Lebanon's GDP, falling from 20% in 1948 to less than 9% in 1974. However, the neglected agricultural sector in Lebanon was completely left abandoned and underserved by the government, where the agriculture's share of the state budget was slashed reaching an abysmal 2.3% in 1973. As to agriculture's share in bank credits, that matched its negligible quantity at 3.4%. Mounting pressures on the peasantry were becoming unbearable. Up to 65% of cultivators in Lebanon during the 1960s had a second non-agricultural job they were forced to maintain if they sought to survive. Moreover, in 1973, the UN Food and Agriculture Organization (FAO) revealed that the level of indebtedness of small farmers with assets of less than 2 hectares increased from 20% to 69% over a few years, and farmers with assets less than 5 hectares constituted nearly half of all agricultural debts.

Figure 4-B: Rural to Urban Migration (1970)			
Province	Total population of rural origin	% of population migrated to towns in province	% of population migrated to Beirut or suburbs
Mount Lebanon	344,000	2.1%	17.4%
North Lebanon	204,435	8.6%	7.4%

⁴⁸ (Nasr 1978, 11)

⁴⁹ (Nasr 1978, 8)

South Lebanon	242,085	2.8%	29.3%
Beka'a	178,425	1.7%	16.9%
Total	758,670	3.5%	18.1%

This raging inequality led to the exodus of Lebanese farmers (as shown above in Figure 3-B) to the cities where their living conditions remained impoverished. The large disparity of government and bank credit funds between agricultural and service/commercial fields left non-service fields to deteriorate at colossal rates. This created a profound socio-economic crisis within the Lebanese population that lay the foundations for the coming civil war.

The prevalent characteristic of Lebanon's seemingly booming development within its center, lay the underdevelopment and unequal development of its periphery. In 1969 there were thought to be 70,000 unemployed workers (10-13% of the workforce); by 1974, it more than doubled, reaching 120,000 (15-20% of the workforce) ⁵⁰. Moreover, the income disparity between various occupational demographics in Lebanon was catastrophic. For example, in commerce, the average income per head was LL 60,000. The total tertiary sector figure is LL 8,060, industry is LL 1,100, and agriculture is LL 500. Thus, while per capita income in the commercial sector is comparable to European standards, income in the rural sector is among the lowest in the world! ⁵¹

Another study in 1960-61 by the Institut de Recherches et de Formation en vue de Développement (IRFED) estimated that 15% of all Lebanese families earn LBP 10,000 per month, while the middle 40% earn around LBP 1,500 per month, and the poorest 45% earn only LBP 350 ⁵². Even using very conservative criteria, the authors find that 85 percent of Lebanese families earn less than what is required to provide a minimally decent standard of living.

5. Civil War

Although there are many interpretations as to why the civil war in Lebanon “truly” erupted, the undeniable fact is that Lebanon’s political divisions had long been drawn through sectarian lines. Those sectarian tensions, characterized purely by their political nature, divided the country since its inception. During the French mandate, despite the division of government to accommodate the different sects of the Lebanese public—the President must be a Maronite Christian, the Prime Minister a Sunni Muslim, and the Speaker of the House of Parliament a Shiite Muslim—the French favored the Maronite and other Christian populations who had been the demographic majority during that time, enjoying the privileges of the pro-

⁵⁰ (Nasr 1978, 11)

⁵¹ (Nasr 1978, 12)

⁵² (Institut de Recherches et de Formation en vue de Développement and Lebret 1960-1961, 23)

Western French alliance that brought about an all-powerful presidency and a Maronite domination of Lebanon's political and economic life.

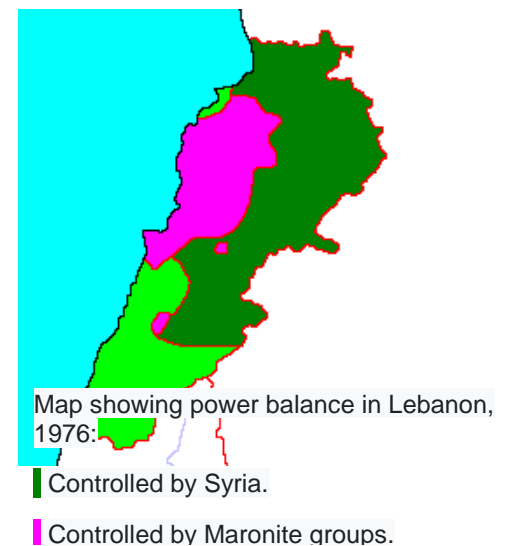
However, splits over how the country should be represented first emerged during the 1958 crisis, which showcased many Muslim's sympathies toward Arab nationalism and their desire to join the newly-founded United Arab Republic. The United State's intervention eventually interrupted that movement, and the issue had been dissolved; nevertheless, the sectarian tensions remained. The escalation of the Israeli-Palestinian conflict and the immigration of Palestinian refugees to Lebanon created a crisis where the Palestine Liberation Organization (PLO) had been active among the over 400,000 Palestinians inside the refugee camps ⁵³. The creation of a pseudo-state within the refugee camps consolidated tremendous power, considering the political and military autonomy of the Palestinian refugee camps relative to Lebanon's ability to maintain any form of neutrality, and political stability became extremely unlikely. This phenomenon dissatisfied a significant proportion of predominantly Christians in Lebanon, who had been politically characterized by Lebanese nationalism, while their Muslim counterparts were politically aligned with a sense of Arab nationalistic anti-imperialism; that rift and political consequences of that orientation also played a tremendous role in the eruption of the war.

Fighting erupted and its inception brought about a colossal loss in human life, infrastructure, and the economy at large. The staggering number of armed factions that fought within Lebanon and consistently changed their allies and enemies further plummeted Lebanon's security away from peace and dramatically prolonged the war. Moreover, foreign intervention from both Syria and Israel created yet another branch of the civil war that further obscured a path for Lebanon to move toward peace.

5.1 Syria's Intervention:

In 1976 a Syrian proposal to limit the presence, influence, and amount of Palestinian guerrilla forces inside Lebanon was welcomed and rejected by numerous factions. Upon the disputed request of President Suleiman Frangieh for Syrian intervention to help stop the yearlong civil war⁵⁴ In May of 1976, the intervention was later legitimized through the approval and support of the Arab League in its consultation to aid in halting the war through Arab intervention, which in this case almost entirely consisted of Syrian troops.

This paper will not divulge in the specific alliances, factions, and conflicts that Syria was involved in. However, it is important to note Syria's heavy influence on Lebanese politics that completely delegitimize Lebanon's political sovereignty and legitimacy that endured throughout the civil war and prolonged years after its ending.



⁵³ (Tawil 2022)

⁵⁴ As provided by the United Nations International Independent Investigation Commission through the Mehlis Report. (Mehlis and UNIIIC 2005)

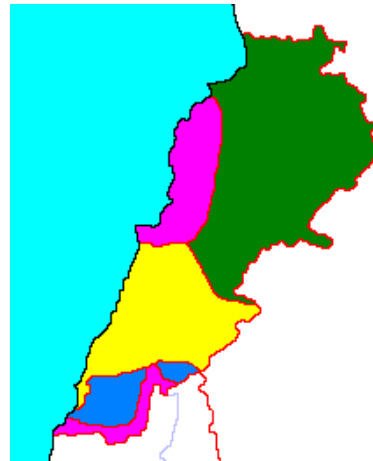
Syria refused to leave Lebanese territory despite the signing of the Taif agreement on the pretexts that stability in Lebanon would only be achieved through the elimination of the sectarian identity of Lebanese politics, knowing full well the difficulty and longevity of such a strenuous task, particularly when rival factions had just been given the task of managing a confessionalist government. The Syrian Army was later expelled, resulting from the pressures mounting through a series of protests that emerged following the assassination of Lebanon's Prime Minister Rafic Al-Hariri⁵⁵.

5.2 Israeli Invasion of Lebanon

In an effort to exert and expand its sphere of influence and push back the PLO's threat to the Israeli northern border, Israeli forces breached the Lebanese border launching an invasion into South Lebanon beginning in 1978 and maintaining a presence within Lebanese territory well into the peak of the civil war. Israel's invasion of Lebanon was colossal and calamitous to the Lebanese people, with well over 48,000 civilian casualties perpetuated by the Israeli invasion⁵⁶.

Again, this paper will not divulge in the political specificities of Israeli role and policy in Lebanon. However, it is important to note the significance of the fear, harm, torture, death, and overall instability that was created as a direct result of the Israeli invasion and military operations it conducted within Lebanon. The Israeli military was later expelled under heavy losses, and duress levied by Hezbollah's forces⁵⁷ and in compliance (disputed) with UN Security Council Resolution 425 in May of 2000.

Lebanon technically remains at war with Lebanon, and tensions have increased and decreased sporadically throughout the years, maintaining an enduring sense of instability within Lebanon. Tensions broke out in 2006, an event that will be later discussed in this paper.



Map showing power balance
in Lebanon, 1983

■ Syrian Arab Army

⁵⁵ (New York Times 2005)

⁵⁶ (Ross 1982)

⁵⁷ Hezbollah is a political party and paramilitary force that exerts tremendous influence on contemporary Lebanese politics. They are the only organization that was permitted not to give up its arms following as per the Taif Accord's demands, under the justification of fighting off the Israeli invasion.

6. Lebanon's Economy During the Civil War

Although GDP had decreased by more than a third between 1975 and 1981, net resource transfers were able to maintain national income and living standards. Wage remittances from Gulf workers during the oil boom years of 1972–1982 more than made up for whatever GDP was lost as a result of the destruction of capital stock, decreased investment, and labor migration. The local warring factions received "political money" transfers from their international backers, while a growing Palestinian sub-economy sustained an illusion and bubble of financial immunity of the Lebanese economy. Indeed, between 1974 and 1981, the national per capita income rose from \$1,415 to \$2,011⁵⁸.

It was obvious that it was only a matter of time before the serious consequences of the longstanding economic troubles became apparent. This developed steadily but peaked between 1982 and 1984. All the factors that had sustained the bubble collapsed; the Israeli invasion breached new levels during that period, the Palestinian sub-economy witnessed a complete collapse and a dilution of "political money", and most significantly, the widespread perception among the Lebanese of the protracted nature of their conflict and the difficulty in finding a solution to it. Not surprisingly, in addition to these unstable variables, the state witnessed a near collapse in tax revenue without a proportional decrease in spending, which led to the dependence on the banking sector for deficit financing.

The massively deteriorating macroeconomic conditions produced the inevitable fiscal collapse: major flight from the Lebanese Pound, currency substitution and dollarization, exchange rate depreciations, and ultimately soaring inflation. By 1991, national per-capita income had plummeted to less than half of its 1981 level, and the capital stock had reached close to \$25 billion, along with 200,000 professional and skilled emigrations and more than \$10 billion in financial capital flight.

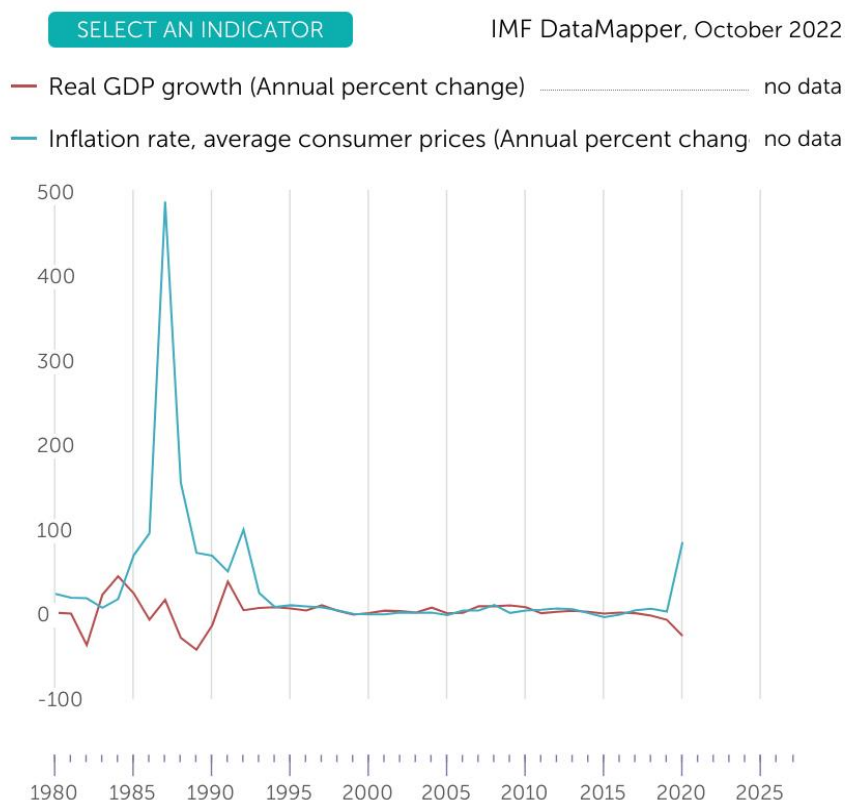
Further, the civil war reduced the government's revenue yield, particularly due to the inability of the government to collect taxes, owing to the complete breakdown of government authority over revenue sources. Weak tax revenues (even initially prior to the civil war) dropped from 15.6% of the GDP in 1974 to 9.7% in 1990. What kickstarted Lebanon's economic crisis during the early war years was the government's efforts to maintain a minimum level of public services and activities, while revenue losses during the war years were not matched by a similar restriction in expenditure. Total expenditure went from 15.4% of GDP in 1972 to 39% in 1989-90, keeping in mind the large surge in inflation that raised the cost of providing those services⁵⁹.

Furthermore, as the government turned to debt financing of budget deficits, domestic interest payments took a rising share of total expenditure rising from 4% in 1980 to 29% in 1989. With no fiscal revenues to finance spending, the government was forced to rely on deficit financing through seigniorage, particularly during the 1989-1991 period. To finance the budget deficit, the Banque Du Liban (BDL) resorted to printing money, spiking the rate of inflation to a historical high of 490%.

⁵⁸ (Bolbol 1999, 1861)

⁵⁹ (Saleh and Harvie 2005, 108)

Figure 6-A:



The money creation policy that resulted in an inflation spike owed its existence to the government's failure to respond to debt reduction. Prior to the war, from 1970-75, the average annual growth of nominal gross public debt was 3.5%, while the nominal gross public debt as a percent of GDP averaged at around 5.4%. In other words, public debt before the civil war was no major concern.

However, the mounting financial and economic crises prompted by human and capital obliteration by the war, followed by government failure, dwindling economic deceleration, and capital flight, and finally, an increase in public spending amid spiking inflation, prompted the government to borrow money and begin the process of deficit financing. The average annual growth of nominal gross public debt from 1976-83 was 66% but declined to 4.6% from 1983-90. This decline was caused by the government's resorting to printing money in order to rescue debt payments⁶⁰. That policy led to the massive spike that is shown above in Table 4-a.

6.1 Dollarization

⁶⁰ (Neaime 2015, 129)

The inflation prompted Lebanon, still ravaged with war, to exploit the convertibility and free foreign exchange markets to replace their unstable currency with the US dollar. Lebanon's dollarization provided some advantages, for one main reason: the loss of seigniorage and the resulting monetary discipline, whereby risk-adjusted interest rates and prices would be dictated by levels in the United States. However, there are several drawbacks.

First, it denies the country's independent monetary policy and the central bank's function as a "lender of last resort." In truth, whether the country would have a central bank is a "semantic" matter. Second, in order to preserve broad liquidity, the government must create persistent balance-of-payment surpluses⁶¹. Third, because of the difficulties in sustaining the parity, it would be impossible to keep the exchange rate as a nominal anchor. Furthermore, exchange rate measures aimed at improving the balance of payments and economic circumstances may become ineffective. Fourth, a seigniorage fee is paid to the United States as part of the dollarization process. This only applies to dollar currency assets since bank reserves are held in interest-bearing form, and the cost represents sacrificed interest profits⁶².

Nonetheless, since the civil war's inception, the United States dollar became an undetachable part of Lebanon's economy, one that persists to this very day.

6.2 Taif Agreement

The beginning of peace and the end of the civil war was initially marked by the signing of the Taif agreement between all the main warring actors in Lebanon. The agreement established the principle of "mutual coexistence" among Lebanon's many sects, as well as their "proper political representation," as the primary goal of post-civil war parliamentary electoral regulations. It also reformed Lebanon's National Pact political system by redistributing some power away from the Maronite Christian community, which had been granted special status in Lebanon under the French occupation. Prior to the agreement, the Maronite President appointed and reported to the Sunni Muslim Prime Minister. Following the Taif accord, the Prime Minister was accountable to the legislature, much like in a regular parliamentary system⁶³. As a result of the accord, the power-sharing formula that had benefited Christians was revised to a 50:50 ratio, and the powers of the Sunni Prime Minister were expanded over those of the Christian president. The accord also called for all national and non-national militias to be disarmed. Hezbollah was permitted to maintain its arsenal while acting as a "resistance force," as opposed to a militia, to combat Israel in the south of Lebanon.

Although the Taif Agreement acknowledged the eradication of political sectarianism as a national goal, it did not provide a deadline for its removal. The Chamber of Deputies (Parliament) was expanded to 128 members, evenly divided between Christians and Muslims, rather than being chosen by universal suffrage,

⁶¹ A balance of payments surplus means the country exports more than it imports. It provides enough capital to pay for all domestic production.

⁶² Analysis on upsides and downturns: (Bolbol 1999, 1867-1868)

⁶³ (Salloukh 2006, 639)

which would have resulted in a Muslim majority (excluding the expatriate community, a majority of which is Christian).

7. Post-War Reconstruction

Immediately following the civil war, the government convened and decided on an economic reconstruction plan dubbed the ‘Horizon 2000’. From 1993 through 2007, this vigorous plan targeted a macroeconomic revaluation objective set in conjunction with an investment expenditures program. Further, the government took on the task of macroeconomic and financial stabilization, in an attempt to control the high inflation and the recurring currency crises that ravaged the economy during the final phase of the civil war. Thus, the government and central bank found the exchange rate as an anchor to their policy in the postwar reconstruction period ⁶⁴.

7.1 Horizon 2000 Plans, Projections, and Failures

Horizon 2000 engineered a plan where \$18 billion would be spent on public and social infrastructure reconstruction over a span of 13 years, beginning in 1995 and ending in 2007. Sectoral shares within the Horizon plan are as follows:

Table 7-A: Government Budget Allocation by Sector and Share Percentages	
Sector	Share (%)
Physical infrastructure (electricity, telecoms, roads, highways)	37%
Social infrastructure (education, health, social affairs)	25%
Public Services (water, wastewater, public transport)	22%
Productive sectors (irrigation, oil, airports, ports)	8%
State apparatus (buildings, administration, information)	8%

Considering historical data trends, the project assumed that public investment would be matched on a three to one footing by private investments in equipment and building structures. The plan projected that GDP growth over the period would average 8% annually and doubling GDP per capita by the end of 2007. As it

⁶⁴ (Dibeh 2005, 1)

stands today, the plan is largely forgotten, surviving only four years past its inception, with its endpoint being marked by the election of Emile Lahoud in 1988 and the exit of Hariri from government.

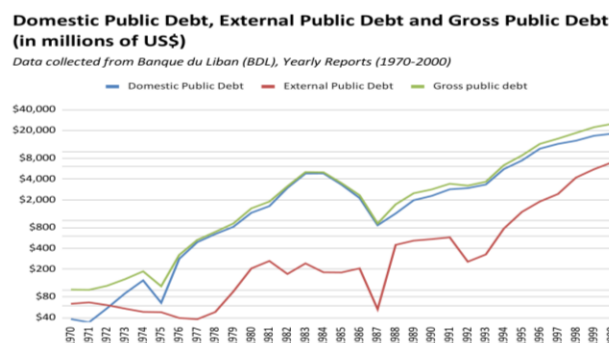
The plan's unstable foundation produced an inefficient take-off. Due to the sectarian nature of Lebanese politics, the plan was initially met with political opposition from the parliament. Being presented as part of the 1995 budget and fearing an unequal distribution of resources among the different sects, parliament ultimately decided that the project would be approved on a project-by-project basis. Despite the political problems, PM Hariri was capable of overcoming them; the problems that the plans faced were primarily fiscal.

7.2 Budget Deficits and Public Debt in Postwar Lebanon

In the first period following the war, the public deficit was reduced dramatically. From 1990 to 1992, the entire budget deficit as a proportion of GDP fell from over 30% in 1990 to 13% and 11% in 1991 and 1992, respectively. In 1991 and 1992, the ratio of gross public debt to GDP fell to 76.8 % and 58%, respectively. Debt service as a proportion of revenue fell from 168.9% to 48.9% in 1992, while debt service as a percentage of GDP fell from 10.8% in 1990 to 5.5% in 1992 ⁶⁵. The reason for such a quick turnaround was governmental reassertion and the revenue that soon followed.

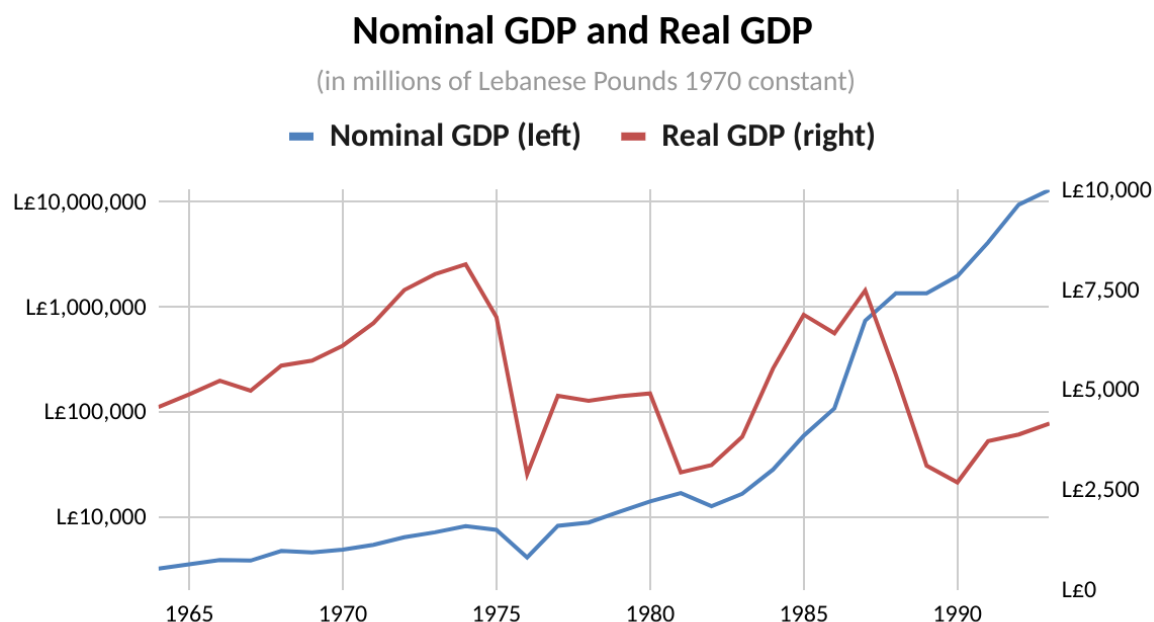
In the second phase (1993-2000), following the initiation of the *Horizon 2000* plan, the rebuilding of the infrastructure and the expanding sums of expenditure, and the slow recovery of the revenue-generating sectors, sizable fiscal imbalances occurred. Budget deficits grew from 9.2% of GDP in 1993 to 20.6% in 1996 and 23.7% in 2000. This resulted in a steady increase in government debt from 1993 to 2000. During this time, the average annual growth rate of public debt was 31%, and gross public debt as a percentage of GDP climbed from 48.6% in 1993 to 102.9% in 1997 and 151.8% in 2000. In 1997 and 2000, net public debt increased from 38% to 92.3% and 141.2% of GDP, respectively. Domestic public debt as a percentage of GDP went from 44.2% in 1993 to 86.5% in 1997 and 109.5% in 2000. The external public debt as a percentage of GDP rose from 4.3% in 1993 to 16.4% and 42.3% in 1997 and 2000, respectively.

Figure 7-



⁶⁵ (Saleh and Harvie 2005, 113)

Figure 7-C



8. Postwar Growth in Lebanon

Lebanon was incapable of reaching the GDP per capita levels of 1970 in 2003. Poor governmental planning in regards to both fiscal and economic policies yielded extremely underwhelming results. In 2003, GDP per capita was \$US 1,715 (constant 1990) in comparison to the \$US 3,308 at the eve of war in 1974⁶⁶.

The reason for that failure is multifaceted, some of which will be elaborated upon. First, Lebanon's rebuilding program attempted a type of redistribution focused on regional redistribution. The Horizon 2000 plan mirrored the regional redistribution inscribed in the Taif Accords and hence in Lebanon's new constitution as a prerequisite for achieving "balanced growth." Therefore, government investment was not based on what would yield the highest rate of return but rather suited to appease all the different sectarian leader's demands for a horizontal distribution across all sects and, therefore, areas across the country.

Such redistribution methods were critical in the reconstruction of the country's physical, political, and social capacity, as well as in the reintegration of communities into a united and cooperative framework that required the legitimization of the postwar government. However, in the postwar period, regional and sectarian redistribution came at the price of distribution along income groups, a phenomenon particularly outlined through the government's newly devised tax policy.

Table 8-A: Regional Shares of Investment in Horizon 2000 Plan (*Source: UNDP 1997*)

⁶⁶ (Dibeh 2005, 7)

Region	Beirut	Beirut Suburbs	South	North	Bekaa	Mount Lebanon
Horizon 2000	14%	20%	19%	18%	14%	15%

The taxation structure was first modified in a traditional supply-side approach, with lower marginal tax rates on income and profits. Profits' highest marginal tax rate was decreased from 50% to 10%. The top marginal wage tax rate has been cut from 32% to 10%, and corporate tax rates were reduced to a flat 10%⁶⁷. The government's desperate need for revenue amid a fiscal crisis drove them to depend on indirect taxes as the main source of state revenues. The sustained growth in indirect taxes (particularly the gasoline tax) and the adoption of the value-added tax (VAT) in 2001 resulted in a severely regressive tax regime in postwar Lebanon. The regressive and indiscriminate tax system was viewed as a key contributor to the problems experienced by the majority of the population throughout the redevelopment crisis.

The tax system was increasingly utilized to generate income without concern for its distributional consequences. Furthermore, when the state's budget situation worsened, most of the social aspects of the rehabilitation plan were abandoned. By 1998, the state's fiscal and economic functions had been restricted to revenue generation. Furthermore, contrary to popular belief, the state gained money from the new assets created by the rebuilding program (electricity, landline telephone, and cellular network). Consumer welfare, a major concern for such utilities, was not even taken into account⁶⁸. The government's failures to generate revenue forced the social welfare programs into oblivion.

8.1 Fiscal Failure in Postwar Lebanon

Three variables influenced fiscal policy in the postwar period. First, the economic rehabilitation strategy demanded massive infrastructure development investments with the government not utilizing the adequate funds required to meet the strategy amid an environment of sectarianism and corruption. Second, the requirement for state construction resulted in massive spending on the state's military, security, and administrative machinery, sidelining other revenue-generating sectors and social welfare programs (explained by the questionable rationale of the peace dividend). Third, post-Taef Accord sectarian politics and the distribution of political power among the various sects as defined by the collective executive authority vested in the council of ministers has resulted in massive corruption through distributive and rent-seeking predatory activities by representatives of the various sects in the postwar period⁶⁹. The two major instruments of corruption brought about by distributive politics of sectarianism were embodied by kleptocracy and nepotism in job placement and favors, as well as through the sectarian demands on public resources and money, many of which belonged in investments that should have benefited the Lebanese people.

⁶⁷ (Dibeh 2005, 10)

⁶⁸ (Dibeh 2005, 10-11)

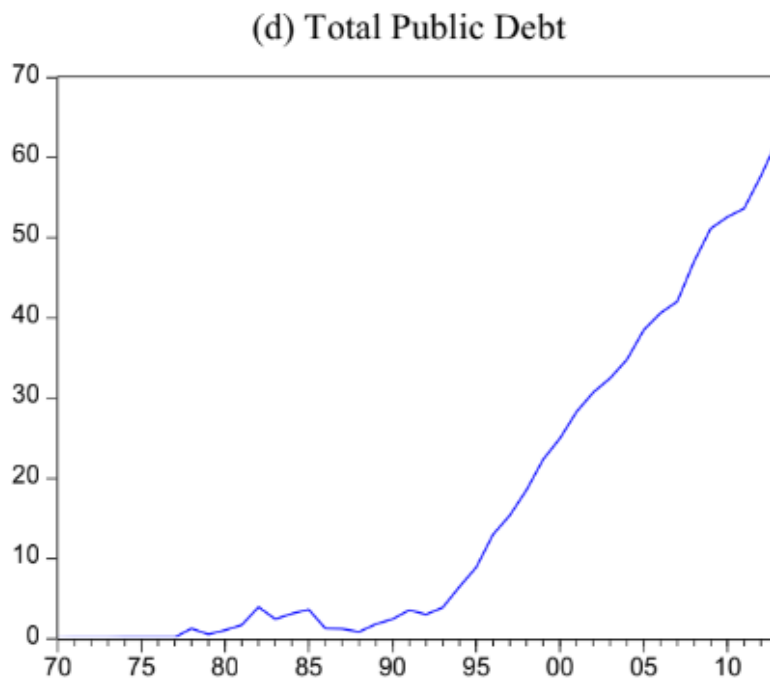
⁶⁹ (Dibeh 2005, 11)

As a result, the government had no money, the fiscal crisis ravaged on, the people were not benefiting from any regenerative policies or social programs, and the government ranks were peaking with corrupt actors that were sustained by the confessionalist system. In order to maintain some form of development, the government needed to borrow money to maintain functioning.

8.2 Peace Dividend Paradox

In most post-conflict societies, the common trend indicates that as the battle ends, military spending consequently declines and the needs of the people transform from security to development, as the demands of the most vulnerable segments of the society are expected to be addressed as post-war reconstruction policies spring to action. However, in Lebanon, a paradoxical form of peace dividend existed alongside a substantial increase in military spending followed by an increase in the national debt to meet the crucial socioeconomic developmental demands. Shares of public expenditure indicate that in both 1994 and 1995 military and security spending were higher than the shares given to the health and education sectors combined ⁷⁰.

Figure 8-A:



Source: (Neaime 2015, 130) IMF Direction of Trade Statistics and International Financial Statistics

⁷⁰ (Dibeh 2005, 13)

Further, PM Hariri's initial effort to implement a fiscal adjustment failed. Following an early reduction in 1993, the deficit to GDP ratio returned to pre-1992 levels, indicating a failure in fiscal adjustment. Instead of the inflationary finance that was the norm in the 1980s, the government adopted a restrictive monetary policy and substituted bond financing of deficits. As a result, government debt increased throughout the postwar period. The reason for that is attributed to the fact that commercial banks in Lebanon were required to invest 40% of their LBP deposits in treasury bills until 1997 when the regulatory framework overseeing the monetary system was removed. This regulation had the effect of allowing treasury bills to suck up any remaining reserves that banks might have wanted to keep, and in the process, it undoubtedly contributed to higher money growth and inflation⁷¹. The plan that had been devised to curb inflation and maintain currency stability achieved the complete opposite.

The only reason that the economy did not crash was solely due to the foreign debt that was keeping the government functioning afloat. Otherwise, the disastrous fiscal policies were inflating a bubble that would inevitably explode, sentencing the country to a certain economic disaster.

9. Post-Reconstruction Economy

The country survived for a long time with a lagged economy and a rapidly deteriorating infrastructure that inevitably follows a failed reconstruction plan plagued with corruption at the most foundational level. The clientelist system born of the sectarian confessionalist order that developed following the civil war brought about endless disasters for Lebanon, on both social and economic foundations. The biggest example of which the clientalist system manifested itself was through the distribution of social services and public employment, both supposedly government functions that had been transformed and instrumentalized to become a tool used by politicians to boost their popular bases and political parties. Government jobs from the smallest jobs to the highest positions were filled by political actors as clientalist favors with political motivation. However, the rather unequal institutional distribution of public jobs, as a consequence of the aforementioned peace dividend paradox, resulted in an overwhelming emphasis on security forces and Lebanese Army Forces, where out of the 300,000 state employees, 120,000 to 150,000 were occupied by the armed forces. Salaries and benefits for military personnel accounted for a staggering 63.1% of the public sector employment budget in 2017⁷².

Further, the government's disastrous failure to implement any constructive improvement in Lebanon's economy, infrastructure, socio-economic conditions of the people drove them to establish numerous PPP (Public-Private Partnership) initiatives to manage some of Lebanon's most basic infrastructural and foundational necessities from telecommunications, solid waste management, postal services, and even parking meters and duty free at the Rafiq Hariri International Airport. By 2019, services made up 78.85% of the GDP, followed by manufacturing at 5.6% and agriculture at 3% attributable to measures like these. The reliance on foreign capital inflows and remittances from the Lebanese diaspora was also a reflection

⁷¹ (Bolbol 1999, 1864)

⁷² (Daher 2022, 12)

of this deficit in the productive sectors. Since 2010, FDI has been averaging between \$2 and \$3 billion, with the majority of it focused in investments connected to real estate and tourism ⁷³.

Lebanon's PPP initiatives were not immune to the corruptive system in Lebanon. Rather, it is widely speculated that it was perhaps motivated by it, for many of the private companies that were employed by the government to handle the most essential jobs were either owned or had major ties with politicians⁷⁴. Lebanon's politicians strategically divided the government's issuing of the company contracts across the board to revolve around a tactic of embezzlement and self enrichment.

The most famous example of corruption between the private-public relationship is solid waste management, highlighted by the 2015 garbage crisis in Lebanon. In 1994, the national government began subcontracting garbage management in Beirut and Mount Lebanon to a company called Sukleen. However, post-war central administrations, notably Prime Minister Rafiq al-Hariri, saw the vulnerability of local governments as a chance to benefit themselves and their major corporate friends by deregulating and privatizing waste management. For example, Maysara Sukkar, the founding director of Sukleen, was a business partner of Hariri in Saudi Arabia before the launch of post-war reconstruction and development. After 1994, Sukleen's contract in Beirut and Mount Lebanon was repeatedly extended by the government. The per-ton price for overall garbage management (collection, transportation, treatment, and disposal) increased each time. Sukleen charged Lebanon's government \$45 per ton for dumping alone in 2015. The global average for such services was \$11 per ton. The Sukleen agreements were lucrative for all involved ⁷⁵.

Remittances from Lebanese expats were a substantial source of foreign money, accounting for between 15% and 20% of GDP in the 2010s. Lebanon attracted around USD 94 billion in capital between 2005 and 2015. Around USD 72 billion, or 70% of the total, were used to acquire real estate and imported consumer goods, while the remaining USD 22 billion were deposited in banks, mostly to support the State's debt. Lebanon's political economy in the post-civil war period was characterized by widening socioeconomic inequality. As of 2018, 0.8% of accounts (24,421 accounts) held 51.8% of deposits (\$85,286 billion), while 60.5% of accounts (1,749,104 accounts) controlled just 0.5% of deposits (\$935 million). Moreover, around 44% of the Lebanese population lacked, in 2019, any health insurance coverage according to the Central Statistics Office. Meanwhile, since 2018, half the workers and more than a third of farmers live below the poverty line ⁷⁶.

More broadly, Lebanon has one of the most uneven wealth distributions in the world, and one of the greatest concentrations of billionaires per capita. The wealthiest 10% of persons controlled 70.6% of the country's wealth in 2019 ⁷⁷. At the same time, the top 10% of the country's wealthiest individuals collected between

⁷³ (Daher 2022, 10)

⁷⁴ (Straub 2019, 9)

⁷⁵(Abu-Rish 2015)

⁷⁶(Straub 2019, 9)

⁷⁷ (UNESCWA 2020)

49 and 54% of national income between 2005 and 2016: the middle 40% earned 34%, while the lowest 50% of the population (including refugees and foreign migrant workers) received between 12 and 14% ⁷⁸. The Pandora Papers leak, which revealed the identities of hundreds of Lebanese officials, politicians, and businesspeople, including incumbent Prime Minister Nagib Miqati, demonstrate this concentration of power. The Pandora Papers exposed the international financial elite's use of opaque offshore tax havens to hide their wealth. Lebanon's 346 companies are actually the most important client of Trident Trust, a specialist in offshore company domiciliation. In comparison, the United Kingdom, which ranks second, has only 151 firms ⁷⁹.

9.2 Beginning of the Banking Crisis

The central relationship between the banks and government, one that continuously funded the government's deficit spending did not cease to exist. Rather it grew and entrenched deeply within the Lebanese system, benefitting the politicians and feeding into the bottomless pit of institutional corruption.

The different factions of Lebanon's bourgeoisie were mostly involved in banking, trade (both imports and exports), and real estate development/construction via big family-owned enterprises. This sectoral distribution of economic interests is connected to the previously mentioned reconstruction era state-bank relationship. It has also been distinguished by a high level of interdependence between the political and economic realms, with these powerful families holding high-ranking positions in banking, business, and government. Many politicians possessed unusually large shares in banks or held positions of influence within the banks, such as chairing the board of directors.

This fusion of Lebanon's political and economic elites was visible in official policies that favored the banking industry. Successive administrations provided unusually high interest rates on public debt instruments, acquired by Lebanese banks directly or through the Banque du Liban (BdL). These banks, on the other hand, offered attractive rates to depositors while functioning at extremely high returns. At the end of the 1990s, the system was improved to achieve an artificially manufactured USD/LBP peg in 1997, with the establishment of the parity of the Lebanese pound and the State's debt in dollars, which spurred an inflow of capital ⁸⁰.

Between 1993 and 2019, the Lebanese government paid \$87 billion in interest to banks. During this time, public debt soared by more than 2000%, from \$4.2 billion to \$92 billion, while bank assets surged by more than 1300% (to a total of \$248.88 billion) and GDP by just 370%. Furthermore, between 1993 and 2018, private banks' net profits increased by 3,000%, from \$63 million to \$2 billion ⁸¹.

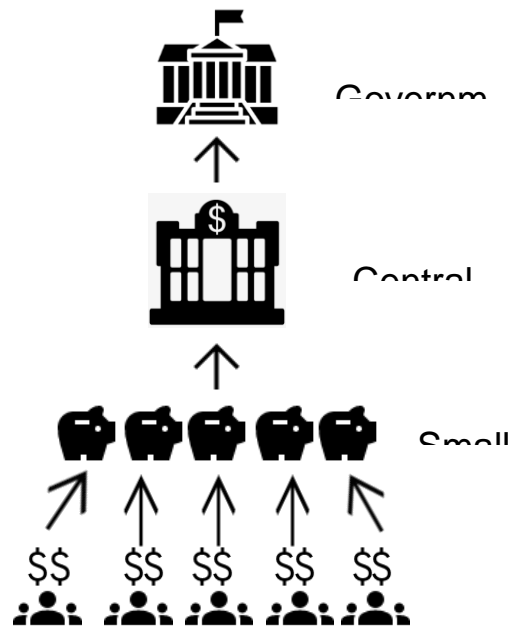
⁷⁸(World Inequality Database 2021)

⁷⁹ (International Consortium of Investigative Journalists 2021)

⁸⁰ (Straub 2019, 13)

⁸¹ (Abdo et al. 2020, 9)

Figure 9-A: Image representing the structure of Lebanon's banking and government relationship.



What prevented the economy from folding was the high interest rates that the banks were offering and the confidence in their ability to pay it back. Without those two key components, the Lebanese economy would have not lasted long before completely crashing while running on this failure of an economic model. Confidence, nonetheless, was the foundational component. The moment the confidence was lost, the entirety of the scheme would be exposed and would instantaneously fall apart. That moment came twice; the first was in the outbreak of the Syrian Civil War in 2011, where foreign investors were worried about any outspills of the war, primarily with the years that followed in 2014-15, when the threat of terrorism from the ISIL was increasing and major concerns for its spread to Lebanon were becoming serious. The second moment followed in 2017, when then Prime Minister Saad Al-Hairir disappeared from Lebanon only to unexpectedly resign his office through a television statement made from Saudi Arabia, where reports emerged indicating that he was forcibly kept and coerced to resign⁸². Confidence was lost, investors hurried to pull their money out, and the system began collapsing.

9.3 October Revolution and Port Explosion

By 2019, the government was in a deep crisis. While the collapse was taking place, unbeknownst to the public, the government was fully aware of the fiscal crisis that was about to explode. They had absolutely no source of income, and their only source of revenue was irreversibly damaged. The government convened and then decided on \$6 a monthly tax for using WhatsApp among other imposed taxes on tobacco and gas. The public was enraged, and soon the government was met with unprecedented mass protests beginning in

⁸² (Vox News 2020)

October 2019 that amassed millions of Lebanese to protest the culmination of corruption represented in the WhatsApp tax ⁸³.

Although the protests did achieve the resignation of Prime Minister Hariri, they did not achieve the sweeping reforms necessary to impose substantial change in Lebanon. Although there exists secular and/or opposition groups in Lebanon today, whose origins and motivations can be traced to the October revolution, there currently does not exist a large enough political group that is capable of inflicting consequential change into the heart of the Lebanese problem: confessionalist system of governance.

In the midst of the unfolding economic crisis, on August 4th, 2021, an explosion rocked the capital city. Another tragedy befell the Lebanese people due to government negligence, where a storage facility holding 2,750 tonnes of explosive fertilizer (Ammonium Nitrate) had been stored in the Beirut port for six years without proper safety precautions, despite many notices being sent to various members of the government informing them of its extreme dangerousness. It caught fire leaving 218 dead, 7,000 wounded, and over 300,000 displaced ⁸⁴.

10. Today's Lebanon

Despite all the events that have taken place, many of the same leaders since the civil war (or their family) remain in positions of power today in Lebanon. This indicates that despite a deep discontent that exists among the Lebanese people, the sectarian system is designed to divide the public in such a way that it maintains their grip on power while prohibiting the people from forming a legitimate political opposition void of sectarian lines. The inflation spike caused by the collapse of the economy has reached unprecedented levels, where the pegged dollar that was once approximately 1,500 LBP for 1 USD now trades of upwards of 43,000 LBP for 1 USD (as of December 2022).

Figure 10-A: Lebanon's Market Exchange Rate



Source: Lira Rate; Dollar to Lebanese Lira Today

The prices of goods change hourly based on the black market exchange rate, and people have now become more dependent on foreign remittances than ever before. The Lebanese government has moved forward with capital control laws, harming million who have their money trapped in banks unable to move them out

⁸³ (BBC 2019)

⁸⁴ (Fakih and Majzoub 2021, 1)

⁸⁵. The government remains incapable of developing any sound policy to help Lebanon move forward and outside the crisis. During the earlier stages of the crisis during negotiations between the IMF and Lebanon regarding possible aid packages, a European diplomat claimed: “You would not think this would be difficult,” “We have been begging them to behave like a normal state, and they are acting like they are selling us a carpet.” ⁸⁶

References

- Abdo, Nabil, Dana Abed, Nizar Aouad, and Bachir Ayoub. 2020. “The IMF and Lebanon: The long road ahead.” *Oxfam*, (October). 10.21201/2020.6652.
- Abu-Rish, Ziad. 2015. “Garbage Politics.” MERIP. <https://merip.org/2016/03/garbage-politics/>.
- BBC. 2019. “Lebanon protests: How WhatsApp tax anger revealed a much deeper crisis.” *BBC*, November 7, 2019. <https://www.bbc.com/news/world-middle-east-50293636>.
- Bolbol, Ali A. 1999. “Seigniorage, Dollarization, and Public Debt: The Lebanese Civil War and Recovery Experience, 1982,97.” *World Development* 27 (10): 1861-1873.
- Brewer, Sam P. 1958. “Lebanon Sends Complaint to U.N.” *The New York Times*, May 23, 1958, 1,4. <https://www.nytimes.com/1958/05/23/archives/lebanon-sends-complaint-to-u-n-says-united-arab-republic.html>.
- Bryan, Michael, and Federal Reserve Bank of Atlanta. n.d. “The Great Inflation.” Federal Reserve History. Accessed November 25, 2022. <https://www.federalreservehistory.org/essays/great-inflation>.
- Bryson, Thomas A. 1980. *Tars, Turks, and tankers: the role of the United States Navy in the Middle East, 1800-1979*. N.p.: Scarecrow Press.
- Chaitani, Youssef. 2007. *Post-colonial Syria and Lebanon : The Decline of Arab Nationalism and the Triumph of the State*. London: Bloomsbury Academic.
- Chehayeb, Kareem. 2022. “Parliament pushes for capital controls law as Lebanese protest.” *Al Jazeera*, April 27, 2022. <https://www.aljazeera.com/news/2022/4/27/parliament-pushes-capital-controls-law-lebanese-protest>.
- Chulov, Martin. 2020. “‘It feels like a failed state’: Lebanon’s crisis deepens as it awaits bailout.” *The Guardian*, July 4, 2020. <https://www.theguardian.com/world/2020/jul/04/it-feels-like-a-failed-state-lebanon-crisis-deepens-as-it-awaits-bailout>.
- Daher, Joseph. 2022. “Lebanon: How the Post War’s Political Economy Led to the Current Economic and Social Crisis.” *Middle East Directions*.
- Dibeh, Ghassan. 2005. “The political economy of postwar reconstruction in Lebanon.” In *The United Nations University World Institute for Development Economics Research*. No. No. 2005/44. Helsinki, Finland: WIDER Research Paper.
- Fakih, Lama, and Aya Majzoub. 2021. *They Killed Us from the Inside: An Investigation Into the August 4 Beirut Blast*. N.p.: Human Rights Watch.
- Ghattas, Emile. 1971. “Lebanon’s Financial Crisis in 1966: A Systemic Approach.” *Middle East Institute* 25, no. 1 (Winter): 31-44. <https://www.jstor.org/stable/4324680>.
- Institut de Recherches et de Formation en vue de Développement and Louis J. Lebreton. 1960-1961. “Besoins Et Possibilités De Développement Du Liban : Etude Préliminaire.” *Mission Irfed-Liban*.
- International Consortium of Investigative Journalists. 2021. “Pandora Papers.” ICIJ. <https://www.icij.org/investigations/pandora-papers/>.

⁸⁵ (Chehayeb 2022)

⁸⁶ (Chulov 2020)

Mehlis, Detlev, and UNHCR. 2005. "Report of the International Independent Investigation Commission Established Pursuant to Security Council Resolution 1595 (2005)." *The Washington Post*.
<https://www.washingtonpost.com/wp-srv/world/syria/mehlis.report.doc>.

Nasr, Salim. 1978. "Backdrop to Civil War: The Crisis of Lebanese Capitalism." *Middle East Research and Information Project (MERIP)*, no. 73 (Dec), 3-13. <https://www.jstor.org/stable/3012262>.

Nasser & Associates Law Firm. n.d. "Commercial Agencies." Nasser & Associates Law Firm—Resources. Accessed November 26, 2022. <https://www.nass-law.com/resources>.

Neaime, Simon. 2015. "Twin Deficits and the sustainability of public debt and exchange rate policies in Lebanon." *Research in International Business and Finance* 33 (January): 127-143.

New York Times. 1860. "THE CIVIL WAR IN SYRIA." *The New York Times*, July 21, 1860.
<https://www.nytimes.com/1860/07/21/archives/the-civil-war-in-syria.html>.

New York Times. 2005. "Syrian Troops Leave Lebanon After 29-Year Occupation." *The New York Times*, April 26, 2005. <https://www.nytimes.com/2005/04/26/international/middleeast/syrian-troops-leave-lebanon-after-29year-occupation.html>.

Persen, William. 1958. "Lebanese Economic Development since 1950." *Middle East Journal* 12, no. 3 (Summer): 277-294. <http://www.jstor.com/stable/4323023>.

Ross, Jay. 1982. "War Casualties Put at 48000 in Lebanon." *The Washington Post*, September 3, 1982.
<https://www.washingtonpost.com/archive/politics/1982/09/03/war-casualties-put-at-48000-in-lebanon/cf593941-6067-4239-a453-71bdcaf9eba0/>.

Saleh, Ali S., and Charles Harvie. 2005. "An Analysis of Public Sector Deficits and Debt in Lebanon: 1970-2000." *Middle East Review of International Affairs* 9, no. 4 (December): 106-136.

Salloukh, Bassel F. 2006. "The Limits of Electoral Engineering in Divided Societies: Elections in Postwar Lebanon." *Canadian Journal of Political Science* 39, no. 3 (September): 635-655.

Straub, Stephan. 2019. "Lessons from Public Private Partnerships in Lebanon." *International Growth Centre*, (March). S47419-LBN-1.

Tawil, Fadi. 2022. "UN agency: Palestinians in crisis-hit Lebanon need funds." *AP News*, January 19, 2022. <https://apnews.com/article/united-nations-middle-east-lebanon-beirut-philanthropy-c608c782a14e6f5bbce35aa42b84ebaa>.

Tohme Law Firm. n.d. "Lebanon Bank Secrecy Law." Tohme Law Firm. Accessed November 16, 2022.
<https://www.tohmelaw.com/publications/lebanon-bank-secrecy-law>.

Transparency International. n.d. "Lebanon." Transparency International. Accessed December 14, 2022.
<https://www.transparency.org/en/countries/lebanon>.

UNESCWA. 2020. "Poverty in Lebanon: Solidarity is Vital to Address the Impact of Multiple Overlapping Shocks." https://archive.unescwa.org/sites/www.unescwa.org/files/20-00268_pb15_beirut-explosion-rising-poverty-en.pdf.

Vox News. 2020. "How the Beirut explosion was a government failure." YouTube.
<https://www.youtube.com/watch?v=wFpfYTYupKA>.

World Inequality Database. 2021. "Lebanon - WID." World Inequality Database (2005-2014).
<https://wid.world/country/lebanon/>.

THE IMPACT OF CHILD CARE COST AND ACCESSIBILITY ON PARENTAL LABOR FORCE PARTICIPATION

Jacob Williams, Siena College
Madeline Trotta, Siena College
Dr. Ashley Provencher, Siena College
Dr. Matthew Davis, Siena College

ABSTRACT

The modern market for child care in the United States impacts the labor force outcomes for parents in a variety of ways. This document contains stylized facts that explore the impact of child care and its costs on parental, specifically maternal, labor force participation and outcomes. We discuss how mothers have lower labor force participation rates than non-mothers, and how this is influenced by the affordability and access to child care within private care markets. To further this argument we discuss parental wage dynamics, such as how the existence of a gender wage gap, motherhood penalty, and fatherhood premium impact parents' child care and labor decisions. Within this we also look at how different state policies and subsidies impact the access to and cost of child care. Finally, we examine characteristics of the private market for child care, such as changes in costs and its size over time, cost differentials within the market, and the impact of quality and how it is measured in the market.

THE ROLE OF EMOTIONS IN EXPLAINING BEHAVIORAL ECONOMIC ANOMALIES: EVIDENCE FROM NEUROSCIENCE

*Bella Kieser, Siena College
Dr. Matt Davis, Siena College*

ABSTRACT

Emotions play a key role in the decision-making process, with self-control and social preferences being two areas susceptible to influences. Insights from neuroscience along with several different frameworks try to explain the impact of emotions and to what extent they aid or impair making rational decisions. Neuroeconomics applies neuroscience tools like functional magnetic resonance imaging (fMRI) and methods to research economics. Through this field, we can see which parts of the brain are activated in certain situations. One theory that bridges neuroscience and emotions is the somatic-marker hypothesis which explains how emotions guide decision-making when outcomes of reward and punishment are uncertain. The appraisal tendency framework asserts that emotions that have the same valence (ie anger and fear) can influence us in different ways. Anger and fear are similarly unpleasant, but anger is associated as predictable and under human control while fear is perceived as unpredictable and controlled by situations. Appraising these emotions differently leads to different behavioral responses where angry people see less risk and fearful people see more. Dual processing theory (DBT) and hot-cold empathy gaps are two frameworks that explain human behavior in terms of two distinct but connected thinking processes. DBT proposes a fast, reactive, automatic System 1 and a controlled, conscious, deliberative System 2. Hot-cold empathy gaps are the idea that when we are in an affective “hot state” we make decisions we would not in a “cold state.” Visceral stimuli, especially those that illicit pleasure, have strong influences as well. Self-control in decisions is believed to be influenced by self-conscious emotions like guilt and pride more strongly than basic hedonic emotions like pleasure and frustration. Evidence also suggests we are biased toward negative emotions and weigh guilt particularly strongly. Emotional forces are sometimes necessary and helpful when making decisions but when the effects need to be mitigated, cognitive reappraisal is a promising method that involves reframing stimuli to change the emotions involved and repair mood.

Introduction

Emotions play a key role in the decision-making process, with self-control and social preferences being two areas particularly susceptible to influences. Insights from neuroscience utilizing several different frameworks try to explain the impact of emotions and to what extent they aid or impair making rational decisions. Understanding how our emotions affect us can help lead to making rational choices that align with our long-term goals. It is estimated that 90-95% of our decisions and behaviors are shaped by the emotional brain system, oftentimes non-consciously. We are thought to have two distinct selves that work together, with one being deliberate and thoughtful and the other leaning on emotions and acting impulsively. Neuroeconomics is a field that tries to bridge the gap between economics, psychology, and

neuroscience by looking at the brain as it makes decisions. It applies neuroscience tools like functional magnetic resonance imaging (fMRI) where we can see which parts of the brain are activated in certain situations and how decisions are expressed neurally and behaviorally. Behavioral economics looks at individuals' decision making through the lens of how they deviate from classical economic tenets, namely that we are always rational. In this field there are general assumptions that heuristics aid decision-making but that they are heavily biased and inferior to cognitive processes. Heuristics come into play because our rationality is thought to be bounded by time, stress, and other factors. Depending on the circumstances, heuristics may simplify information processes and decision strategies in an accurate and more efficient manner.

Background: Brain

The brain is the most complex part of the body, and its functioning relies on communication between systems (most notably the cortex and limbic system) via neurons. The cortex is responsible for thinking and reasoning while structures in the limbic system are tied to emotional processing and forming memories. There are several parts of the brain heavily involved with decision-making and emotional processing. The prefrontal cortex (PFC) is linked to our controlled cognitive system. It integrates inputs from all other regions of the brain to form plans of action for both the present and long-term goals (Camerer et al 2005), additionally, it gives humans the unique ability to focus on broad goals (Loewenstein and O'Donoghue 2004). The PFC is responsible for executive functions like working memory, planning, decision-making, and the moderation of social behavior. Executive function is essential in decision-making because it includes knowing the difference between good and bad, working towards goals, and predicting outcomes.

Within the prefrontal cortex, 3 broad regions have been identified: dorsolateral prefrontal cortex (DLPFC), orbital prefrontal cortex (OFC), and anterior cingulate cortex (ACC) (Rosenbloom et al 2012). The dorsolateral prefrontal cortex (DLPFC) is a functional structure connected to the thalamus and the hippocampus. An important function of the DLPFC is cognitive flexibility which enables adaptability. The OFC deals with incentive gain and emotional experiences from outcomes (Rosenbloom et al 2012). The anterior cingulate cortex (ACC) is uniquely located in a part of the brain that lets it connect to the limbic system (discussed below) and the prefrontal cortex, linking emotions and cognition respectively. It is likely that the ACC is involved with affect regulation which controls and manages uncomfortable emotions (Stevens et al. 2011). The ACC also is involved with reward and motivation. Along with the OFC, the ACC is the main component in evaluating reward value (Haber 2011). The ventromedial prefrontal cortex (vmPFC) is a subregion of the prefrontal cortex which shares many similarities with the OFC. Functional differences between the two regions have not been explicitly distinguished and some researchers use the two terms almost interchangeably (Hathaway and Newton 2023). Other researchers define the two areas as more distinct from each other with the vmPFC being highly interconnected and responsible for binding together the networks that promote emotional processing as well as general social cognition, decision-making, self-perception, and memory (Gage and Baar 2018). The vmPFC also helps assess which behaviors have been successful in the past to use for similar situations in the future (Haber 2011).

The amygdala is in the limbic system and is traditionally associated with fear circuits which include detecting threats and appropriately responding to fear-related behaviors. It is believed that stimulus-reward learning is done by the amygdala (Baxter and Murray 2002). Similarly to the amygdala,

the ventral striatum is part of the limbic system and is a region in the center of the brain associated with reward and immediate gratification. It receives information from the PFC and stimulation by the amygdala. (Haber 2011). Its crucial functions include keeping track of the subjective value of stimuli and predicting expectations of reward. The ventral striatum also encodes errors and outcomes when predictions are incorrect (Eldar et al. 2016). The mesolimbic dopamine system is involved in processing decision outcomes which include the probability of reward outcomes, as well as reward saliency and updating behavior when rewards are not expected (O'Doherty 2004). The insular cortex (aka insula) is not traditionally thought of as part of the limbic system, rather it is considered a limbic-related cortex. It is linked to consciousness, emotion, and regulating homeostasis. Compassion, empathy, and self-awareness are some of the functions the insular cortex is involved with. Social decision-making relies on this part of the brain with roles in emotion such as body representation and subjective emotional experience (Kortz and Lillehei 2023). The hippocampus is part of the limbic system, regulating long-term memory, learning, and spatial navigation. The inhibition of certain behaviors is linked to this part of the brain as well, as it plays a vital role in goal-oriented behavior (Dutta 2019).

The basal ganglia are part of the motor system in the brain as it regulates motor control. More pertinent to decision-making, it is involved with reward-based learning and forming habits. When decisions lead to positive outcomes dopamine is released and the neural pathways of the behavior causing it will strengthen and the likelihood of the behavior occurring in the future will increase. Dopamine is one of the main neurotransmitters involved with the reward system. The reward system is a motivator in decision-making. It is mostly associated with incentive motivation and "wanting." There is evidence though that different neurotransmitters are involved in the anticipatory phase of reward and the consummatory phase where the reward is experienced. The interactions between dopamine and opioids as well as between dopamine and oxytocin are what contribute to the hedonic (pleasure) effects of rewards (Depue and Morrone-Strupinsky 2005). Dopamine neurotransmitters have possible implications for cooperation since it is believed that they may evaluate whether cooperative decisions should be sustained or interrupted in order to achieve more satisfying outcomes (Declerck et al 2013).

The Neuroscience of Decision Making

Neuroscience has important implications in the field of economics as it involves studying the brain and looking at its impact on our behavior which is useful in determining why we act in certain ways. Neuroeconomics uses brain imaging among other techniques to measure activity which provides evidence as to how the brain works. Classical economic theory was built on the foundation that the brain is rational and can not be influenced by emotions, but with neuroeconomics we see that many of our actions are not consistent with a perfectly rational brain. The brain makes use of several different regions simultaneously when making decisions. Thus far a formal decision-making network has not been defined, though there are several models. It is suggested that the PFC and hippocampus are the most important parts especially when the decision involves drawing upon past experiences. Essentially, decision-making is a conversation between our working memory (PFC) and our long-term memory (hippocampus). One interpretation is that there are four steps to the decision-making process, the first of which is that a stimulus gets the attention of hippocampal neurons by some form of sensory information. After that secondary stimuli go to the hippocampus and initial information is produced as a neural response. In the third step information goes to the PFC where it determines if more information is required which it retrieves from the hippocampus (Wang et al. 2008). In the final step, the PFC directs the necessary system to act accordingly

based on this information (Saber Moghadam et al 2019). PFC involvement implies that the integration of emotional feelings about costs and benefits plays a role in choice during situations of both economic consumption goods and non-economic goods like the subjective values. The human brain has been found to have certain limitations about storing different types of information.

Different parts of the prefrontal cortex are activated based on the circumstances surrounding each decision. When decisions involve reward and affective-based decisions the OFC and limbic pathways are the areas that have the most involvement. The DLPFC is good at integrating information from multiple sources, and the ACC is proficient in dealing with conflicting options as well as processing outcomes of choosing each option (Krawczyk 2002). Other decision-making models suggest that it starts with the OFC that encodes the value of reward outcomes of a particular decision by connections with the amygdala and the limbic system. After that, the DLPFC processes this information and constructs a plan based on the value of the reward given by the OFC. The next step involves the ACC, evaluating the likelihood of the success of the DLPFC's plan and then executing a behavioral response (Rosenbloom et al 2012).

The amygdala and vmPFC play related but different roles in decision-making. The amygdala is what triggers emotional states as a response to receiving punishments and rewards. The learning process allows emotional/bodily states to become mental representations of the behaviors that brought them about. These mental representations are what are looked to for future decisions. The vmPFC reenacts the somatic states that are triggered when past behaviors are recalled. Representation of the emotional/body states occurs in two ways, whether a conscious "gut feeling" of desire or one of aversion within the insular cortex or nonconscious mappings of bodily states at the subcortical level. The second option means that subjects choose the advantageous option without specifically desiring it or being averse to the other option (Naqvi et al 2006).

The Neuroscience of Emotions

Neuroscience demonstrates that certain brain areas are crucial for rational decision-making, and that properly processing emotions is necessary and helpful in this process. Visceral influences like emotions and pain are not remembered the same as semantic, verbal, and visual information are. (Loewenstein 1996). Depending on the intensity, the expression of an emotion will vary. Awareness of emotion is based on how it is labeled, articulated, and acknowledged in the brain. Therefore, personality and social development are largely dependent on neural activity (Izard 2009). Modern neuroscience of decision-making has provided the observation that patients with damage to the vmPFC engage in detrimental behaviors to their well-being. Their actions lead to financial, social, and relationship losses and they do not seem able to learn from their mistakes since they tend to repeatedly engage in the same types of behaviors that led to negative consequences. Interestingly, patients with vmPFC damage largely exhibit normal intellectual and problem-solving abilities. The implications here are that semantic knowledge, language comprehension/expression, attention, and memory cannot explain their decision-making deficits. Evidence for the importance of emotions in decision making is that these patients have a flat affect and an impaired ability to react to emotional situations, leading to the hypothesis that emotions aid decision making in the personal, financial, and moral realm (Damasio 1994). When feeling emotions, we experience changes that are indicative of their impact on our body and mind. Emotions' role in guiding decisions especially when outcomes of reward and punishment are uncertain is known as the somatic-marker hypothesis (SMH) (Damasio 1994). Somatic markers are changes in the body and brain that together indicate emotions, like nausea when feeling disgusted. Perceptions of external or imagined

events trigger somatic markers, and they can cause perceptible changes like facial expressions, and imperceptible changes such as heart rate and endocrine release (Bechara and Damasio 2005).

Bounded Rationality (& Behavioral Economics)

Behavioral economics aims to model irrational consumer choices and challenge traditional economic views of purely rational consumers. To understand the scope of this field it is necessary to understand the basic assumptions of classical economics. It is assumed that humans are fully aware of the costs and benefits of all actions and will behave in a manner consistent with maximizing gain in the long term. Behavioral economics is an alternative to this view, asserting that humans are myopic (lack foresight) when it comes to their own best interests (Reed et al 2013). There are different views within the field to explain our irrationality, with some theorists taking a cognitive approach. Theorists believe irrational behaviors come from psychological causes such as cognitive fallacies, predispositions, and biases. The other view of irrationality is that it is related to operant learning. Behaviorists assume that the irrational/problematic behaviors that result in negative consequences have more reinforcing value than the positive consequences of rational behaviors. This is referred to as the “reinforcer pathology” model (Bickel et al. 2011). Within behavioral economics, the term bounded rationality is used to describe how humans have cognitive limitations in their problem-solving abilities. These constraints come from information available, resources, and time. Bounded rationality theorizes that people use heuristics (mental shortcuts) to simplify complex decisions. Although this can be useful at times, heuristics run the risk of leading to biased decisions that are not well thought out. Bounded rationality also refers to limited willpower (Sent 2018).

The decision-making process depends on variables like the level of effort a decision takes and uncertainty which will affect whether deliberative or affective processes are driving the decision. In most decisions the law of less work takes hold meaning that given two or more choices in behavior that require different amounts of energy or work, people will learn to choose the less taxing behavioral sequence given that all the options are equally reinforced (Hull 1943). This theory mainly focuses on physical work, but the assumption is that this work extends to cognitive demands as well. Mental effort is generally aversive, so heuristics are often used in the decision-making process. Human agents tend to “offload” cognitive demands when possible and prefer to rely on the perceptual environment which is what they can physically experience with their senses. This type of thinking is largely written off as irrational and part of the bounded rationality humans experience, but using our perception of the environment to make decisions does not necessarily have rational or irrational connotations, rather it is very context dependent. We often “choose” to offload cognitive demands when the environment is appropriate to do so, like when we use recognition for name brands which usually matches the quality of a product. When our brain offloads onto heuristics it is also reliant on the mental capacities we have developed and can be considered an adaptive toolbox with tools like learning and observational skills (Gigerenzer 2007).

Emotions and Seemingly Irrational Choices: Overview

Decision-making involves matching patterns more so than explicitly weighing costs and benefits which is partly why it is much easier to use an affective impression that is readily available and more efficient than

weighing pros and cons and trying to retrieve relevant examples from memory. This is especially true for situations that require complex decisions or when mental resources are limited (Slovic et al 2004). Emotions are a helpful heuristic in the decision-making process because people can base their judgments on how they feel about an object or action rather than just what they think about it (Akhakami and Slovic). Part of the difference between actual and desired behavior when making decisions comes from factors like fatigue and exhaustion. These aversive factors may be physical or mental, and people tend to overestimate their ability to overcome their effects (Loewenstein 1996).

Emotions are a powerful heuristic to rely on especially since the influence of emotions may live longer than the emotional experience itself. People often do not realize the influence of emotional states on their behavior. Fleeting incidental emotions may be the basis for decisions made in the future which allows an emotional state to outlive the original cause of its behavior (Andrade & Ariely 2009). Behavioral consistency and false consensus contribute to the process of using inferences based on affect decisions to make future choices (Andrade & Ariely 2009). There are two components of behavioral consistency: belief based and mechanical. Belief-based consistency is the idea that individuals tend to make decisions in a manner consistent with prior beliefs and actions (Guadagno and Cialdini 2010). People confuse past choices as an indication of preference so when they must make a context-related decision they are more inclined to make choices consistent with their choices in the past (Andrade & Ariely 2009). Mechanical consistency involves a more direct link between the past and the present where people act in ways consistent with actions in the past without deliberately considering their past inferences and beliefs. False consensus is that people think their beliefs and attitudes are shared by others (Ross et al 1977). The difference between false consensus and behavioral consistency is that with false consensus people make decisions based on how they infer others will act rather than basing it on their own past actions (Andrade and Ariely 2009).

Emotions have crucial functions in the process of making interpersonal decisions. It is believed that emotions help individuals understand others' emotions which can lead to prosocial behavior in the form of empathy. They also incentivize or put costs on the behavior of others. The other function of emotions is evoking either complementary, shared, or reciprocal emotions in others (Keltner and Haidt 1999). Anger is an example of using emotions to evoke something in others because it is a signal for the desired adjustment of behavior (Fischer and Roseman 2007). Emotions can be anticipated or immediate (Loewenstein and Lerner 2003), where anticipated emotions are how people believe they will feel in the future after they obtain an outcome, and immediate emotions are experienced in the present moment of making a decision. Immediate emotions can affect the mental processes involved with making a decision, leading to short-sighted choices because people may overly weigh how they feel in a given moment without considering future consequences. There are two variants of immediate emotions. The first are incidental emotions which occur due to factors not related to the decision being made. Integral emotions, also known as anticipatory, are directly caused by a decision itself. (Pfister and Böhm 2008). There are four roles that affect plays in decision-making (Peters 2006). Loosely defined, affect are the feelings which are experienced about a stimulus which can either be integral or incidental. The first role of affect is information (Schwarz 2001). Feelings may be misattributed to the stimulus and are interpreted as good-versus-bad information to guide choices (Slovic et al. 2007). Spotlight is the second role, which focuses a decision maker's attention on salient information, making it more accessible than others. Affect is also a motivator for making decisions and engaging in actions and serves as common currency. In a similar way that money is currency for goods, affect is currency for experiences (Cabanac 1992). The context of each

situation primarily decides which of the four functions dominates although it should be noted that there are no situations where making a decision relies on only one function (Pfister and Böhm 2008).

Decision research has looked at regret and disappointment most extensively. These emotions usually result from counterfactual comparisons of what could have been obtained versus what was, which can signal that a bad decision has been made. Aspiration theory (Simon 1955) is a view that looks at the consequences of diverging from aspired goals. Humans cannot make absolute judgments, so by drawing comparisons from the past, future expectations, and the environment, they develop aspirations. These aspirations are compared to actual outcomes by the extent to which they deviate from them. “Aspirational level” can change based on how easy it is to discover alternatives that are considered satisfactory. Both regret and disappointment have different behavioral tendencies depending on the cause of the bad outcome. Regret has implications that one's own previous decisions are the relevant cause which results in attempts to undo one's decision. With disappointment, tendencies are more like getting away from a situation, putting blame on someone/something else (Pfister and Böhm 2008).

Dual Processing Theory: What it is

Dual processing theory (DPT) suggests that human cognition is divided into two processes or systems. System 1 is associated with fast, reactive, and automatic decisions, while System 2 thinking is reserved for higher mental processes which are controlled, conscious, and effortful (Stanovich and West 2000). Automatic decisions make up most brain activity and processes are rapid which implies that parts of the brain like the deliberative and language processing cortex may not know the cause of behavior before it is executed. Parallelism is a brain function that inhibits us from completely understanding our actions. Neural systems are interconnected in such a way that processes occur at the same time (in parallel) so it is possible that computations in one part of the brain influence others without logical connections between them (Camerer et al 2005). The autonomic nervous system, which regulates automatic processes like heartbeat and blood pressure, does not need a high level of activity for emotional feelings to emerge, since the conscious mind is able to detect even the slightest changes in neurobiological activity (Edelman 2006). This means that it does not take much for System 1 to take over in times of stress or emotional arousal.

Research on heuristics and biases supports the idea that decision-making involves a combination of both systems. With DPT it is believed that system 1 proposes quick intuitive answers to problems as they arise, and system 2 judges the quality of system 1's answers. It is also assumed that deliberative judgments are anchored on initial impressions because it saves cognitive resources (Kahneman and Frederick 2005). Anchoring on initial impressions leads to coherent arbitrariness which is the concept that individuals do not accurately know how much they value different products but after making an initial decision they use that as an anchor to value other products (Ariely et al 2003). For example, when deciding to buy an article of clothing, after seeing the price of a first option, if the second option is less than the first then consumers are more likely to view that option as cheap solely due to the reference point of the first option. System 1 automatic behavior is related to the Social Heuristics Hypothesis which asserts that humans are intuitively prosocial and make decisions that lead to cooperation. The belief is that if individuals must make decisions quickly then they will rely on intuitive thinking which prefers prosocial behavior (Rand and Novak 2013).

With DPT, the emotions of system 1 and the rationality of system 2 are not always equal. Evolutionary brain wiring makes it so that connections from the emotional system to the cognitive system

are stronger than the other way around. It is believed that emotionality was developed in humans before rationality, and rather than rational abilities replacing emotions, they were instead added to emotional capacities. Furthermore, the prefrontal cortex which is essential for full rationality has only emerged in the last 150,000 years of humanity's 6-million-year existence on earth (Massey 2002). The newness of the prefrontal cortex relative to our evolutionary emotions is seen with extensions of the DPT model. This includes the multiple-agents model which examines intrapersonal and intertemporal choice. The model looks at how controlled and automatic processes influence behaviors of choice over time. (Grayot 2019). Our internal dynamic is often conflicted between controlled and automatic processes, putting limitations on our ability to exhibit self-control. In other situations, conflicting desires of when to consume create trade-offs (Grayot 2020).

There are several different variations of the DPT model. The variations employ different naming conventions but apply the same general logic in that dualistic structures cause internal conflicts that produce different sorts of choice phenomena. Nearly all the DPT versions also rely on the idea that our minds use different types of mental processing to accomplish different tasks (Grayot 2020). Some of the dualistic decision models are known as hot vs. cold nodes (Loewenstein 1996), deliberative vs. affective system (Loewenstein and O'Donoghue 2005), and cognition vs. emotion (Sanfey et al 2003). The hot-cold empathy gap serves a very similar function as the DPT model with the only difference being the disciplines they came from. The hot-cold heuristic is associated with the psychometrics of delayed gratification and willpower and has links to utility theory which measures levels of satisfaction in consumption (Grayot 2020).

Disagreements in the literature of systems thinking are centered around the explanation of how the two distinct systems interact with one another. One view known as 'default interventionist' is that they act sequentially, with system 1 operating autonomously and system 2 intervening when needed. Another view is the "parallel-competitive model" which interprets the two systems as arranged in parallel and competing for control. Evidence pertaining to the distribution of brain processes appeals to the latter theory, yet many researchers do not believe this view can be defended concerning areas of reasoning and decision making (Evans 2008; Keren and Schul 2009). It is agreed upon though that system 2 needs the information from system 1 to perform higher cognitive functioning (Evans and Stanovich 2013).

The affective system is thought of as the brain system that makes decisions rooted in emotions and motivations, rather than the deliberative system which has been proposed to consider long-term goals. Behavior is dependent on which system is dominant, with environmental conditions dictating which mode is triggered. Past behavior can influence which system is in control which is why a possible method of combating the negative consequences associated with systems thinking is repeated exposure. An example of repeated exposure mitigating the effects of visceral environmental stimuli is seasonal stock traders who react calmly to dramatic events in the stock market. Novice traders who lack experience tend to freak out over the same events (Camerer et al 2005). Proximity is a key factor in how environmental stimuli activate the affective system. Depending on the circumstance proximity may be geographic, visual, temporal, etc. A classic representation of proximity in decision-making is a study conducted by Walter Mischel in which young children were given the choice between a small snack immediately or a larger one after a period of time. The children had to sit with the small snack in front of them until the experimenters returned. Those who did not have to sit with the snack in front of them lasted much longer (Mischel 2014). There are also suggestions that when stimuli activate the affective system it is outside

conscious awareness so the deliberative system may not be able to override the response (Kunde et al 2012).

In Adam Smith's *Theory of Moral Sentiments*, he asserts that the deliberative system is a moderator for empathetic reactions from the affective system. The deliberative system does not have complete control though, as Smith also argues that it is part of human nature to seek fairness and justice as a primal desire (Ashraf et al 2005). While the goals of the deliberative system are unclear, it has been postulated that motives are not entirely self-interested. Humans often restrain self-interest with values that are either socially ingrained or have a moral influence. We are the only species known to exhibit reciprocal fairness even when the punishment of others hurts our own economic interest (Knoch et al 2006). From a classical economic standpoint this type of behavior would be considered irrational since it hurts our own economic interests, but it can be viewed that fairness is a reward in itself with intrinsic value.

Vividness heightens activation in the affective system. Experimental demonstrations have shown the impact identifiable deaths have over statistical ones, and in terms of altruism people are often more inclined to donate to specific instances and victims rather than appeals to problems. Vividness also impacts risk-taking behavior as noted in examples of drivers slowing down on the road after viewing a graphic car crash. It is only after the image recedes from the viewer's mind that they engage in normal behaviors (Loewenstein and O'Donoghue 2004). The influence vividness has on behavior is mainly derived from the fact that it appeals to the "availability heuristic" in that people can easily remember past outcomes or imagine future instances (Loewenstein 1996). Affect infusion (Forgas 1995) refers to the process by which affectively loaded information influences the judgment process, impacting deliberations and the eventual outcome. Information that appeals to emotions and senses impacts not only our judgements but also our behavioral responses. The affect infusion model (AIM) asserts that affective states are separate from cognitive processes, but they interact and inform cognitive judgments. This is done by making certain cognitive constructs more available that are used to process information, meaning that affective states may become more influential and appear as more relevant and available in our minds as situations become increasingly complicated and uncertain (Forgas 1995).

How it affects choice

Systems thinking may impact choice when individuals resort to automatic responses instead of thought-out deliberations. Context determines whether choices and actions are hindered, but overall, they appear to be changed in some way. Decision-making may be complicated by acute stress since it can compromise the working memory (Shields et al 2016). Stress is a contributing factor in relying on habitual and automatic responses because that is much easier on the brain. Two studies of skilled golfers and soccer players who were asked to participate in a dual-attention task were able to display a superior performance of their well-learned skills while their attention was split. Reliance on automatic behaviors allowed the participants to be successful which hints at attentional limits making it easier to perform tasks that are ingrained as procedural (Beilock et al. 2002).

Proponents of the two-system mental framework suggest that like the automatic versus cognitive system, we operate in either a hot or cold state. The potential lapse in judgment between decisions made in different states is known as an empathy gap. Cold-to-hot gaps are when people underestimate the effects of future visceral factors and are underprepared for such situations. Hot-to-cold gaps are when people over-respond to stimuli in a manner they would not have otherwise. (Loewenstein et al 1998). With

hot-to-cold gaps people underestimate the extent to which they will act on short-term preferences as well as overestimate how long they will experience their current feelings (Loewenstein 2005). Hot states are categorized by simple, reflexive, and emotional responses where a stimulus is in control. Responses to stimuli in a cold state are typically complex, and reflective, and have a level of self-control (Metcalf and Mischel 1999). Hot spots and cool nodes are respectively linked to the hot and cold systems. It is useful to think of hot spots as fragments of feeling, where each hotspot is disconnected from the others as opposed to cold nodes which are elaborately interconnected. Approach or avoidance patterns are typically the two courses of action associated with hotspot responses (Metcalf and Mischel 1999).

There is a disconnect between our thoughts/actions in an affective ‘hot’ state versus a ‘cold’ rational state. Intense affective motivation may cause people to feel out of control or make decisions they otherwise would not. Empathy gaps can be caused by even minor emotional manipulation. Most people have limited introspective access to which factors affect their judgment and decisions. It is also generally not possible to undo the effects of affectively loaded information (Loewenstein et al 1998). Hot-to-cold gaps manifest in “immune neglect” as well, where people underestimate their ability to adapt to unpleasant events. (Gilbert et al 1998). The empathy gap is demonstrated well in a study showing the under-prediction of future hunger. Office workers were approached with a choice between healthy and unhealthy snacks to receive in a week either during a time they would be hungry or not hungry. Subjects made their choice either immediately after lunch or late in the afternoon. As hot/cold empathy gaps suggest, choices were affected by subjects' current level of hunger when making the choice and their anticipated level of hunger in a week. Subjects who were hungry when making their choices were more likely to opt for unhealthy snacks. It was also found that those who chose a healthy snack when they were not hungry changed their mind a week later and requested an unhealthy one during a time of hunger (Read and van Leeuwen 1998). Retrospectively we struggle to understand intense feelings after the fact and rely on automatic and habitual behavior in moments of stress.

The hot-cold system framework has implications for traumatic memory as well. There is an argument supporting an amygdala-based hot system and a cool hippocampus-based system. The cold system includes areas of the brain known for tasks such as semantic processing, working memory, and metacognition. The hot system is tuned to stimuli including those that are fear-provoking and threatening so it is through this lens that traumatic events are stored and remembered. This means that the same events experienced by the cold system may be remembered differently than events perceived as traumatic (Metcalf and Jacobs 1998).

Emotions and Self-Control

Self-Control is used when someone’s immediate desires do not align with long-term goals. Emotions like guilt, pride, pleasure, and frustration are believed to heavily influence efforts of self-control. Two self-conscious emotions, guilt, and pride, are anticipated to be more long-lived than basic hedonic emotions like pleasure and frustration. In terms of weighing emotions, there is recent evidence to suggest a relative guilt bias and pride neglect. It is possible that by making self-conscious emotions more salient, it can impact self-control decision-making in a positive manner (Kotabe et al 2019). Three studies were conducted to shed light on several aspects of the judgment process when desires conflict with long-term goals. Study 1 reveals that the main emotional experiences associated with acting on temptations are pleasure and guilt while the main emotions tied to not acting on temptations are pride and frustration. The rationale for these findings is that acting on temptation causes desire and goal violation which are

associated with pleasure and guilt respectively. Not acting on a temptation causes desire nonfulfillment (frustration) and goal adherence (pride). Through this study, it is clear that there are anticipated emotional responses elicited by goals and desires, some of which conflict with each other (Kotabe et al 2019).

Study 2 supports the idea that people believe that the basic hedonic self-control emotions of pleasure and frustration will fade away faster than the emotions of guilt and pride which are self-conscious self-control emotions. These emotions are weighted differently where anticipated guilt is relatively strong when forming self-control judgments compared to anticipated pride which is relatively weak. This is rationalized by enactment orientation and negativity bias. Enactment orientations are the thoughts of temptation enactment (which people are usually more inclined to) and temptation non enactment, categorized by thoughts of “what if I did?” and “what if I didn’t?” when making decisions. Neuroscience studies support the idea that the neural networks that support mental simulation represent actions rather than inactions (Grèzes and Decety 2001). There is also ample evidence to suggest that people weigh negative outcomes stronger than positive ones with examples like loss aversion (Tversky and Kahneman 1991). This negativity bias is proposed to be part of why people may weigh anticipated negative emotions more heavily when making self-control judgments (Kotabe et al 2019). The third study investigates the situational salience of self-conscious emotions and basic hedonic emotions. The results provide evidence that self-control judgments can be manipulated by changing the salience of self-control emotions, specifically increasing them. (Kotabe et al 2019).

We are known to remember and respond to visceral stimuli because they are salient and evolutionarily are what people needed to respond to in matters of survival. Because of the magnitude of the influence of visceral stimuli, there are situations where decisions are made that do not have people’s long-term goals in mind. The “visceral response underestimation hypothesis” suggests that in cold states people easily fail to understand the hot visceral factors they are not currently experiencing (Kang and Camerer 2013). The visceral nature of a stimulus depends on how desirable it makes other goods or actions seem as well as its impact hedonically. An example is anger which is unpleasant and makes other aggressive actions seem more desirable (Loewenstein 1996). Visceral factors can have positive effects like regulating behavior (i.e satisfying hunger cues), but extreme levels of visceral stimuli may cause adverse reactions such as extreme fear and immobilization in times of stress. Intertemporal choice is affected by visceral factors, as people tend to discount the future in favor of immediate results (Loewenstein 1996). At low levels, people generally believe that they will be able to incorporate the influences of visceral factors into their daily lives in a sensible way without compromising their long-term goals for immediate gratification. But at moderate levels, there tends to be a conflict between what people want to do and what they end up doing, and decisions become a matter of self-control (Loewenstein 1996).

Visceral factors can enhance the value of immediate satisfaction relative to the long term, producing temporal myopia (Loewenstein 1996). Temporal myopia is connected to hyperbolic discounting where individuals choose immediate rewards over future ones. In these cases, the value of a stimulus is not constant, rather it is discounted. An interpretation of this phenomenon is that the risk of not getting a predicted reward increases the desire for it in the short term. Another interpretation is that the brain wants to maximize the rate of its reward acquisition rather than caring about maximizing the absolute value of each reward (Kacelnik 1997). Hyperbolic discounting also might result from peoples’ inability to correctly estimate time variables since events in the future seem abstract (Klapproth 2008). Visceral factors tend to produce attention-narrowing behavior, focusing on oneself instead of others.

Attention-narrowing undermines altruism because it focuses people inwards, ignoring others to tend to the needs that visceral factors evoke (Lowenstein 1996). The attentional-myopia model suggests that when intoxication, cognitive load, or physiological arousal limits attentional resources, individuals tend to focus on the most salient internal and external stimuli. It is expected that attentional-narrowing leads to failures in exhibiting self-control.

Emotions and Choice over Time

Real-life situations often come with time shortages or external deadlines. Decision-making techniques may be altered and simplified to comply with these constraints. It is predicted that in environments where these shortages exist, decision-makers do not have the attention or time to consider more than one hypothesis to assess the absolute best choice (Maule and Edland 1997). This is when the “satisficing” heuristic (Simon 1955) may be employed which is when people look for solutions until they find one that meets their minimal requirements (Klapproth 2008). Additionally, it has been theorized that those who are forced to make decisions under time pressures are rigid and unable to alter and adapt their behavior to correspond with a new situation. Two effects of time pressure cause this rigidity with the first being that with a narrowed field of attention, less information can be processed, and the entire process is simplified. Secondly, the control system of an individual is constrained so they tend to resort to habitual behaviors without considering the context of a specific situation (Staw et al 1981). The level of time pressure is another factor that limits and or changes decision-making, where high levels of time pressure are reported to cause perceptual narrowing which is when attention and processing become less broad and able to take in new information. This pressure leads to a reduction in vigilance, using available cues, and the capacity of working memory (Klein 1997).

Alternatively, it has been proposed that time pressure leads to faster information processing and more effort. The view is that a time constraint forces individuals to use the most efficient and simplified strategies (Kerstholt 1994). This competing view demonstrates that there is no uniform effect of time pressure on decision-making. It was demonstrated in a study that novice and expert decision-makers feel the effects of time differently. Experts took time constraints into account much more explicitly, asking how much time they had left to make their choice (Kelly and Karau 1999). Time also affects decision-making in terms of when the outcomes are supposed to occur. It is possible that events in the future are mentally represented differently and valued lower in the brain because they are much more abstract than events that occur sooner in time (Klapproth 2008). A study of 36 participants under different time pressure conditions (8 seconds, 16 seconds, and 32 seconds) looked at choices among pairs of gambles. Each pair of gambles had the same expected value but the amounts to win and lose and their probabilities varied. Subjects were able to obtain information about the dimensions of each gamble in sequential order according to their preference. Results indicated that in the situations with high time pressure, subjects were much less risky as compared to medium and low levels of pressure. This means that they chose gambles that had lower variances or lower amounts to lose and win. With more time pressure, subjects dedicated more time to looking at the negative dimensions of their choices including the amount to lose and the probability of doing so. Under low time pressure, participants chose to observe the positive dimensions of the possible gambles (Ben Zur and Breznitz 1981).

It has been conjectured that choice consistency may deteriorate even more in real-life settings than in experimental settings because it can be accompanied by emotions, stress, and social pressure (Olschewski and Rieskamp 2021). Part of choice consistency depends on the decision strategy. There are

two broad decision strategies: compensatory and non-compensatory (NC). With compensatory strategies, decision-makers use all the information given which allows for compensation of an option's disadvantages by considering the advantages. In NC strategies people only look at one dimension of an option so it can easily be eliminated by its disadvantages. With time pressure individuals are more likely to use NC strategies causing a shift in preferences to what is considered a priority rather than an assessment of all information and dimensions (Olschewski and Rieskamp 2021). Time pressure might change risk-taking behavior in 3 ways. Whether through causing changes directly to risk preferences or by decreasing consistency within the compensatory strategy used. The last hypothesized change is that individuals will switch to an NC strategy from a compensatory strategy when faced with time pressure (Olschewski and Rieskamp 2021). It is difficult to determine whether time pressure leads to irrational choices. What is evident though is that time changes how individuals process information and narrows their attention.

Emotions and Interpersonal Relationships

In social situations the choice of whether to be prosocial or not is largely theorized to be based on perceptions of rewards. The neural networks involved with social dilemmas are cognitive control, social cognition, and the processing of rewards. (Fehr and Camerer 2007). There are theories that these brain systems are linked so that social decisions to cooperate (or not) depend on how cognitive and social controls affect reward processing (Declerck et al 2013). Nineteen participants in a study had their brains scanned with functional magnetic resonance imaging (fMRI) while they responded to fair and unfair offers during a bargaining game. Offers deemed less fair activated the bilateral insula which deals with negative emotional states such as disgust. The stronger the activation in this area the more likely participants reject the offers. The study shows that social context is related to insula activation because researchers saw stronger activation when subjects received unfair offers from humans compared to unfair offers from computers. Other brain regions activated with unfair offers were the DLPFC which deals with goal maintenance, and weakening/overriding self-interest impulses, and ACC which detects cognitive conflict. (Sanfey et al 2003). This has been demonstrated in another study by interrupting the right side of the DLPFC via magnetic stimulation. When the brain disruptions occurred, subjects were much more likely to display selfish behavior by accepting unfair offers (Knoch 2003).

Any type of decision-making activates the mesolimbic dopamine system. FMRI analysis of subjects engaged in a prisoner's dilemma game shows that components of the mesolimbic dopamine system (reward circuit) activate with decisions of mutual cooperation, especially with a human partner rather than a computer (Rilling et al. 2002). The prisoner's dilemma is a situation where two people can independently choose to cooperate or betray their partner. Cooperation is ideal since if both choose to betray each other then they receive a lower outcome. But if one person betrays and the other cooperates then the one who betrays receives the highest outcome possible. The reward system is impartial in the decision to cooperate, its objective is to signal that the behavior that receives the reward outcome should continue. Therefore, if cooperation provides that result then it will activate in those circumstances to indicate that. Whether or not this happens depends on the cognitive control system which is responsible for processing extrinsic incentives and the social cognition system which measures the presence or absence of trust signals. If extrinsic incentives dominate in a given situation, then cooperation will be economically rational. If there are no extrinsic incentives but trust exists, then there still may be a decision to cooperate because it is socially rational (Declerck et al 2013). FMRI findings demonstrate

that the ventral striatum is activated when people publicly donate money to charity, but also when they privately receive money (Izuma et al 2010). Activation of the striatum in both instances suggests to the brain that extrinsic lucrative rewards are equal to intrinsic affective rewards which are derived from decisions that are socially motivated. There are also findings that cooperation activates the striatum as well which is consistent with the idea that feelings of reward can be related to cooperative decisions (Declerck et al 2013).

Emotions and Risk

Uncertainty causes people to revert to relying heavier on emotions when making decisions. True uncertainty is when changes in the external environment and or the social nature of an economic interaction make it so that the probability distribution of certain outcomes is unknown so one can not estimate risk (Knight 2002). In situations of true uncertainty economic actors have rational intentions but since there is no way to estimate risk, they rely on emotional states to shape economic behavior (DiMaggio 2002). Decision-makers also must consider what all others are likely to do in order to form rational expectations. Actions are interdependent, meaning that economic actors need to be certain about not only their own perception of future states but also other peoples' beliefs about the future as well (DiMaggio 2002).

How people perceive risks and benefits can create a bias in their social preferences if they choose not to make certain decisions due to erroneous thinking. Studies have found that judgments of risk and benefits are negatively correlated. In most situations, the greater the perceived risk the lower the perceived benefits. Using time pressure to reduce the opportunity for analytic deliberation will allow affective influences to take more control. This is hypothesized to enhance the inverse relationship between perceived risks and benefits (Fischhoff et al. 1978). The importance of such a relationship between risks and benefits is that it prevails even when the actual nature of risks and benefits are different. In the real-world activities that tend to bring high benefits can either come at high or low risks. But when it comes to risky activities the outcome of high benefits is usually unlikely. This is a positive correlation, but in people's minds, there is an inverse relationship (Pfister and Böhm 2008).

One explanation for why individuals' emotions do not always lead to rational behavioral outcomes or even consistent outcomes under the same circumstances, is an examination of immediate cognitive responses (appraisals) and their subsequent impacts on judgment. The appraisal tendency framework (ATF) examines multidimensional emotions and links the appraisal process of specific emotions with judgments and choices. The ATF predicts emotions of the same valence (i.e. anger and fear) are able to exert opposite influences on choices, similarly, emotions of the opposite valence (ie anger and happiness) can have similar influences (Keltner and Lerner 2001). ATF hypothesis states that appraisal tendencies are goal-directed processes where emotions exert effects on judgments and decisions until the problem that elicits the emotion is resolved (Keltner and Lerner 2001). It is predicted that once an emotion is activated it triggers appraisal dimensions that prompt the original emotion. This prediction points towards the idea of emotion-specific influences on choices and judgments, offering insight into why people perceive things like the level of risk in a situation differently. For example, the appraisal tendency of anger is perceived as predictable, under human control, and brought about by others. These appraisals are interpreted in terms of risk perception as low risk. Fear has the same valence as anger in that it is similarly unpleasant, but the appraisal tendency for fear is that negative events are controlled by

a given situation rather than humans, and the situation is unpredictable, so perceived risk is high. Angry people see less risk and fearful people see more.

The SMH is connected to risk-taking behaviors as well, connecting emotions with how we deal with and process risk; it predicts that the mesolimbic dopamine system is involved with the unconscious biasing of actions. It has been shown that activity in this system signals an error between actual and predicted reward which can bias behavior to lead toward actions that will produce immediate rewards rather than future rewards (Schultz, Dayan, and Montague 1997). Testing the SMH led to the development of the Iowa Gambling Task where subjects choose from four decks of cards with differing levels of reward and punishment in terms of play money. Two decks had low rewards, but also low punishments which meant that there would be a high net gain of money from consistently choosing this deck. The other two decks were high-risk and high-reward and were designed to be the disadvantageous deck. Participants without vmPFC damage tended to shift their choice to the advantageous safe deck after experiencing the high punishments of the risky deck, but those who did have vmPFC damage continuously chose the risky deck without any regard for the high punishments (Bechara & Damasio, 2005). The second part of testing SMH was to investigate the role of emotions in decision-making. Essentially, the theory asserts that emotions cause changes in the body that “mark” some options as advantageous and others disadvantageous. So, the Iowa Gambling Task was paired with measuring skin-conductance response (SCR). The normal subjects had larger SCRs before choosing the risky decks versus the safe decks. Those with vmPFC damage did not exhibit the anticipatory emotional responses but did have SCRs to receive both rewards and punishments which suggests that the vmPFC is necessary for the anticipatory emotional impact of rewards and punishments rather than registering their emotional impact after they are delivered. (Bechara & Damasio, 2005). Participants with amygdala damage showed similar impaired performance and did not have SCRs before choosing the risky deck. But those who had amygdala damage also had impaired SCRs when receiving rewards and punishments, suggesting the amygdala's role in registering emotional impact (Bechara & Damasio, 2005). The ability to register the emotional impact of rewards both before they occur and after is essential in decisions dealing with risk.

Implications and Solutions

It often proves difficult to not let emotions affect decision-making when they hurt rather than help judgment. But despite difficulties, there are two broad emotion regulation strategies, that are either antecedent-focused or response-focused. Antecedent-focused strategies are actions taken before the tendencies from an emotional response are fully activated. This is a more preemptive approach in that something is done before emotions have a chance to fully change our behavior and physiological response. Response-focused strategies are what we do when response tendencies are already underway because of emotions. Cognitive reappraising is a method that involves early intervention which allows people to modify what people feel inside and how they express themselves to others. Rather than suppressing their emotions, people rework what situations mean to them to change the emotional impact. It has been found that re-appraisers can use an optimistic attitude to negotiate stressful situations. They reinterpret the stimuli that they find stressful and actively try to repair bad moods. In terms of affect, those who reappraise express outwardly and experience more positive emotions and less negative emotions. In social situations, they are also more likely to express their emotions with others and have closer relationships with friends (Gross and John 2003).

Expressive suppression is a response where people inhibit the emotion-expressive behavior occurring in the present. Studies on suppression show that those who suppress emotions show less emotion-expressive behavior which has the potential to help make decisions in certain contexts. But it is also warned that frequent use of suppression might lead to increased levels of negative emotional experience. The implication here is that suppression might only partially offset chronic experience of negative emotion and have little to no difference on how suppressors and non-suppressors experience negative emotions. Expressive suppression is also linked to feelings of inauthenticity. People deal with stressful situations by stopping their outer displays of emotions and masking inner feelings leading them to be less successful at repairing their mood and accurately sharing feelings with others. Suppression is also linked to rumination and experiencing fewer positive emotions (Gross and John 2003).

Benefits of Emotions

Another aid to rational decision-making is understanding how emotions affect decisions and when they occur, so they can be used appropriately. As demonstrated by the Iowa Gambling Task which looked at how brain-damaged individuals made risky decisions, emotional signals may factor into decision-making before conscious processes. In part of the task, subjects were asked to explain their choice of deck. Patients with brain damage did not express hunches that some decks seemed riskier and said it was more exciting to play from those decks. Normal players had hunches that some decks were good, and some were bad and showed high SCRs before turning over bad-deck cards even before knowing what the outcome would be (Bechara and Damasio 2005). Researchers believe that the vmPFC may trigger the emotional response that people recognize as a hunch or intuition. Listening to the emotional cues in the body and going with intuition can be beneficial in some situations, with the caveat that individuals are able to properly interpret their feelings.

Some researchers share the feeling-as-decision-facilitator view where feelings can enable decision-making processes and improve performance. Spanning different disciplines there is evidence to suggest that conscious attention and the allocation of working memory are driven by affective reason (Damasio 1994; Wells and Matthews 1994). Those are two crucial elements of the cognitive processes of decision-making. Momentary feelings can also shift attention from goals that are less important to things that are immediately urgent (Clore and Ketelaar 1997). There are also suggestions of momentary feelings influencing information processing like studies demonstrating how when people were in pleasant affective states they categorized stimuli broadly in a more inclusive and flexible way (Murray et al. 1990). This contrasts with people in unpleasant states that were observed to be effortful and systematic in information processing (Edwards and Weary 1993). Intense feelings regardless of if they are positive or negative give a sense of action and urgency to an individual which leads them to devote more effort to a given task without even realizing it (Seo and Barret 2007). To back up these claims, a study of 101 stock investors rated their feelings while making investment decisions. It was found that the investors that had higher decision-making performance were the ones that experienced more intense feelings. Higher performances also came from those who were able to identify and distinguish their feelings, which is thought to allow them to better control possible biases that amount from those feelings (Seo and Barret 2007).

There are three misconceptions about heuristics, the first being that they are always second-best to cognitive procedures. People also believe that cognitive limitations are the *only* reason to use heuristics and that more information, time, and thinking will always be better. A general law of cognition is the

accuracy-effort trade-off, but there are findings and literature to suggest that heuristics can be accurate because of our own evolved cognitive processes (Gigerenzer and Brighton 2009). For example, the less-is-more effect states that there is a point where more information may be detrimental to decision-making. The less-is-more effect comes from the recognition heuristic where if an alternative is recognized individuals will infer that its value is higher than the alternative that is not recognized (Goldstein and Gigerenzer 2002). The recognition heuristic occurs in two processes the first being recognition to see if it can be applied and then evaluation to determine whether it *should* be applied (Goldstein and Gigerenzer 2002). The implication here is that heuristics may be more thoughtful than anticipated. It is helpful to think of heuristics as pattern recognition, like that of machine learning (Gigerenzer and Brighton 2009). Heuristics may be successful when viewed as a learning curve where the variance and bias of a prediction decrease with experience (Gigerenzer and Brighton 2009). Continuing with the idea of heuristics based on learning curves, we use memory to choose to apply them at times when it is easier and faster and when they are likely to lead to accurate decisions.

Conclusion

Rather than viewing emotions as a threat to rationality, it has been proposed that a person's capacity to form proper emotions is what determines the rationality of a decision (Sousa 1990). Mental operations are primarily motivated by emotional feelings, and it is theorized that the feeling component of emotions contributes to processes of goal-oriented behavior (Izard 2009). Emotions are predominately classified as either motivational or informational which are both helpful mechanisms in accomplishing tasks and making choices. Interest is an emotion that is central to motivation as well as engagement in creative endeavors and a general sense of well-being. Interest causes selective attention, influencing a lot of other mental processes like focusing on goals that really matter (Izard 2009). In the field of psychology, there is a long-standing misconception that emotions have limited time durations on how they impact awareness and reason. Counter to this view is the belief that pure reason does not exist, especially in social or personal situations (Creighton 1921). Furthermore, models of emotion looking at perception suggest that perceiving someone's affective state may cause the observer to feel the same state. The nervous system has evolved to make use of representations we have already encoded, which means it will produce a sensible action even when activated by others' emotional states (Preston and Waal 2002).

Appraisal theories hypothesize that discrete emotions like regret, envy, shame, and guilt are a consequence of how people construe situations or events (Ortony et al 1988). These emotions are only understandable given the context of their cognitive content. Simple declarations of liking or pleasure do not require further explanation or rationalization, but statements of regret for example need to be justified to be acceptable in normal conversations (Pfister and Böhm 2008). The idea is that there are different appraisals of dimensions including valence, responsibility, control, and certainty. Knowing how people construe a certain event can allow us to infer what emotion they are feeling. This also works the other way around in that knowing what emotion someone feels towards an event can provide a justified inference on how they construe that event (Siemer and Reisenzein 2007). People appraise events in different ways depending on what they find personally relevant, which is influenced by their motives. Understanding others' emotions and decisions may help us understand our own.

Works Cited

- Damasio, Antonio R. *Descartes' Error : Emotion, Reason, and the Human Brain*. New York :G.P. Putnam, 1994.
- Andrade, Eduardo B., and Dan Ariely. 2009. "The Enduring Impact of Transient Emotions on Decision Making." *Organizational Behavior and Human Decision Processes* 109: 1–8. <https://doi.org/10.1016/j.obhdp.2009.02.003>.
- Ariely, Dan, George Loewenstein, and Drazen Prelec. 2003. "'COHERENT ARBITRARINESS': STABLE DEMAND CURVES WITHOUT STABLE PREFERENCES." *QUARTERLY JOURNAL OF ECONOMICS*.
- Baxter, Mark G., and Elisabeth A. Murray. 2002. "The Amygdala and Reward." *Nature Reviews. Neuroscience* 3 (7): 563–73. <https://doi.org/10.1038/nrn875>.
- Bechara, Antoine, and Antonio R. Damasio. 2005. "The Somatic Marker Hypothesis: A Neural Theory of Economic Decision." *Games and Economic Behavior*, Special Issue on Neuroeconomics, 52 (2): 336–72. <https://doi.org/10.1016/j.geb.2004.06.010>.
- Beilock, Sian L., Thomas H. Carr, Clare MacMahon, and Janet L. Starkes. 2002. "When Paying Attention Becomes Counterproductive: Impact of Divided versus Skill-Focused Attention on Novice and Experienced Performance of Sensorimotor Skills." *Journal of Experimental Psychology: Applied* 8: 6–16. <https://doi.org/10.1037/1076-898X.8.1.6>.
- Ben Zur, Hasida, and Shlomo J. Breznitz. 1981. "The Effect of Time Pressure on Risky Choice Behavior." *Acta Psychologica* 47 (2): 89–104. [https://doi.org/10.1016/0001-6918\(81\)90001-9](https://doi.org/10.1016/0001-6918(81)90001-9).
- Bickel, Warren K., David P. Jarmolowicz, E. Terry Mueller, and Kirstin M. Gatchalian. 2011. "The Behavioral Economics and Neuroeconomics of Reinforcer Pathologies: Implications for Etiology and Treatment of Addiction." *Current Psychiatry Reports* 13 (5): 406–15. <https://doi.org/10.1007/s11920-011-0215-1>.
- Cabanac, M. 1992. "Pleasure: The Common Currency." *Journal of Theoretical Biology* 155 (2): 173–200. [https://doi.org/10.1016/s0022-5193\(05\)80594-6](https://doi.org/10.1016/s0022-5193(05)80594-6).
- Camerer, Colin, George Loewenstein, and Drazen Prelec. 2005. "Neuroeconomics: How Neuroscience Can Inform Economics." *Journal of Economic Literature* 43 (1): 9–64. <https://doi.org/10.1257/0022051053737843>.
- Clore, Gerald, and Timothy Ketelaar. 1997. *Minding Our Emotions: On the Role of Automatic, Unconscious Affect*. The Automaticity of Everyday Life: Advances in Social Cognition, Vol. 10. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Creighton, J. E. 1921. "Reason and Feeling." *Philosophical Review* 30 (5): 465–81. <https://doi.org/10.2307/2179320>.
- Declerck, Carolyn H., Christophe Boone, and Griet Emonds. 2013. "When Do People Cooperate? The Neuroeconomics of Prosocial Decision Making." *Brain and Cognition* 81 (1): 95–117. <https://doi.org/10.1016/j.bandc.2012.09.009>.
- Depue, Richard A., and Jeannine V. Morrone-Strupinsky. 2005. "A Neurobehavioral Model of Affiliative Bonding: Implications for Conceptualizing a Human Trait of Affiliation." *The Behavioral and Brain Sciences* 28 (3): 313–50; discussion 350-395. <https://doi.org/10.1017/S0140525X05000063>.
- Dutta, Sanchari. 2019. "Hippocampus Functions." News-Medical.Net. 2019. <https://www.news-medical.net/health/Hippocampus-Functions.aspx>.
- Edwards, John A., and Gifford Weary. 1993. "Depression and the Impression-Formation Continuum: Piecemeal Processing despite the Availability of Category Information." *Journal of Personality and Social Psychology* 64: 636–45. <https://doi.org/10.1037/0022-3514.64.4.636>.
- Eldar, Eran, Robb B. Rutledge, Raymond J. Dolan, and Yael Niv. 2016. "Mood as Representation of Momentum." *Trends in Cognitive Sciences* 20 (1): 15–24. <https://doi.org/10.1016/j.tics.2015.07.010>.

- Fischer, Agneta H., and Ira J. Roseman. 2007. "Beat Them or Ban Them: The Characteristics and Social Functions of Anger and Contempt." *Journal of Personality and Social Psychology* 93: 103–15. <https://doi.org/10.1037/0022-3514.93.1.103>.
- Fischhoff, Baruch, Paul Slovic, Sarah Lichtenstein, Stephen Read, and Barbara Combs. 1978. "How Safe Is Safe Enough? A Psychometric Study of Attitudes towards Technological Risks and Benefits." *Policy Sciences* 9 (2): 127–52. <https://doi.org/10.1007/BF00143739>.
- Gage, Nichole, and Bernard Baar. 2018. "Ventromedial Prefrontal Cortex - an Overview | ScienceDirect Topics." 2018. <https://www.sciencedirect.com/topics/neuroscience/ventromedial-prefrontal-cortex>.
- Gigerenzer, Gerd. 2007. *Gut Feelings: The Intelligence of the Unconscious*. Penguin.
- Gigerenzer, Gerd, and Henry Brighton. 2009. "Homo Heuristicus: Why Biased Minds Make Better Inferences." *Topics in Cognitive Science* 1 (1): 107–43. <https://doi.org/10.1111/j.1756-8765.2008.01006.x>.
- Goldstein, Daniel G., and Gerd Gigerenzer. 2002. "Models of Ecological Rationality: The Recognition Heuristic." *Psychological Review* 109 (1): 75–90. <https://doi.org/10.1037/0033-295x.109.1.75>.
- Grayot, James D. 2020a. "Dual Process Theories in Behavioral Economics and Neuroeconomics: A Critical Review." *Review of Philosophy and Psychology* 11 (1): 105–36. <https://doi.org/10.1007/s13164-019-00446-9>.
- . 2020b. "Dual Process Theories in Behavioral Economics and Neuroeconomics: A Critical Review." *Review of Philosophy and Psychology* 11 (1): 105–36. <https://doi.org/10.1007/s13164-019-00446-9>.
- Grèzes, J., and J. Decety. 2001. "Functional Anatomy of Execution, Mental Simulation, Observation, and Verb Generation of Actions: A Meta-Analysis." *Human Brain Mapping* 12 (1): 1–19. [https://doi.org/10.1002/1097-0193\(200101\)12:1<1::aid-hbm10>3.0.co;2-v](https://doi.org/10.1002/1097-0193(200101)12:1<1::aid-hbm10>3.0.co;2-v).
- Gross, James J., and Oliver P. John. 2003. "Individual Differences in Two Emotion Regulation Processes: Implications for Affect, Relationships, and Well-Being." *Journal of Personality and Social Psychology* 85 (2): 348–62. <https://doi.org/10.1037/0022-3514.85.2.348>.
- Guadagno, Rosanna, and Robert Cialdini. 2010. "Preference for Consistency and Social Influence: A Review of Current Research Findings." *Social Influence* 5 (April): 152–63. <https://doi.org/10.1080/15534510903332378>.
- Haber, Suzanne N. 2011. "Neuroanatomy of Reward: A View from the Ventral Striatum." In *Neurobiology of Sensation and Reward*, edited by Jay A. Gottfried. Frontiers in Neuroscience. Boca Raton (FL): CRC Press/Taylor & Francis. <http://www.ncbi.nlm.nih.gov/books/NBK92777/>.
- Hathaway, William R., and Bruce W. Newton. 2023. "Neuroanatomy, Prefrontal Cortex." In *StatPearls*. Treasure Island (FL): StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK499919/>.
- Izard, Carroll E. 2009. "Emotion Theory and Research: Highlights, Unanswered Questions, and Emerging Issues." *Annual Review of Psychology* 60: 1–25. <https://doi.org/10.1146/annurev.psych.60.110707.163539>.
- Kacelnik, A. 1997. "Normative and Descriptive Models of Decision Making: Time Discounting and Risk Sensitivity." *Ciba Foundation Symposium* 208: 51–67; discussion 67–70. <https://doi.org/10.1002/9780470515372.ch5>.
- Kahneman, Daniel, and Shane Frederick. 2005. "A Model of Heuristic Judgment." In *The Cambridge Handbook of Thinking and Reasoning*, 267–93. New York, NY, US: Cambridge University Press.
- Kang, Min J., and Colin F. Camerer. 2013. "fMRI Evidence of a Hot-Cold Empathy Gap in Hypothetical and Real Aversive Choices." *Frontiers in Neuroscience* 7 (June): 104. <https://doi.org/10.3389/fnins.2013.00104>.
- Kelly, Janice R., and Steven J. Karau. 1999. "Group Decision Making: The Effects of Initial Preferences and Time Pressure." *Personality and Social Psychology Bulletin* 25 (11): 1342–54. <https://doi.org/10.1177/0146167299259002>.
- Keltner, Dacher, and Jonathan Haidt. 1999. "Social Functions of Emotions at Four Levels of Analysis."

- Cognition and Emotion* 13: 505–21.
- Keltner, Dacher, and Jennifer S. Lerner. 2001. “Jennifer S. Lerner Carnegie Mellon University.”
- Kerstholt, José H. 1994. “The Effect of Time Pressure on Decision-Making Behaviour in a Dynamic Task Environment.” *Acta Psychologica* 86: 89–104. [https://doi.org/10.1016/0001-6918\(94\)90013-2](https://doi.org/10.1016/0001-6918(94)90013-2).
- Klapproth, Florian. 2008. “Time and Decision Making in Humans.” *Cognitive, Affective, & Behavioral Neuroscience* 8 (4): 509–24. <https://doi.org/10.3758/CABN.8.4.509>.
- Klein, Gary. 1997. “Developing Expertise in Decision Making.” *Thinking & Reasoning* 3: 337–52. <https://doi.org/10.1080/135467897394329>.
- Kortz, Michael W., and Kevin O. Lillehei. 2023. “Insular Cortex.” In *StatPearls*. Treasure Island (FL): StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK570606/>.
- Kotabe, Hiroki P., Francesca Righetti, and Wilhelm Hofmann. 2019. “How Anticipated Emotions Guide Self-Control Judgments.” *Frontiers in Psychology* 10. <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01614>.
- Kunde, Wilfried, Heiko Reuss, and Andrea Kiesel. 2012. “Consciousness and Cognitive Control.” *Advances in Cognitive Psychology* 8 (1): 9–18. <https://doi.org/10.2478/v10053-008-0097-x>.
- Loewenstein, George. 1996. “Out of Control: Visceral Influences on Behavior.” *Organizational Behavior and Human Decision Processes* 65 (3): 272–92. <https://doi.org/10.1006/obhd.1996.0028>.
- Loewenstein, George, and Jennifer S. Lerner. 2003. “The Role of Affect in Decision Making.” In *Handbook of Affective Sciences*, 619–42. Series in Affective Science. New York, NY, US: Oxford University Press.
- Loewenstein, George, and Ted O’Donoghue. 2004. “Animal Spirits: Affective and Deliberative Processes in Economic Behavior.” SSRN Scholarly Paper. Rochester, NY. <https://doi.org/10.2139/ssrn.539843>.
- Maule, A. John, and Anne C. Edland. 1997. “The Effects of Time Pressure on Human Judgement and Decision Making.” In *Decision Making*. Routledge.
- Metcalfe, Janet, and W. Jake Jacobs. 1998. “Emotional Memory: The Effects of Stress on ‘Cool’ and ‘Hot’ Memory Systems.” In *The Psychology of Learning and Motivation: Advances in Research and Theory*, Vol. 38, 187–222. San Diego, CA, US: Academic Press.
- Murray, Noel, Harish Sujana, Edward R. Hirt, and Mita Sujana. 1990. “The Influence of Mood on Categorization: A Cognitive Flexibility Interpretation.” *Journal of Personality and Social Psychology* 59: 411–25. <https://doi.org/10.1037/0022-3514.59.3.411>.
- O’Doherty, John P. 2004. “Reward Representations and Reward-Related Learning in the Human Brain: Insights from Neuroimaging.” *Current Opinion in Neurobiology* 14 (6): 769–76. <https://doi.org/10.1016/j.conb.2004.10.016>.
- Olschewski, Sebastian, and Jörg Rieskamp. 2021. “Distinguishing Three Effects of Time Pressure on Risk Taking: Choice Consistency, Risk Preference, and Strategy Selection.” *Journal of Behavioral Decision Making* 34 (4): 541–54. <https://doi.org/10.1002/bdm.2228>.
- Ortony, Andrew, Gerald L. Clore, and Allan Collins. 1988. *The Cognitive Structure of Emotions*. The Cognitive Structure of Emotions. New York, NY, US: Cambridge University Press. <https://doi.org/10.1017/CBO9780511571299>.
- Peters, Ellen. 2006. “The Functions of Affect in the Construction of Preferences.” In *The Construction of Preference*, edited by Paul Slovic and Sarah Lichtenstein, 454–63. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511618031.025>.
- Pfister, Hans-Rüdiger, and Gisela Böhm. 2008. “The Multiplicity of Emotions: A Framework of Emotional Functions in Decision Making.” *Judgment and Decision Making* 3 (1): 5–17. <https://doi.org/10.1017/S1930297500000127>.
- Preston, Stephanie D., and Frans B. M. de Waal. 2002. “Empathy: Its Ultimate and Proximate Bases.” *Behavioral and Brain Sciences* 25 (1): 1–20. <https://doi.org/10.1017/S0140525X02000018>.
- Read, D., and null van Leeuwen B. 1998. “Predicting Hunger: The Effects of Appetite and Delay on Choice.” *Organizational Behavior and Human Decision Processes* 76 (2): 189–205.

- <https://doi.org/10.1006/obhd.1998.2803>.
- Reed, Derek D., Christopher R. Niileksela, and Brent A. Kaplan. 2013. "Behavioral Economics." *Behavior Analysis in Practice* 6 (1): 34–54. <https://doi.org/10.1007/BF03391790>.
- Rilling, James K., David A. Gutman, Thorsten R. Zeh, Giuseppe Pagnoni, Gregory S. Berns, and Clinton D. Kilts. 2002. "A Neural Basis for Social Cooperation." *Neuron* 35 (2): 395–405. [https://doi.org/10.1016/S0896-6273\(02\)00755-9](https://doi.org/10.1016/S0896-6273(02)00755-9).
- Rosenbloom, Michael H., Jeremy D. Schmahmann, and Bruce H. Price. 2012. "The Functional Neuroanatomy of Decision-Making." *The Journal of Neuropsychiatry and Clinical Neurosciences* 24 (3): 266–77. <https://doi.org/10.1176/appi.neuropsych.11060139>.
- Ross, Lee, David Greene, and Pamela House. 1977. "The 'False Consensus Effect': An Egocentric Bias in Social Perception and Attribution Processes." *Journal of Experimental Social Psychology* 13 (3): 279–301. [https://doi.org/10.1016/0022-1031\(77\)90049-X](https://doi.org/10.1016/0022-1031(77)90049-X).
- Saberi Moghadam, Sohrab, Farid Samsami Khodadad, and Vahid Khazaeinezhad. 2019. "An Algorithmic Model of Decision Making in the Human Brain." *Basic and Clinical Neuroscience* 10 (5): 443–49. <https://doi.org/10.32598/bcn.9.10.395>.
- Schultz, W., P. Dayan, and P. R. Montague. 1997. "A Neural Substrate of Prediction and Reward." *Science (New York, N.Y.)* 275 (5306): 1593–99. <https://doi.org/10.1126/science.275.5306.1593>.
- Schwarz, Norbert. 2001. "Feelings as Information: Implications for Affective Influences on Information Processing." In *Theories of Mood and Cognition*. Psychology Press.
- Sent, Esther-Mirjam. 2018. "Rationality and Bounded Rationality: You Can't Have One without the Other." *The European Journal of the History of Economic Thought* 25 (6): 1370–86. <https://doi.org/10.1080/09672567.2018.1523206>.
- Siemer, Matthias, and Rainer Reisenzein. 2007. "The Process of Emotion Inference." *Emotion* 7: 1–20. <https://doi.org/10.1037/1528-3542.7.1.1>.
- Simon, Herbert A. 1955. "A Behavioral Model of Rational Choice." *The Quarterly Journal of Economics* 69 (1): 99–118. <https://doi.org/10.2307/1884852>.
- Slovic, Paul, Melissa L. Finucane, Ellen Peters, and Donald G. MacGregor. 2007. "The Affect Heuristic." *European Journal of Operational Research* 177 (3): 1333–52. <https://doi.org/10.1016/j.ejor.2005.04.006>.
- Sousa, Ronald De. 1990. *The Rationality of Emotion*. MIT Press.
- Staw, Barry M., Lance E. Sandelands, and Jane E. Dutton. 1981. "Threat Rigidity Effects in Organizational Behavior: A Multilevel Analysis." *Administrative Science Quarterly* 26 (4): 501–24. <https://doi.org/10.2307/2392337>.
- Stevens, Francis L., Robin A. Hurley, Katherine H. Taber, Robin A. Hurley, L. Anne Hayman, and Katherine H. Taber. 2011. "Anterior Cingulate Cortex: Unique Role in Cognition and Emotion." *The Journal of Neuropsychiatry and Clinical Neurosciences* 23 (2): 121–25. <https://doi.org/10.1176/jnp.23.2.jnp121>.
- Tversky, Amos, and Daniel Kahneman. 1991. "Loss Aversion in Riskless Choice: A Reference-Dependent Model." *Quarterly Journal of Economics* 106 (4): 1039–61. <https://doi.org/10.2307/2937956>.
- Wang, Lihong, Kevin S. LaBar, Moria Smoski, M. Zachary Rosenthal, Florin Dolcos, Thomas R. Lynch, Ranga R. Krishnan, and Gregory McCarthy. 2008. "Prefrontal Mechanisms for Executive Control over Emotional Distraction Are Altered in Major Depression." *Psychiatry Research* 163 (2): 143–55. <https://doi.org/10.1016/j.psychres.2007.10.004>.
- Wells, Adrian, and Gerald Matthews. 1994. *Attention and Emotion: A Clinical Perspective*. Attention and Emotion: A Clinical Perspective. Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.



AIO Health

Health Data Management Industry

Founded 2022

Location Loudonville, NY

Employees 4

Fundraising Seeking \$557,000

Vertical Integrated Health Data Management Software

Patents/IP N/A as of March 2023

Executive Team

Maria Carzo- Founder and CEO
Nick Dupree- Founder and CFO
Alex Hawkins - Founder and COO
Nate Anderson - Founder and CTO

Advisory Board

Michael Hickey- Siena College
Daniel Robeson, PhD- Siena College

Key Company

Contact

Maria Carzo
Phone 518-495-5793
Email mr07carz@siena.edu

Summary

Hello, we are Maria Carzo, Nate Anderson, Nick Dupree, and Alex Hawkins, founders of AIO Health. We began our venture at Siena College with the mission to provide a software solution that improves the data relationships between healthcare providers and their patients. Our goal is to empower both patients and providers with safe and seamless data management, regardless of differences in their existing systems.

Problem

Even with the current mix of electronic healthcare record (EHR) solutions, healthcare providers often find themselves out of sync with one another, their patients, and their insurance companies. This lack of communication leads to unnecessary wait times, redundant procedures and inefficient limiting of throughput that frustrates both patients and providers.

Solution

AIO Health's mission is to empower both patients and healthcare providers with solutions that enhance the quality

of care and improve patient outcomes. Our software will achieve this end through two avenues. Firstly, we plan to integrate our software with the various EHR systems already in use by making it compatible with constantly increasing numbers of API's. Through AIO Health's integration, the patient will be able to quickly and safely access their EHR's at whatever provider they choose. Secondly, our user-friendly platform will provide secure and easy access to critical health information, enabling better decision-making and collaboration among healthcare professionals. Both elements of our solution's design and implementation will combine to reduce the unnecessary headaches in the healthcare process that are caused by poor communication of information. We strive to be a trusted partner in the healthcare industry, leveraging the latest technologies and best practices to support the delivery of safe, effective, patient centered care. To help fund and start our venture we are requesting \$557,000 in funding in exchange for 2.97% equity in our company.

Target Market

Our early stage target market is constrained to the Capital Region of New York for the first few years, while we test our product and business model. We plan to license our software to healthcare providers, with our value proposition predicated on the notion of reducing waste and providing a better user experience for their patients. Our conception of patient end users is not young adults going to a health generalist once or twice a year. The type of patients who especially feel points of pain are older demographics, people with multiple homes in different regions, and those with complicated health issues. TAM includes all people in the United States. SAM includes all people in the Northeast Region. Finally, our target market is institutions and people located in the Capital Region.

Competitive Advantage

AIO Health's competitive advantage revolves around user experience or in other terms, 'giving power back to the people', as well as competitive pricing. Unlike the existing set of EHR platforms, our product will offer a seamless and integrated experience across system boundaries. We decided to undercut the average price of \$1,000/month. As a startup, we plan on giving a one month free trial to our Year 1 health institution sign ups. Early on, we will compete on price, but upon solidification of our brand, we will raise prices and compete on differentiation.

Business Model

We will utilize an asset-light SaaS model with B2B monetization. During the first few years of operation, we will offer a month-long free trial and discounted pricing of \$1,000/month in order to attract early adopters. To drive revenue, we will expand the team to include marketing, sales, and finance, development and other professionals.

Disconnect to Reconnect (D2R)

Executive Summary

Share Memories, Not Usernames

Live Life, Not Through A Screen

Contact Information

Sean Neeson, Jonathan Masih, Olivia Martin
515 Loudon Rd, Loudonville, NY 12211

Industry

Apps and Internet
Productivity and Lifestyle

Development stage

Startup

Year founded

2023

Number of Employees

3

Funding Opportunity -

350,000

Use of Fund

60% Product Development
20%Marketing/Sales
10%Operation/Inventory
0% Existing Debt10% Legal/Other ...

Current Monthly Burn Rate

\$0

Current Monthly

Revenue

\$0

Existing Debt

\$0

Existing Investors

N/A

THE GRAB

We strive to push people out of their digital bubble and back into their community to develop authentic relationships.

PROBLEM/OPPORTUNITY

Many individuals within the Gen Z and Millennial generations are not facilitating genuine and authentic in-person social interactions due to the prevalence of social media and accessibility of technology. This inhibits the vital human need of developing relationships, which can have a huge impact on mental health. Technology is becoming a stumbling block for many and hinders the ability to engage in human interaction and connection.

SOLUTION/PRODUCT

D2R is targeted for those who consider themselves dependent on social media, and desire detachment from its addictive nature. We help our users revert back to their innate social roots of involvement within their community. This app comes up with strategies for users to help achieve social goals set by the users. We operate as a CRM system to advance interpersonal relationships, with highlighting features including screen time monitoring, our CLEANSE feature, and encouraging motivational social goals that can be met daily, weekly, monthly etc. Our most prominent, distinguishing feature is our ability to localize our users' surroundings to explore current events and gatherings that are happening in their area. This feature fulfills our mission statement of promoting in-person experiences and getting our users back into their environment. By doing this, we hope to see immense improvements in mental health and well-being, higher engagement within communities, strengthened relationships, increased productivity, and independence from technology. We strive to lead our users to live more fulfilling and memorable lives.

POTENTIAL RETURN/REVENUE MODEL

The revenue model of our business is subscription based. The price we have set for our services is \$12.99 per month. We set the price at this level because in order to establish a competitive advantage we will set our price lower than that of our competitors, who average at \$15 per month. With that said, we anticipate our subscriptions to be lower in the first two years of business, but once our marketing strategy is established, we anticipate a growth rate of 15% for the next 3 years of business, based off of an average of the previous CAGR rates of the lifestyle and productivity app market. Once we establish a fundamental base of subscriptions, the growth will compound in years four and five, resulting in a significant profit.

COMPETITION

Our competition analysis has identified 3 main competitors who operate in the industry that we plan on entering; Freedom, Rescue Time, and Dtch. Each of these platforms offer similar services that we plan on offering, but through analysis we have identified risks and opportunities that will allow us to differentiate ourselves in this market. Competitors focus on aiding with workload management and productivity of individuals and businesses, whereas we want to focus on improving the quality of our customers' social lives by facilitating in-person social interactions. This will be done by eliminating their dependence on technology and developing more authentic connections. Our biggest differentiated feature is our ability to localize our users' surroundings, providing them with in-person social events hosted by small businesses or the city/town in which they reside. This feature is not seen in any of our competitors, and has not reached the market.

EXECUTION PLAN/GO TO MARKET STRATEGY

D2R will be accessible through the Apple App Store, Google Play Store, in addition to our own website, where users will be able to reach us and utilize our applications. We expect 50% of monthly subscriptions to come from the Apple App Store, 30% from the Google Play Store, and 20% from our own website. We will market through social media platforms and streaming services since that is where our target market mainly resides. We anticipate that our business will grow initially from using TikTok, a free platform, to help us get our name out there, and once we get a big enough following we will begin to use the streaming services to further market D2R. We will pay advertising fees to apps such as Spotify, Hulu, YouTube, and Google in order for our business to penetrate the market. As D2R grows, word-of-mouth advertising will be a form of our marketing strategy as well, coming at no additional cost. Our marketing team will advertise on other social media platforms to get users off of the platforms they are addicted to. Once users are off of other platforms, then for our sales strategy, we will provide a 2-week trial period to let our users experience our premium features at no additional cost. Once the free trial runs out, users can stay on our platform and use our freemium features or continue using the premium features with monthly subscription. In terms of partnerships, we work with local small businesses to gain exposure for our app and further our mission of getting people back into their environment. We would also partner with App Providers / App Marketplaces such as the Apple App Store and Google Play Store so our app is accessible to the public. AWS will be used to store our users data. In addition, we will use the streaming services as previously stated in order to advance our business.

FINANCIALS

Currently D2R does not have any funding. Year 1 D2R will be needing 350,000 to get the App development started and start marketing our app once developed. D2R monthly burn rate for year 1 will be 30,000. Over projected revenue for year 1 once the app is launched will be \$ 133,148 due to our aggressive marketing. By Year 5 D2R's projected cash will be 10 million. A lot of the upfront costs are app development and marketing.

THE TEAM/RELEVANT EXPERIENCE

Our team consists of Jonathan Masih, Sean Neeson, and Olivia Martin.

Jonathan Masih

Senior majoring in Computer Science with a minor in Business and concentrations in Entrepreneurship.

Sean Neeson

Junior majoring in Finance with a minor in entrepreneurship

Olivia Martin

Sophomore majoring in Business with concentrations in Entrepreneurship and Strategic Decision Making.

Proteios

Executive Summary

The Protein-Packed Alcoholic Beverage for Fitness Enthusiasts

Contact Information

Kayla Bailey
Siena College
ka06bail@siena.edu

Luca Santabarbara

Siena College
lj23sant@siena.edu

Morgan Connally

Siena College
Mp04conn@siena.edu

John Clifford

Siena College
Ja02clif@siena.edu

Industry

Beverage
Alcoholic/Hard Seltzer

Development stage

Startup

Year founded

2023

Number of Employees

4

Funding Opportunity

\$100,000

Use of Fund

50% Product Development
20% Marketing / Sales
20% Operation / Inventory
10% Legal/Other ...

Current Monthly Burn Rate

\$41,747

THE GRAB

Provide a healthier option of an alcoholic beverage for someone who is trying to meet their fitness and health goals while not letting it prohibit them from social events. Consumers should not have to worry about losing their hard-earned progress while trying to have fun and let loose with their friends.

PROBLEM/OPPORTUNITY

Fitness enthusiasts who enjoy drinking alcohol often face a dilemma between maintaining their progress and indulging in a night out. They want to enjoy their social life without sacrificing their hard work in the gym. Additionally, they seek a beverage that not only provides a fun experience but also aligns with their fitness goals. This presents an opportunity for a product that caters to this need.

SOLUTION/PRODUCT

Proteios is an innovative alcoholic beverage that contains protein, making it a great choice for fitness enthusiasts who want to maintain their progress while enjoying a drink. The unique blend of alcohol and protein makes Proteios a perfect beverage for those who want to balance their social life with their fitness journey. By consuming Proteios, customers can have a fun night out without worrying about ruining their progress. Furthermore, the added protein in Proteios supports muscle recovery, making it a functional beverage that benefits the body.

POTENTIAL RETURN/REVENUE MODEL

Proteios, has a net monthly cash burn of \$41,747 in year 1, which means that we will need additional funding to cover expenses. Our revenue model is based off of comparable firms to Proteios, this revenue model gives us an assumption that we will have a gross profit margin around 47% - 49% of sales. This shows that this company is extremely scalable and will allow us to use marketing to drive our sales growth as much as we can in our first few years, which based on the model, will lead to more gross profits. We believe we can attain roughly 25% of this alcoholic drink market through our differentiation in our product and feel good while drinking approach. When finding our CAGR we did not include our year one gross profits because we believe it will create an outlier in the formula. From years 2-5 we will hold a CAGR of roughly 25% from \$866,600 of gross profit to \$2,122,750.

COMPETITION

Our current competitors who also target this demographic include, but are not limited to, Protochol, Barbell Brew and market giants such as White Claw, Truly and beer distributors. However, none of our competitors offer our spiked protein technology in a tasteful seltzer format. Within our industry, spiked protein has only been implemented in juice-like cocktails and beer. There is a market gap we aim to fill in the seltzer market.

EXECUTION PLAN/GO TO MARKET STRATEGY

To begin, our company plans to target health-conscious consumers who are looking for a high-protein beverage that won't disrupt their fitness progress. We will start by launching the product in local markets and gradually expand it to regional and national markets as we gain traction. To promote our product, we will leverage social media platforms to create a following. We will also collaborate with fitness influencers to post and assist us in selling the drink. We will also participate in health and fitness events to showcase our product and interact with our target market. In terms of the product development, we plan to create a unique flavor that our consumers love by using customer feedback early and often. To expand our reach, we plan to form partnerships with gyms, fitness studios, and influencers. So far, we have conducted market research to identify our target audience and have developed our ration of protein and sugars to make the healthiest drink we can. In the future, we plan to secure funding for our initial launch and establish relationships with suppliers for our ingredients and manufacturing options. In the end, we hope to be a powerhouse like the above-mentioned White Claw, and change the way that people enjoy their social outings while still staying healthy.

**Average Estimated
Year 1 Monthly
Revenue**
\$53,058

FINANCIALS

Proteios estimates that each 6-pack unit will cost around \$9 to produce and be sold at \$14.99 and each 12-pack unit will cost around \$18 to produce and be sold at \$25.99. The estimated revenue after the first 6 months is \$117,295, this includes sales of the 6 pack and 12 pack offerings. The total cost of goods sold after the first 6 months is estimated to be \$77,850. This results in an estimated gross profit of \$39,445. Some major selling, general, and administration expenses that Proteios will incur include employee salaries and benefits, professional services, insurance, and maintenance. With \$100,000 in funding, Proteios believes we will be able to stay out of debt for the first 6 months, but we may need additional funds following that depending on revenues.

THE TEAM/RELEVANT EXPERIENCE

Our team is made up of four members: Luca Santabarbara, Kayla Bailey, Morgan Connally, and John Clifford. John is the founder of it all, with the idea coming from him. Luca and Kayla are senior finance majors who can analyze and incorporate their financial knowledge into the strategies for Proteios' business plan. Kayla will be taking the role of sales and analysis of them especially within the first launch and exposure of the product to the market. Luca will be taking the role of CFO and will handle the financials of the company. Morgan's concentration in Food Marketing will be helpful when developing a recognizable brand image. Since Proteios is a concept that has never been executed before, it will take significant marketing to educate consumers on the product. To execute our plan, our team will need to hire an accountant, lawyer, human resources expert and banker so that our team members can focus on their area of expertise and what we do best.

[

From Innovation to Insolvency: Investigating Silicon Valley Bank's Demise

Alexander Kelley, Siena College
Brian Mack, Siena College
Emily Nash, Siena College
Dr. Fang Zhao, Siena College

The Silicon Valley bank (SVB), a start-up focused lender, possessed assets worth \$209 billion and was the 16th biggest bank in the United States as of December 31, 2022. On March 10th, the SVB was seized by the FDIC after a massive wave of deposit withdrawals totaling as much as \$42 billion on March 9th rendered it insolvent. This is the second largest bank failure in US history. Investors are questioning how a 40-year-old institution that had made Forbes' annual ranking of America's Best Banks for five consecutive years could collapse within two days. To better understand the situation, it is important to explore the context and factors that contributed to this failure. In this paper, we examine the factors at play in the SVB crisis drawing upon our knowledge gained from the classroom to examine the business model and economic conditions, bank risk management, and key takeaways. Our analysis is structured as follows: Section 1 provides an overview of SVB, Section 2 discusses the causes of the bank's failure, we then conclude the paper by drawing lessons from the SVB Crisis.

Overview of Silicon Valley Bank:

Silicon Valley Bank (SVB) is a California-based financial institution that was established in 1983. It specializes in providing a diverse range of financial services to technology, life science, and venture capital industries. As shown in Exhibit 1⁸⁷, nearly half 2022 U.S. venture-backed technology and life science companies are doing business with SVB.

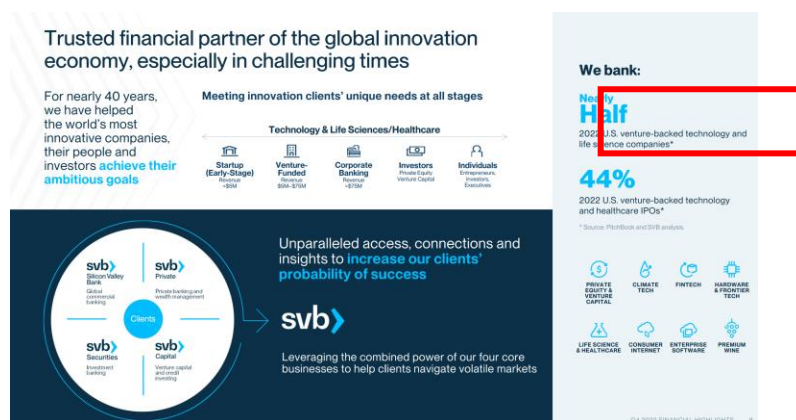


Exhibit 1: Silicon Valley Bank is a bank that specializes in serving technology startups and venture capital. Data source: Silicon Valley Bank Q4 2022 Financial Highlights

⁸⁷ "Strategic Actions/Q1 '23 Mid-Quarter Update", Retrieved from <https://www.sec.gov/Archives/edgar/data/719739/000119312523064680/d430920dex992.htm>

Additionally, from the end of 2019 to 2022, SVB witnessed a remarkable deposits growth of 215%, which is almost 8.5 times higher than the average growth rate observed across all FDIC-insured financial institutions during the same time. As shown in Exhibit 2, simultaneously, SVB experienced similar growth in its securities investment because SVB invested heavily in government securities and mortgage-backed securities.

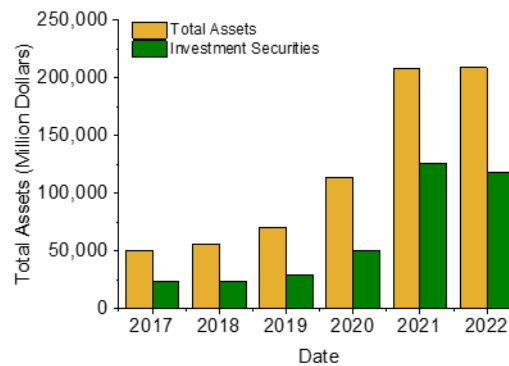


Exhibit 2: Growth in investment Securities.
Data source: S&P Capital IQ

Over the past four decades, SVB has expanded its offerings and now caters to companies of all stages and sizes, including those that operate globally. In addition to its headquarters in Santa Clara, SVB has branches and offices in countries such as the United Kingdom, China, India, and Israel (SVB Q4 2022 Financial Highlights)⁸⁸.

SVB provides a diverse array of banking and financial services to its customers, spanning global commercial banking, private banking, wealth management, investing banking, and venture capital and credit investing (SVB Q4 2022 Financial Highlights). The bank has earned a place on Forbes' annual ranking of America's Best Banks for five consecutive years and was also recognized in the publication's inaugural Financial All-Stars list for its support of startups and emerging technology companies. Nonetheless, SVB has faced difficulties in recent times, particularly regarding its exposure to the tech industry, overreliance on its client base, and concerns over its risk management practices. These challenges came to a head in early 2023, resulting in an unexpected and collapse of the bank.

Causes of the Bank's Failure

In this section, we will conduct an in-depth analysis of the causes and processes behind the collapse of Silicon Valley Bank.

1) Economic Conditions and External Shocks

First, in 2022, the technology industry, specifically Silicon Valley where SVB is situated, has been confronted with supply chain disruptions, factory closures, and decreased consumer spending, affecting SVB since its main customer group comprises startup companies whose funding opportunities have been altered. Despite venture capital firms continuing to invest in promising startups, the pandemic-induced

⁸⁸ SVB Q4 2022 Financial Highlights, Retrieved from <https://ir.svb.com/financials/quarterly-results/default.aspx>

economic uncertainty has led to decline in overall investment activity. This decline has triggered significant deposit outflows.

Second, SVB is vulnerable to external shocks that affect the technology and startup sectors. Besides the COVID-19 pandemic, SVB's clients' valuation and their access to capital could be impacted by the stock market's volatility over the last year or so. Regulatory changes, such as data privacy regulations, are also a type of external shock that could affect SVB's clients and the services it provides.

Third, to combat inflation, Federal has implemented a series of interest rates hike in the last two years (see exhibit 3), causing federal fund rate to increase from 8 basis point to 458 basis points. The rising rate could have a negative impact on the resale value of the securities SVB is currently holding.

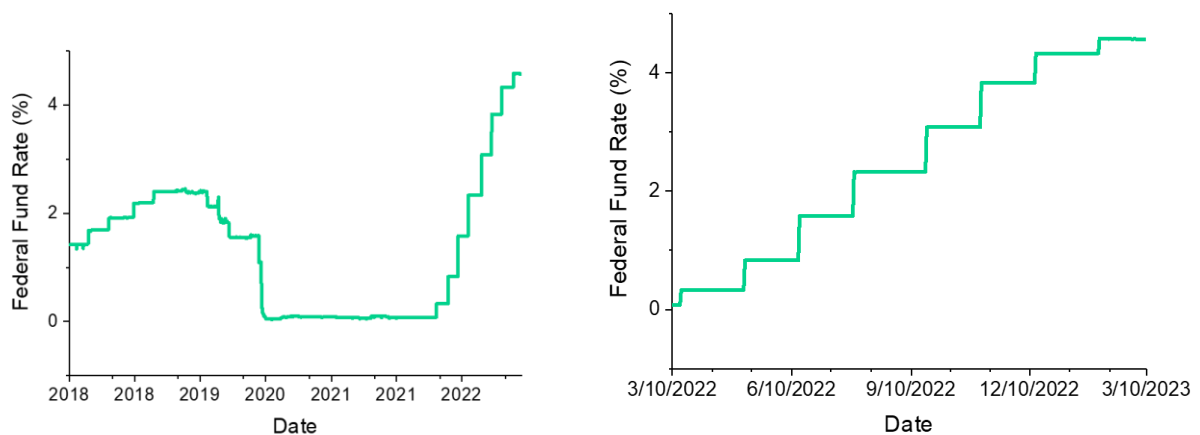


Exhibit 3: Federal Funds Rate – 5 Year Historical Chart and 1 Year Historical Chart
Data Source: Federal Reserve of Saint Louis

2) *Asset-liability mismatch*

The mismatch in maturity or interest rate sensitivity was one of the primary culprits behind SVB's failure, as it can lead to substantial losses when interest rates fluctuate. Over the past decade, SVB had benefited from "close-to-zero" interest rates, resulting in billions of dollars in tech venture capital flowing into the bank. To generate a safe return on these funds, SVB invested in long-term US treasury bonds. Although the securities held have almost no default risk, the returns generated by these securities are not high. According to the 10-K filing (Exhibit 4), as of December 31, 2022, the weighted yield of US Treasury securities in the available-for-sale securities (AFS securities) section was only 1.5%. However, when interest rates sharply increased last year, the market value of these bonds dropped significantly, leading to sizable losses. For example: SVB's securities had unrealized loss of \$15.9 billion already in Q3 2022 while its equity value is \$11.5 billion. If the bank were to liquidate all its assets, it would result in a situation where its liabilities exceed its assets, leading to a negative equity position or result in a stock-based insolvency.

(Dollars in millions)	December 31, 2022									
	Total		One Year or Less		After One Year to Five Years		After Five Years to Ten Years		After Ten Years	
	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield
U.S. Treasury securities	\$ 16,135	1.49 %	\$ 983	1.16 %	\$ 14,373	1.43 %	\$ 779	2.96 %	\$ —	— %
U.S. agency debentures	101	4.15	—	—	33	4.47	68	4.02	—	—
Foreign government debt securities	1,088	2.12	101	1.06	52	2.29	935	2.21	—	—
Residential MBS:										
Agency-issued MBS	6,603	1.54	—	—	—	—	43	2.86	6,560	1.53
Agency-issued CMO - fixed rate	678	1.33	—	—	—	—	—	—	678	1.33
Agency-issued CMBS	1,464	1.89	—	—	326	2.21	1,138	1.84	—	—
Total	<u>\$ 26,069</u>	1.56	<u>\$ 1,084</u>	1.15	<u>\$ 14,784</u>	1.46	<u>\$ 2,963</u>	2.32	<u>\$ 7,238</u>	1.51

Exhibit 4: Silicon Valley Bank's 10-K

3) Inadequate risk management practices

Mark-to-market (MTM) regulation for liquid assets is a financial accounting practice that requires assets to be valued at their current market price. The purpose of the mark-to-market regulation for liquid assets is to offer banks and regulators a clear and transparent view of their liquidity reserves. However, this requirement could lead banks to move a greater amount of their assets into the hold-to-maturity category as interest rates go up (Wall Street Journal: The Editorial Board 2023). This was exactly what SVB bank did in as shown in Exhibit 5, Silicon Valley Bank allocated a disproportionate amount of its assets to the hold-to-maturity pool, making it vulnerable to severe penalties if it had to sell bonds to meet deposit withdrawal demands.

In 2021, Silicon Valley Bank (SVB) made a significant shift by reclassifying securities previously categorized as "available-for-sale" (AFS) to "hold to maturity" (HTM) securities. AFS securities are assessed daily based on their market value and are highly liquid, as shown in Exhibit 5. However, HTM securities are held until their maturity date and are therefore illiquid. If the market interest rates increase, it may result in asset write-downs for these securities. Exhibit 5 displays the variance between the book value and market value of bonds held as HTM (Wall Street Journal: Santilli and Bendict). This move has considerably amplified SVB's market risk and liquidity risk within its investment portfolio.

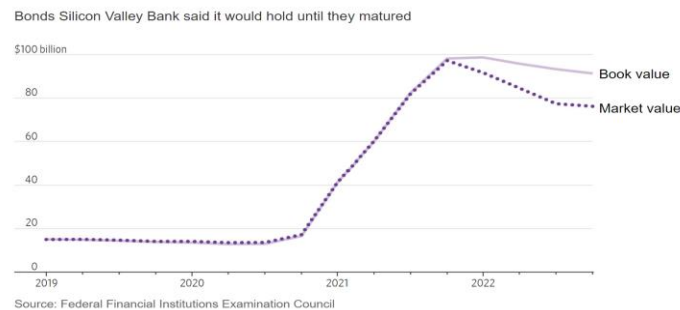


Exhibit 5: Discrepancy in Book Value and Market Value of Bonds Held Until Maturity.
Wall Street Journal: Santilli and Bendict (2022)

It seems that asset managers have shown a preference for assets valued at net asset value, such as "hold-to-maturity" securities, while the quality of underlying assets has been overlooked. Furthermore, Silicon Valley Bank's decision to invest cash in long-term, low-yield bonds was unwise given the expected rise in the Federal Reserve's low interest rates to counteract the inflation fueled by stimulus spending during Covid-19. Exhibit 6 demonstrates that SVB's held-to-maturity (HTM) assets' weighted-average duration rose to 6.2 years as of December 31, 2022, up from 4.1 years as of December 31, 2021, suggesting that the upward trend in interest rates has adversely affected the market value of the HTM assets. This foreseeable scenario was not considered by SVB or the regulatory authorities overseeing its balance sheet.

The following table provides further details on our AFS and HTM securities portfolios:

(Dollars in millions)	Available-for-sale securities			Held-to-maturity securities		
	Three Months ended			Three Months ended		
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	September 30, 2022	December 31, 2021
Average balance (1)	\$ 29,429	\$ 28,855	\$ 24,154	\$ 92,111	\$ 94,141	\$ 87,579
Period-end balance	26,069	26,711	27,221	91,321	93,286	98,195
Weighted-average duration (in years)	3.6	3.7	3.5	6.2	6.3	4.1

Exhibit 6: Weighted Average Duration (in years) of SVB's AFS and HTM Security Portfolios
Data Source: SVB Financial Group SEC filings, 2022-12

4) Unexpected Announcement

The collapse was triggered by Silicon Valley Bank's unexpected announcement on March 8th revealing a \$1.8 billion loss resulting from the sale of \$21 billion of its most liquid investments and the bank's plan to launch an emergency stock sale of 2.25 billion to raise cash. The details of the announcement are disclosed in Exhibit 7⁸⁹. A surprise move of this nature sends a signal to the market that SVB was unable to finance its operations through normal treasury functions and therefore had to resort to selling assets and raising new capital to generate funds.

Strategic actions to reposition balance sheet for current rate environment

AFS Portfolio Sale	AFS Sale Size	\$21 billion	Intended benefits:
	Securities Sold	US Treasuries and Agency securities	
	Yield of Securities Sold	1.79% 3.6-year Duration	
	Preliminary Estimated Realized Loss ¹	\$(1.8) billion (after-tax)	
Capital Offerings (Base Size)	Common Stock	\$125 billion	Estimated +\$450M improvement in annualized NII (post-tax)^{1, 3, 4} ✓ Increase balance sheet flexibility and asset sensitivity ✓ Immediately accretive to EPS (excluding realized loss) and improves ROE going forward ^{1, 3, 4}
	Concurrent Private Placement	\$500 million commitment from General Atlantic to purchase restricted common stock at the public offering price in a separate private transaction	
	Mandatory Convertible Preferred Stock	\$500 million	
Net Capital Ratio Impact	SVBFG CET1 Ratio ²	+0.15%	✓ Attractive net pay-back period of approximately 3 years ^{1, 3, 4, 5} ✓ Maintain strong capital ratios ✓ Partially lock-in funding costs and enhance liquidity
Actions to Increase Asset Sensitivity ³	Increase Fed cash	Increase Fed cash target to 4-8% of total deposits (from 4-6%)	
	Partially lock-in term funding ⁴	Increase term borrowings from \$15B to \$30B Hedge with forward starting swaps ⁵	
	Reconstruct AFS portfolio ⁵	Buy short-duration USTs ⁵ Hedge with receive-floating swaps ⁵	



1. Based on sale of \$2B AFS securities executed on March 8, 2023.
 2. Assumes successful offering of \$175 billion in common stock inclusive of concurrent private placement.
 3. "Actions to increase asset sensitivity" supporting estimated NII improvement are in progress and not yet completed.
 4. These measures are forward-looking, are subject to significant business, economic, regulatory and competitive uncertainties and contingencies, many of which are beyond the control of the Company and its management, and are based upon assumptions with respect to future decisions, which are subject to change. Actual results may vary and those variations may be material. See Recent Developments on page 14 of this presentation regarding potential Moody's ratings actions. Please also refer to "Forward-Looking Statements" in this presentation and our "Risk Factors," under Part I, Item 1A of our latest Annual Report on Form 10-K for other factors that may cause our results to differ materially from the expectations presented in our outlook.
 5. Net pay-back period is inclusive of estimated \$165M annualized economic tax loss benefit from AFS Portfolio Sale. Assumes economic tax loss benefit is recognized over the duration of the securities sold.

STRATEGIC ACTIONS/
Q1'23 MID-QUARTER UPDATE 6

Exhibit 7: SVB's Announcement on March 8th
Source: Strategic Actions/Q1'23 Mid-Quarter Update

After the announcement, it only took a few hours for Moody's to downgrade SVB's credit rating from A3 to Baa1, as shown in exhibit 8. Despite this downgrade, SVB still maintains its status as an investment grade issuer, indicating a lower risk of default on its debt obligations.

⁸⁹ Strategic Actions/Q1'23 Mid-Quarter Update", Retrieved from <https://www.sec.gov/Archives/edgar/data/719739/000119312523064680/d430920dex992.htm>

Moody's Issuer Rating		
Rating	Watch	Effective
WR		03/13/2023
C		03/10/2023
Baa1		03/08/2023
A3		03/03/2007
Baa1		06/17/2002
Up / Down / No Change / Initial		

Exhibit 8: SVB's Moody's Rating June 2022 through March 2023
Source: Bloomberg

However, the damage caused by this unexpected announcement has already been done. On March 9th, SVB was hit by a colossal wave of deposit withdrawals, totaling as much as \$42 billion, leaving the bank with a negative cash balance of nearly 1 billion dollars. Silicon Valley Bank's stock price plummeted 60 percent, as shown in Exhibit 9, as investors rushed to sell shares after the announcement. On the same day, Despite SVB's efforts to raise capital or find a buyer, its stock came to a halt by March 10th the Friday morning. The impact of SVB's collapse was also felt by other bank shares, including First Republic and Signature Bank.

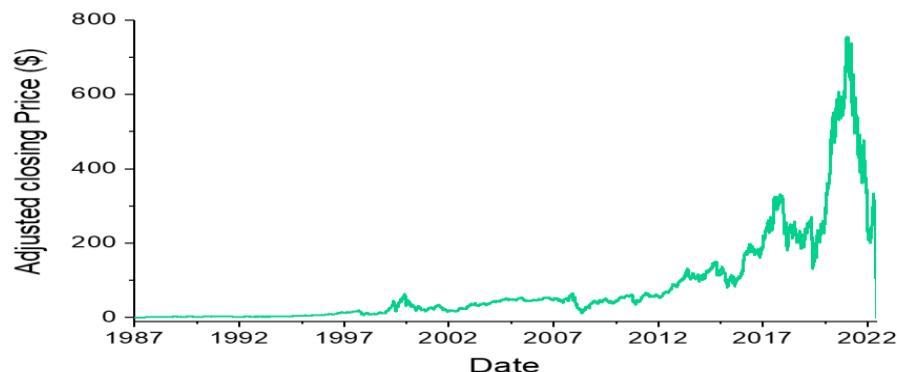


Exhibit 9: SVB Stock Price (October 25, 1987, to March 9, 2023)
Data Source: Yahoo Finance

Key Take Aways

1) A bank's failure can result from a sudden or significant liquidity risk.

The reason for the downfall of Silicon Valley Bank was not its participation in numerous high-risk ventures. Instead, it can be attributed to its significant investment in secure, long-term government bonds and mortgage-backed securities. Using short-term savings to fund long-term investments can create a rapid liquidity risk, which can ultimately lead to a bank's failure. In the case of SVB, a liquidity shortage arose due to three main factors. Firstly, their primary clients, which were venture capital (VC) companies, utilized cash at a faster rate than expected, leading to a decrease in client deposit assets as demonstrated in Exhibit 10. Secondly, the liquidity of the "available-for-sale" securities pool declined due to an asset transfer from AFS to HTM in 2021. Lastly, the value of the HTM securities pool, which had increased in 2021, declined as interest rates rose during the same period.

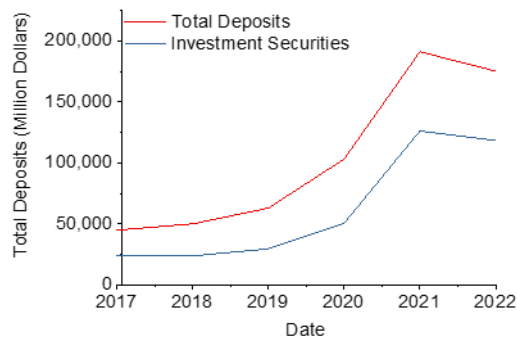


Exhibit 10: SVB's Total Deposits and Investment Securities (2017-2022)
Data source: S&P Capital IQ

2) A bank's failure can result from its unique features.

A bank's failure can result from issues unique to them: The customer concentration could be a contributing factor to a bank's vulnerability during a financial crisis. If a bank has a small number of big ticket depositors who account for a large portion of its deposits, it could be more susceptible to financial risk if those customers decide to withdraw their funds. This is exactly the case of Silicon Valley bank. SVB serves high net worth entrepreneurs, institutional investors, and corporations. Its high-net worth depositors in SVB have deposits that are on average 10 times larger than the amount that the FDIC insures (see Exhibit 11), therefore they may be exposed to a higher level of risk in case of bank failure since most of SVB's deposits are not covered by insurance (Wall Street Journal: Santilli and Bendict)

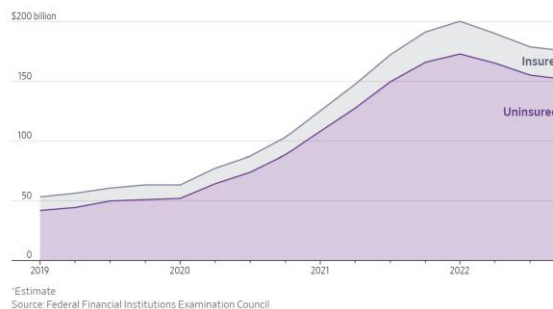


Exhibit 11: Silicon Valley Bank's Deposit
Wall Street Journal: Santilli and Bendict (2022)

Being based in the heart of the technology industry, SVB faces unique regional risks. The massive layoffs of technology firms in the Silicon Valley may have compounded the withdrawal wave. Furthermore, SVB's core customers are small businesses and startups that may have limited access to capital and are extremely vulnerable to changes in interest rates. Therefore, SVB is facing a dilemma where it is struggling to loan out its cash reserves to its core customers and generate revenue to pay depositors higher interest expenses. To add fuel to the fire, the value of its long-term assets kept decreasing as Fed kept increasing interest rate. As a result, SVB may be stuck with a portfolio composition (see Exhibit 12⁹⁰) that is tailored to a low-interest rate environment and may be difficult to adjust or liquidate quickly.

⁹⁰ Strategic Actions/Q1'23 Mid-Quarter Update", Retrieved from <https://www.sec.gov/Archives/edgar/data/719739/000119312523064680/d430920dex992.htm>

62% of assets in cash and high-quality fixed income securities

Vast majority of fixed income securities in USTs and securities issued by government-sponsored enterprises

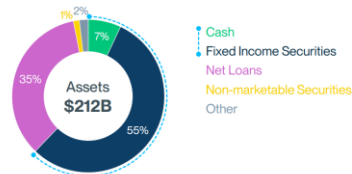


Exhibit 12: SVB's Portfolio Composition as of March 2022
Source: Strategic Actions/Q1'23 Mid-Quarter Update

3) To assess a bank's financial health, thorough research on asset quality is essential.

The bank's credit rating by standard & Poor's, for instance, is very stable (See Exhibit 13), indicating a very low risk of default on its debt securities. SVB's assets were not susceptible to credit risk, rather, the assets were exposed to unforeseeable systematic risk such as market risk, particularly the impact of changes in interest rates on the bank's assets.

Standard & Poor's LT Foreign Issuer Credit		
Rating	Watch	Effective
NR		03/11/2023
CC		03/10/2023
BBB-		03/09/2023
BBB		07/08/2014
BBB+		12/20/2010
BBB		02/13/2006
BBB-	++	01/12/2006
BBB-		12/08/2003

Exhibit 13: Standard and Poor's Rating December 2003 through March 2023
Source: Bloomberg

In conclusion, when a bank has many uninsured deposits concentrated in a particular region or business sector, it can be exposed to significant financial risks. This type of scenario can lead to sudden liquidity problems and even bankruptcy if a significant number of depositors decide to withdraw their funds all at once.

To minimize this risk, banks should aim to diversify their deposit bases and loan books across different geographies, sectors, and business lines. By spreading out their lending and deposit-gathering activities, banks can reduce their exposure to any one area or group of customers.

This diversification strategy can help to make the bank's overall profile more robust and resilient, enabling it to better weather unexpected shocks or crises that might affect a specific industry or geography. Ultimately, this can help to protect both the bank and its customers from financial losses.

References:

Santilli P., & Bendict, P. (2023). Silicon Valley Bank's Meltdown Visualized. *Wall Street Journal*.

Silicon Valley Bank Q4 2022 Financial Highlights, Retrieved from Company website
<https://ir.svb.com/financials/annual-reports-and-proxies/default.aspx>

Strategic Actions/Q1'23 Mid-Quarter Update", Retrieved from
<https://www.sec.gov/Archives/edgar/data/719739/000119312523064680/d430920dex992.htm>

SVB Financial Group (2022). *Form 10-K 2022*. Retrieved from www.sec.gov/edgar

The Editorial Board (2023). About Those 'Safe' Silicon Valley Bank Treasurys. *Wall Street Journal*.

A HEALTH STATUS UPDATE ON WOMEN IN AFRICAN COUNTRIES

Maria Carzo, Siena College
Gabrielle Hunter, University of Toronto
Dr. Andrea Smith Hunter, Siena College

INTRODUCTION

This article presents an overview of women's health on the African continent. The issue of women's health remains of paramount importance for a number of key reasons. In view of this, it makes sense to engage in an in-depth perusal as a first step to analyzing pressing issues on women's health. To understand what is taking place with women's health in Africa, this paper looks at a number of key variables: population, age structure, median age, mother's mean age with their first born, maternal mortality, infant mortality, life expectancy, fertility rate, contraceptive rate, current health, physician density, hospital bed density, HIV rates for women, obesity rates for women and the percentage of underweight children per country. These variables are touted as critical to determining the status of women's health in society.

These key health variables play an important role in deciphering women's health and are analyzed using World Factbook data from 55 African countries from five African subregions: Northern Africa, West Africa, East Africa, Central Africa, and Southern Africa. The World Factbook provides basic intelligence data on the history, people, government, economy, energy, geography, environment, communications, transportation, military, terrorism and transnational issues for 266 world entities and countries. Overall, the goal is to construct a coherent aggregate and logical argument to understand women's health in that region of the world.

This is the first known comprehensive assessment of statistical data on the African continent and thus takes a critical step in analyzing what deficiencies exist in women's health. It harbors implications that extend beyond a mere statistical focus through a critical exploration of solid and relevant statistical data. The purpose of this paper is an important step in laying out what areas to focus on: finances, policy recommendations, and social and medical policies to alleviate or eradicate women's disadvantaged health position. An agenda that addresses these disparities can now be set forth with a vigorous and extensive analysis on women's health in Africa that derives a picture that paints women across various African countries in a precarious position. There are some disparities and some variations expected across different regions of Africa, in terms of the statistical data.

The prospective important findings from the analysis in this paper will set the stage for this rich data, which provides concrete evidence of exactly what is taking place and how this information compares across countries. The issue of women's health from a comprehensive perspective has long been considered an important issue but has never gotten due process. A logical explanation is that such an undertaking is too overwhelming and extensive, with 54 countries and five regions that are not easily or inexpensively covered. The reason for the disparity in women's health disparities across countries is

based on economic, social, and political challenges and is parlayed into differences in the quality of healthcare received. Nelms et al (2006) spoke in their article about healers that often bridge the gap between no health care and that received from formal settings.

This is a rare study that aims to provide a comprehensive analysis across all African countries regarding women's health. It represents the first main release of information in one location on certain key factors that are related to women's health in that region of the world. Yes, The focus of some studies on this topic has engaged in a discussion that has been monolithic in focus on a particular geographic area in Africa (Hyder et al, 2005; Pick et al, 1997) - these perspectives were undoubtedly important - but across Africa, encompassing all African countries has unequivocally never be done until now. The preceding discussion begs three main questions:

The present study will examine women's health across Africa and attest to the importance of a detailed discussion on the importance of women's health to a society's overall well-being.

What does the projected future look like for women's health in Africa and indeed across the world? For sure, it is evident that future women's health includes women's reproductive rights and health (Hom, 2003; Coburn et al, 2015; Yaya et al, 2021), which remains a key component of what serves as an explanation for other aspects of their health (Mocumbi et al, 2012).

LITERATURE REVIEW AND STATISTICAL DATA

It is important to note two key focus in this section of the paper. First, it explores the many issues that are related to women's health on a national level. This will entail looking at variables such as infant mortality, maternal mortality,....it does capture the very essence of what is clearly a comprehensive picture or what encompasses the parameters of a sturdy health system and as such lays out a clearly defined path on what would need to be focused on to solve health deficiencies on a local, national, and international level. Second, it sorts out the key data that plays an important role in sorting out factors that promote a pattern of what are key health care variables to focus on when doing studies on women's health.

(a) Infant Mortality

Infant mortality, its causes and its effects, has long been a source of concern for women's health in African countries (Devries, 1985). While other factors related to women's health have been dissected, most authors and researchers believe that infant mortality and the devastating statistics in parts of Africa lies at the heart of what constitutes a depravity in women's health and the health of their children. Infant mortality has been dissected from various angles and a myriad of legitimate causes have ben advanced for its very important status. Guyatt et al (2001) concluded that malaria and the lingering side effects has a negative impact on infant mortality. A more recent study by Heft-Neal et al (2018) found a robust relationship between the air quality in a region and infant mortality, finding a negative relationship, that is the higher the level of air quality, the lower the infant mortality rates, which one could proclaim as an obvious and expected pattern. This result was also seen in a previous study by Kudamatsu et al (2012), where there was ample evidence as it relates to improved air quality and the positive impact it could have

on decreased infant mortality. In a predictable fashion, Abrahams et al (2011) found that a better diet for mothers resulted in lower rates of infant mortality. Ester et al (2011) in a comprehensive study using data from WHO, World Bank, UNICEF and UNDP found important relationships with several factors. More specifically, the authors observed a direct and positive relationship with infant mortality rates and maternal mortality rate and an inverse relationship was observed with prenatal care coverage, births assisted by skilled health personnel, gross national income per capita, per capita government expenditure on health, social security expenditure, adult literacy rate, net primary school enrolment rate, population with access to safe drinking water (in urban and rural areas) and with population with access to basic sanitation in rural areas (Ester et al, 2011).

The top three countries with the highest infant mortality rates in Africa are as follow: Somalia (86.53/1,000), Central African Republic (82.97/1,000), and Equatorial Guinea (78.33/1,000). The top three countries with the lowest infant mortality rates in Africa are as follows: Tunisia (11.87/1,000), Libya (11.22/1,000), and Seychelles (10.6/1,000).

(b) Maternal Mortality

Early studies on maternal mortality rates in Africa have lamented the plight and long-term destruction of their high rates (Boerma, 1987). More recent authors have looked overall at the factors that determine the reasons for higher mortality rates (Alvarez et al, 2009; Bour et al, 2004). In the case of the former, Alvarez et al (2009) saw it as a human rights issue and a major global health challenge that needed rectifying through a consensus of two main factors - namely a strong health system and skilled delivery attendants. In the case of the latter, Bour et al (2004) found that births attended by skilled health personnel and life expectancy at birth strongly correlate with maternal mortality. Gross national product (GNP) per capita and health expenditure per capita also have strong association with maternal mortality and follows a line of argument on how intervening factors impact health care for women. A recent article presented an uplifting picture of maternal mortality rates in Africa, noting that the main reason for the decline in maternal deaths has been the success of the antiretroviral treatment programme for HIV-positive women, as well as a decline in deaths owing to obstetric hemorrhage (Moodley et al, 2018).

The top three countries with the highest maternal mortality rates in Africa are as follows: Sudan (1,150/100,000), South Sudan (1,150/100,000), and Chad (1,140/100,000). The top three countries with the lowest maternal mortality rates in Africa are as follows: Tunisia (42/100,000), Egypt (37/100,000), and Burundi (31/100,000).

C) Population and Age Structure

Africa has been largely confirmed as the birth of the first human beings, the homosapiens, which has been widely credited and sorted out as the first human beings on earth (Holfelder et al, 2021). It is the continent with the greatest disparity in genetic diversity among humans, resulting in iterating population structures (Holfeder et al, 2021). More recently, in Africa, 90% of the population is concentrated in less than 21% of the land surface and the average per-person travel time to settlements of more than 50,000 inhabitants is around 3.5 hours, with Central and East Africa displaying the longest average travel times.

The analyses highlight large inequities in access, the isolation of many rural populations and the challenges that exist between countries and regions in providing access to services (Linard et al, 2012). The key to advancing the rural portions of Africa, which often have very sharp contrasts to urban areas is access to transportation and advanced infrastructure. These two factors are of paramount importance. Mellor (2014) reinforces this argument by emphasizing that rural areas in Africa remain a source of concern, especially as it relates to a healthy development of the overall population. The advancement in rural areas would cover key factions, namely: advanced educational opportunities for both males and females, poverty eradication, especially for women and children, access to adequate health services for women and children, and clean water and adequate housing. These factors are key to moving the disadvantaged portions of Africa across various countries in Africa. Studies have shown that the African population does not include a lot of migrants and is said to be less than 4% (Gambino et al, 2014). The population of African countries has been aging in the last decade (Pillay et al, 2013) mirroring what has been taking place on the global platform. In another longitudinal study by Nkalu et al (2019) results show that environmental hazards in terms of carbon dioxide (CO₂) emission from solid fuel consumption reduce life expectancy (LEX) by 1 month and 3 weeks with a statistically significant result. Also, income, as proxied by GDP, extends LEX by 1 year 6 months with statistically insignificant result, while population growth (POPG) equally extends LEX by 5 years 5 months due to increase in human resource/manpower which enhances agricultural productivity in Africa.

The top three countries with the highest population rates in Africa are as follows: Nigeria (206,139,589), Ethiopia (114,963), and Egypt (102,334,404). The top three countries with the lowest population rates in Africa are as follows: Gambia (241,668), São Tomé & Príncipe (219,159), and Seychelles (98,347).

(d) Life Expectancy

A study by Djoumessi (2022) analyzed the impact of economic implications of malnutrition and are examined through the vicious cycle of Poverty-Malnutrition-Low productivity- further malnutrition•The results of the two-way fixed effect panel model strongly shows that mild or moderate malnutrition reduces infant mortality•Whereas severe malnutrition leads to an increase of death of children under 5 years•The results show a mitigated impact of malnutrition on life expectancy. This study analyzes the impact of malnutrition on infant mortality and life expectancy in a sample of 36 African countries over the 2003 to 2018 period. The economic implications of malnutrition are examined through the vicious cycle of Poverty-Malnutrition-Low productivity- further malnutrition. It is hypothesized that malnutrition at infancy contributes to high mortality, and leads to lower labor productivity of adults through the reduction of life span, as more and more skilled labor leave sooner. The results of the two-way fixed effect panel model strongly show that mild or moderate malnutrition reduces infant mortality. Whereas severe malnutrition leads to an increase in the death of children under 5 years. The results show a mitigated impact of malnutrition on life expectancy. Also, the GDP growth significantly reduces the infant mortality rate but any increase in income per capita is not followed by the reduction of children's death. What is seen is that life expectancy has long been found to be positively related to health which is in turn positively related to income and gross domestic product in African countries (McCarthy et al, 2001).

The top three countries with the highest life expectancy rates in Africa are as follows: Burundi (78.38) Algeria (78.03), and Libya (77.18). The top three countries with the lowest life expectancy rates in Africa are as follows: Mozambique (57.1), Somalia (55.72), and Central Africa Republic (55.52).

(e) Fertility and Contraceptive Rates

Overall, Fertility rates in specific areas in Africa have been on the decline. Specifically, The total **fertility rate** (TFR) in the Middle East and North **Africa** has experienced a declining trend in recent years (Pourrezza et al, 2021). Teenage fertility rates in South Africa and Sub-Saharan Africa has also seen a decline (Mouktrie et al, 2007). A number of factors have been said to contribute to low fertility rates including the usual suspects of improvements in sex education, increased educational levels among the female population, increased birth control usage, increased HIV rates which saw lower fertility rates among HIV infected women (Lewis et al, 2004; Gafar et al, 2009; Chola et al, 2015). A 2020 Family Planning Initiative Launched for 2012 at a London Summit aimed the double the number of contraceptives used across Sub-Saharan African. The results show that **the** annual rates of changes in modern contraceptive prevalence rates among all women of reproductive age (15-49 years) varied from as low as 0.77 percentage points (95% CI -0.73 to 2.28) in Lagos, Nigeria, to 3.64 percentage points (2.81 to 4.47) in Ghana, according to the quadratic model. The rate of change was also high (>1.4 percentage points) in Burkina Faso, Kinshasa (DR Congo), Kaduna (Nigeria), and Uganda. Although contraceptive use was rising rapidly in Ethiopia during the pre-Summit period, our results suggested that the yearly growth rate stalled recently (0.92 percentage points, 95% CI -0.23 to 2.07) according to the linear model. From the meta-analysis, the overall weighted average annual rate of change in modern contraceptive prevalence rates in all women across all nine settings was 1.92 percentage points (95% CI 1.14 to 2.70). Among married or cohabitating women, the annual rates of change were higher in most settings, and the overall weighted average was 2.25 percentage points (95% CI 1.37-3.13) (Ahmed et al, 2019).

The top three countries with the highest fertility rates in Africa are as follows: Niger (6.82), Angola (5.83), and DR Congo (5.63). The top three countries with the lowest maternal fertility rates in Africa are as follows: Seychelles(1.82), Burundi (1.74), Mauritius (1.35). The top three countries with the highest contraceptive rates in Africa are as follows: Morocco (70.8%), Botswana (67.4%), and Zimbabwe (66.8%). The top three countries with the lowest contraceptive rates in Africa are as follows: Eritrea (8.4%), Chad (8.10%), Somalia (6.9%).

(f) Physician Density and HIV Rates

One key factor that contributes greatly to improvements in health is physician density, that is the number of physicians that are available to treat a certain number of people in the population. Having a shortage of physicians to provide proper healthcare for the population without being overwhelmed is key to advancing the healthcare system and the health of the population. Sub-Saharan has long faced and continue to face a significant shortage in healthcare workers (Conradie et al, 2018; Savatsky et al, 2014). A shortage that persists in spite of strategies to combat this malady. This malady gets exacerbated when a crisis occurs, such as the ebola outbreak in recent years (McPake et al, 2019).

The HIV rates for African countries remains high and is a source of concern (Faria et al, 2019). These high rates are especially a source among women, children and young women (Karim et al, 2019; Ranjee et al, 2013). These high HIV rates are a source of concern, especially as the medical field pushes to reduce the rates of transmission from mothers to newborns (Goga et al, 2018). Changing the opinions of the high HIV rates in Africa is an arduous process that will require solid and concrete plans to rectify and reverse the daunting HIV rates across African countries. High HIV rates have also shown to be positively correlated to other dangerous diseases (Makadi et al, 2001). Undiagnosed cases of HIV rates in African countries also remain an issue (Johnson et al, 2015). The authors found that the fraction of HIV-positive adults who were undiagnosed declined from more than 80% in the early 2000s to 23.7% [95% confidence interval (95% CI) 23.1–24.3] in 2012. The undiagnosed proportion in 2012 was substantially higher in men (31.9%, 95% CI 29.7–34.3) than in women (19.0%, 95% CI 17.9–19.9). Projected probabilities of experiencing disease progression (CD4+ cell count <350 cells/μl) without diagnosis are more than 50% for most HIV-positive adults over the age of 40. The fraction of HIV-positive adults who are undiagnosed is projected to decline to 8.9% by 2020 if current targets (10 million tests per annum) are met (Johnson et al, 2015).

The top three countries with the highest physician density rates in Africa are as follows: Mauritius (2.6/1,000), Seychelles (2.12), and Libya (2.09). The top three countries with the physician density rates in Africa are as follows: Somalia (.02/1,000), Rwanda (.013/1,000), and Tanzania (.01/1,000). The top three countries with the highest HIV rates in Africa are as follows: South Africa (7.8 million), Mozambique (2.1 million), and Tanzania (1.7 million). The top three countries with the lowest HIV rates in Africa are as follows: Djibouti (6,800), Tunisia (4,500), and Cabo Verde (2,400).

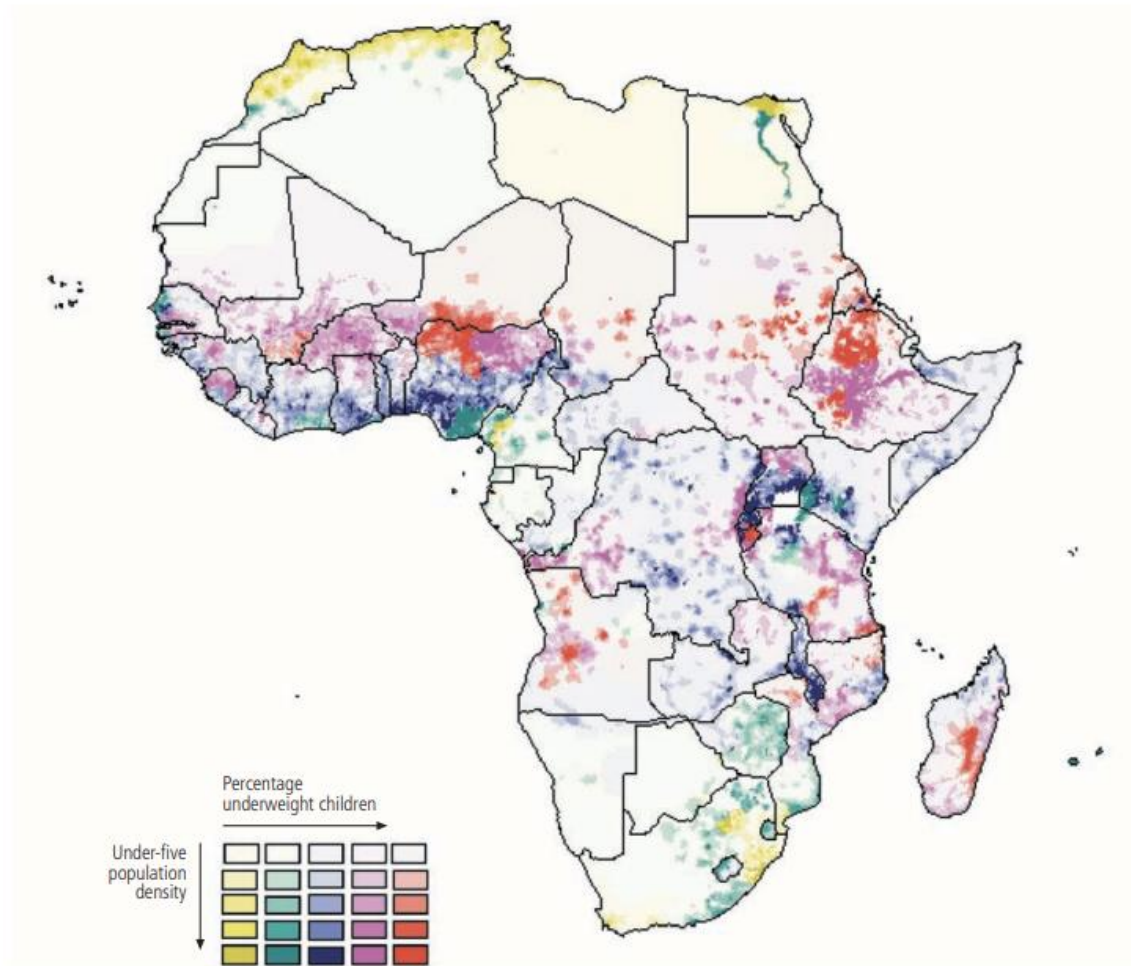
(g) Obesity and Underweight Children

A recent study in Africa explained that obesity was increasing on that continent (Yako et al, 2015) though the authors maintained that true cause remains elusive. A previous study sought to explain the causes and emphasized that the high obesity rates in Africa were caused by diabetic rates and hypertension rates (Kenge et al, 2013). A look at other sorted data shows a clear gradient in the prevalence of underweight children in West Africa. Along the coast of West Africa, there is an intermediate prevalence of underweight children (with the exception of war-torn Sierra Leone), that increases rapidly when moving to the north, with the highest prevalence in the Sahel. In other regions, nutritional conditions clearly cross national borders. In the Great Lakes area, prevalence at several locations was above 30%, and the population density of under 5-year-olds was high. This implies that there are large numbers of undernourished children on both sides of the borders between Burundi, the Democratic Republic of the Congo, Rwanda, Uganda and the Republic of Tanzania. Regional patterns of low or medium levels of underweight children were also shown. Prevalence below 20% as observed in South Africa continued into neighboring countries such as Botswana, Namibia and Zimbabwe, and also into the southern part of Mozambique. In coastal central West Africa, there appeared to be a range of low and medium levels of underweight children stretching from south-eastern Nigeria up to Gabon and parts of the Republic of the Congo. (Nube, 2005). See also Figure 1. Another very recent study reaffirmed that underweight children in Africa have also been and continues to be a source of concern (Cipriana et al, 2022).

The top three countries with the highest obesity rates in Africa are as follow: Libya (32.%), Egypt (32%), and South Africa (28.30%). The top three countries with the lowest obesity rates in Africa are as follows: Eritrea (5%), Ethiopia (4.5%), and Seychelles (.14%).

The top three countries with the highest underweight children rates in Africa are as follows: Niger (31.3%), Djibouti (29.9%), and Chad (29.2%). The top three countries with the lowest underweight children rates in Africa are as follows: Algeria (2.7%), Morocco (2.6%), and Tunisia (1.6%).

Fig. 1. Geographical representation of underweight in children (0–3 years) in Africa



Underweight prevalence (weight-for-age below median -2sd) in 5 percentage classes (0–10%, 11–20%, 21–30%, 31–40%, > 40 %). Under-five population density in five classes, 0–1, 2–5, 6–10, 11–20, >20 persons/sq km. Sources: Deichmann, 1994 (27); DHS/MICS-UNICEF/WHO (21, 22, 23) ; FAO, 2003 (26); SALB, 2004 (25).

Research Methodology

The current study looked at women's health on the African continent. It represents a first step in gaining knowledge on what is currently available in that subject area in terms of the current literature and statistics. To that end, a thorough literature review was done and the most relevant and timely articles were summarized to provide a meaningful synopsis of where the research stands in this area today, some key findings and what could next be done in terms of a follow-up research agenda or analysis. As such, this paper used secondary data analysis to review the relevant literature and statistics that is currently available on women's health on the African continent. The paper also looked at key statistics for women from the World Factbook, performing a comparative analysis across countries. The preceding serves as the best way to answer what research has been done, what are the key findings and what follow-up research could be done as next steps. Thus the research question of what information and what key statistics are saying currently exists for the countries and what additional research could be done, is clearly answered through the use of this methodology.

Statistical Data on Women's Health

Northern Africa

The six countries in Northern Africa are: Morocco, Algeria, Tunisia, Egypt, Sudan, and Libya.

Country	Population	Age Structure	Median Age	Mother's Median Age
Algeria	43,851,044	0-14 years: 29.58% (male 6,509,490 female 6,201,450) 15-24 years: 13.93% (male 3,063,972 female 2,922,368) 25-54 years: 42.91% (male 9,345,997 female 9,091,558) 55-64 years: 7.41% (male 1,599,369 female 1,585,233) 65 years and over: 6.17% (2020 est.) (male 1,252,084 female 1,401,357)	total: 28.9 years male: 28.6 years female: 29.3 years (2020 est.)	x
Egypt	102,334,404	0-14 years: 33.62% (male 18,112,550 female 16,889,155) 15-24 years: 18.01% (male 9,684,437 female 9,071,163), 25-54 years: 37.85% (male 20,032,310 female 19,376,847), 55-64 years: 6.08% (male 3,160,438 female 3,172,544), 65 years and over: 4.44% (2020 est.) (male 2,213,539 female 2,411,457)	total: 24.1 years, male: 23.8 years, female: 24.5 years (2020 est.)	22.6
Libya	6,871,292	0-14 years: 33.65% (male 1,184,755 female 1,134,084) 15-24 years: 15.21% (male 534,245 female 513,728) 25-54 years: 41.57% (male 1,491,461 female 1,373,086) 55-64 years: 5.52% (male 186,913 female 193,560) 65 years and over: 4.04% (2020 est.) (male 129,177 female 149,526)	total: 25.8 years male: 25.9 years female: 25.7 years (2020 est.)	x
Morocco	36,910,560	0-14 years: 27.04% (male 4,905,626 female 4,709,333) 15-24 years: 16.55% (male 2,953,523 female 2,930,708) 25-54 years: 40.64% (male 7,126,781 female 7,325,709) 55-64 years: 8.67% (male 1,533,771 female 1,548,315) 65 years and over: 7.11% (2020 est.) (male 1,225,307 female 1,302,581)	total: 29.1 years male: 28.7 years female: 29.6 years (2020 est.)	x
Sudan	43,849,260	0-14 years: 41.58% (male 2,238,534 female 2,132,685) 15-24 years: 21.28% (male 1,153,108 female 1,094,568) 25-54 years: 30.67% (male 1,662,409 female 1,577,062) 55-64 years: 3.93% (male 228,875 female 186,571) 65 years and over: 2.53% (2020 est.) (male 153,502 female 113,930)	total: 18.6 years male: 18.9 years female: 18.3 years (2020 est.)	x
Tunisia	11,818,619	0-14 years: 25.28% (male 1,529,834 female 1,433,357) 15-24 years: 12.9% (male 766,331 female 745,888) 25-54 years: 42.85% (male 2,445,751 female 2,576,335) 55-64 years: 10.12% (male 587,481 female 598,140) 65 years and over: 8.86% (2020 est.) (male 491,602 female 546,458)	total: 32.7 years male: 32 years female: 33.3 years (2020 est.)	x

Country	Maternal Mortality	Life Expectancy	Fertility Rate	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Algeria	112/100,000	total population: 78.03 years male: 76.57 years female: 79.57 years (2022 est.)	2.51	57.10%	6.20%	1.72/1000	18,000	27.40%	2.70%
Egypt	37/100,000	total population: 74.45 years, male: 73.26 years, female: 75.72 years (2022 est.)	2.88	58.5	4.70%	.45/1000	24,000	32%	7%
Libya	72/100,000	total population: 77.18 years male: 74.94 years female: 79.53 years (2022 est.)	3.09	27.7	NA	2.09/1000	9,500	32.5	11.7
Morocco	70/100,000	total population: 73.68 years male: 71.98 years female: 75.46 years (2022 est.)	2.29	70.80%	5.30%	.73/1000	22,000	26.10%	2.60%
Sudan	1,150/100,000	total population: 59.16 years male: 57.43 years female: 60.97 years (2022 est.)	5.32	NA	6%	x	180,000	6.60%	NA
Tunisia	43/100,000	total population: 76.82 years male: 75.14 years female: 78.6 years (2022 est.)	2	50.7	7	1.3/1000	4,500	26.9	1.6

Western Africa

The sixteen countries in Western Africa are: Nigeria, Ghana, Côte d'Ivoire, Niger, Burkina Faso, Mali, Senegal, Guinea, Benin, Sierra Leone, Togo, Liberia, Mauritania, Gambia, Guinea-Bissau, and Cape Verde.

Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Benin	12,123,200	0-14 years: 45.56% (male 2,955,396;female 2,906,079) 15-24 years: 20.36% (male 1,300,453;female 1,318,880) 25-34 years: 28.54% (male 1,735,229;female 1,935,839) 55-64 years: 3.15% (male 193,548;female 211,427) 65 years and over: 2.39% (2020 est.) (male 140,513;female 167,270)	total: 17 years male: 16.4 years female: 17.6 years (2020 est.)	20.5	397/100,000	female: 64.14 years (2022 est.)	5.43	15.5	2.4	08/1000	75,000	9.6	16.8
Burkina Faso	20,903,273	0-14 years: 43.58% (male 4,606,350;female 4,473,951) 15-24 years: 20.33% (male 2,121,012;female 2,114,213) 25-34 years: 29.36% (male 2,850,621;female 3,265,926) 55-64 years: 3.57% (male 321,417;female 423,016) 65 years and over: 3.16% (2020 est.) (male 284,838;female 374,057)	total: 17.9 years male: 17 years female: 18.7 years (2020 est.)	19.4	320/100,000	female: 65.31 years (2022 est.)	4.27	30.1	5.50%	0.09/1,000	97,000	5.60%	16.40%
Côte d'Ivoire	26,378,274	0-14 years: 38.53% (male 5,311,971;female 5,276,219) 15-24 years: 20.21% (male 2,774,374;female 2,779,012) 25-34 years: 34.88% (male 4,866,957;female 4,719,286) 55-64 years: 3.53% (male 494,000;female 476,060) 65 years and over: 2.85% (2020 est.) (male 349,822;female 433,385)	total: 20.3 years male: 20.3 years female: 20.3 years (2020 est.)	19.6	617/100,000	female: 64.52 years (2022 est.)	3.53	23.3	3.30%	0.23/1,000	380,000	10.30%	12.80%
Gambia	241,668	0-14 years: 35.15% (male 391,993;female 388,816) 15-24 years: 20.12% (male 221,519;female 225,414) 25-34 years: 36.39% (male 396,261;female 412,122) 55-64 years: 4.53% (male 48,032;female 52,538) 65 years and over: 3.81% (2021 est.) (male 38,805;female 45,801)	total: 21.8 years male: 21.5 years female: 22.2 years (2020 est.)	20.7	597/100,000	female: 69.41 years (2022 est.)	3.79	16.8	3.8	1/1000	27,000	10.3	11.6
Ghana	31,072,940	0-14 years: 37.44% (male 5,524,932;female 5,460,943) 15-24 years: 18.64% (male 2,717,481;female 2,752,601) 25-34 years: 34.27% (male 4,875,985;female 5,177,959) 55-64 years: 5.21% (male 743,757;female 784,517) 65 years and over: 4.44% (2020 est.) (male 598,387;female 703,686)	total: 21.4 years male: 21 years female: 21.9 years (2020 est.)	20.7	308/100,000	female: 71.09 years (2022 est.)	3.66	27.20%	3.40%	14/1000	350,000	10.90%	12.06%

The Ted Winnowski '63 Student Conference in Business
April 28, 2023

Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Guinea	13,132,795	0-14 years: 41.2% (male 2,601,221 female 2,559,918)											
		15-24 years: 19.32% (male 1,215,654 female 1,204,366)											
		25-54 years: 30.85% (male 1,933,141 female 1,930,977)	total: 19.1 years			total population: 63.9 years							
		55-64 years: 4.73% (male 287,448 female 305,420)	male: 18.9 years			male: 62.04 years							
		65 years and over: 3.91% (2020 est.) (male 218,803 female 270,492)	female: 19.4 years (2020 est.)	19.9	576/100,000	female: 65.82 years (2022 est.)	4.85	10.9	4	.08/1000	110,000	7.7	16.3
Guinea-Bissau	1,968,001	0-14 years: 41.2% (male 2,601,221 female 2,559,918)											
		15-24 years: 19.32% (male 1,215,654 female 1,204,366)											
		25-54 years: 30.85% (male 1,933,141 female 1,930,977)	total: 19.1 years			total population: 63.9 years							
		55-64 years: 4.73% (male 287,448 female 305,420)	male: 18.9 years			male: 62.04 years							
		65 years and over: 3.91% (2020 est.) (male 218,803 female 270,492)	female: 19.4 years (2020 est.)	19.9	576/100,000	female: 65.82 years (2022 est.)	4.85	109	4	.08/1000	110,000	7.7	16.3
Liberia	5,057,681	0-14 years: 43.35% (male 1,111,479 female 1,087,871)											
		15-24 years: 20.35% (male 516,136 female 516,137)											
		25-54 years: 30.01% (male 747,983 female 774,615)	total: 18 years			total population: 65.45 years							
		55-64 years: 3.46% (male 89,150 female 86,231)	male: 17.7 years			male: 63.19 years							
		65 years and over: 2.83% (2020 est.) (male 70,252 female 73,442)	female: 18.2 years (2020 est.)	19.1	661/100,000	female: 67.78 years (2022 est.)	4.79	24.9	8.5	.04/1000	35,000	9.9	10.9
Mali	20,250,833	0-14 years: 47.69% (male 4,689,121 female 4,636,685)											
		15-24 years: 19% (male 1,768,772 female 1,945,582)	total: 16 years			total population: 62.41 years							
		25-54 years: 26.61% (male 2,395,566 female 2,806,830)	male: 15.3 years			male: 60.19 years							
		55-64 years: 3.68% (male 367,710 female 352,170)											
		65 years and over: 3.02% (2020 est.) (male 293,569 female 297,401)	female: 16.7 years (2020 est.)	19.2	562/100,000	female: 64.7 years (2022 est.)	5.54	17.2	3.90%	13/1000	110,000	8.6	8.6
Mauritania	4,649,658	0-14 years: 37.56% (male 755,788 female 748,671)											
		15-24 years: 19.71% (male 387,140 female 402,462)	total: 21 years			total population: 65.22 years							
		25-54 years: 33.91% (male 630,693 female 727,518)	male: 20.1 years			male: 62.77 years							
		55-64 years: 4.9% (male 88,888 female 107,201)											
		65 years and over: 3.92% (2020 est.) (male 66,407 female 90,707)	female: 22 years (2020 est.)	21.4	766/100,000	female: 67.75 years (2022 est.)	3.53	17.8	3.3	19/1000	8,500	12.7	19.2
Country	Population	Age Structure	Median Age										
Niger	24,206,644	0-14 years: 50.58% (male 5,805,102 female 5,713,815)											
		15-24 years: 19.99% (male 2,246,670 female 2,306,285)											
		25-54 years: 23.57% (male 2,582,123 female 2,784,464)	total: 14.8 years										
		55-64 years: 3.17% (male 357,832 female 364,774)	male: 14.5 years										
		65 years and over: 2.68% (2020 est.) (male 293,430 female 317,866)	female: 15.1 years (2020 est.)										
Nigeria	206,139,589	0-14 years: 41.7% (male 45,571,738 female 43,674,769)	15-24 years: 20.27% (male 22,022,660 female 21,358,753)	25-54 years: 30.6% (male 32,808,913 female 32,686,474)	55-64 years: 4.13% (male 4,327,847 female 4,514,264)	65 years and over: 3.3% (2020 est.) (male 3,329,083 female 3,733,801)	Total: 18.6, male: 18.4, female: 18.9						
		0-14 years: 40.38% (male 3,194,454 female 3,160,111)											
		15-24 years: 20.35% (male 1,596,896 female 1,606,084)											
		25-54 years: 31.95% (male 2,327,424 female 2,700,698)	total: 19.4 years										
		55-64 years: 4.21% (male 283,480 female 378,932)	male: 18.5 years										
Senegal	16,743,927	65 years and over: 3.1% (2020 est.) (male 212,332 female 275,957)	female: 20.3 years (2020 est.)										
		0-14 years: 41.38% (male 1,369,942 female 1,371,577)											
		15-24 years: 18.83% (male 610,396 female 636,880)											
		25-54 years: 32.21% (male 1,020,741 female 1,112,946)	total: 19.1 years										
		55-64 years: 3.89% (male 121,733 female 135,664)	male: 18.5 years										
Sierra Leone	7,978,983	65 years and over: 3.7% (2020 est.) (male 100,712 female 144,382)	female: 19.7 years (2020 est.)										
		0-14 years: 39.75% (male 1,716,667 female 1,705,230)											
		15-24 years: 19.05% (male 817,093 female 820,971)											
		25-54 years: 33.26% (male 1,423,554 female 1,439,380)	total: 20 years										
		55-64 years: 4.42% (male 179,779 female 200,392)	male: 19.7 years										
Togo	8,278,724	65 years and over: 3.57% (2020 est.) (male 132,304 female 175,074)	female: 20.3 years (2020 est.)										
Country	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children			
Niger	20.4	509/100,000	total population: 60.09 years										
			male: 58.55 years										
			female: 61.68 years (2022 est.)	6.82	11	5.70%	0.04/1,000	31,000	5.50%	31.30%			
Nigeria	20.4	917/100,000	61.3 total, male: 59.51, female 63.27	4.62	16.6	3%	38/1000	1.7 million	8.90%	18.40%			
Senegal	21.9	315/100,000	total population: 69.96 years										
			male: 68.23 years										
			female: 71.77 years (2022 est.)	4.27	26.9	4.1	.07/1000	39,000	8.8	14.4			
Sierra Leone	19.6	1,120/100,000	total population: 58.76 years										
			male: 57.16 years										
			female: 60.41 years (2022 est.)	3.8	21.2	8.8	.03/1000	80,000	8.7	13.5			
Togo	20.9	396/100,000	total population: 71.36 years										
			male: 68.76 years										
			female: 74.03 years (2022 est.)	4.23	23.9	5.7	.08/1000	110,000	8.4	15.2			

Central Africa

The nine countries in Central Africa are: Democratic Republic of the Congo, Angola, Cameroon, Chad, Central African Republic, Republic of the Congo, Gabon, Equatorial Guinea, and Sao Tome and Principe.

Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Angola	32,866,272	0-14 years: 47.83% (male 7,758,636 female 7,797,869) 15-24 years: 18.64% (male 2,850,999 female 3,109,741) 25-54 years: 27.8% (male 4,301,618 female 4,740,463) 55-64 years: 3.43% (male 523,517 female 591,249) 65 years and over: 2.3% (2020 est.) (male 312,197 female 436,050)	total: 15.9 years male: 15.4 years female: 16.4 years (2020 est.)	19.4	241,100,000		5.83	13.70%	2.50%	22,1000	340,000	8.20%	19%
Cameroon	26,545,863	0-14 years: 42.34% (male 5,927,640 female 5,820,226) 15-24 years: 20.04% (male 2,782,376 female 2,776,873) 25-54 years: 30.64% (male 4,191,151 female 4,309,483) 55-64 years: 3.87% (male 520,771 female 552,801) 65 years and over: 3.11% (2020 est.) (male 403,420 female 460,248)	total: 18.5 years male: 18.2 years female: 18.8 years (2020 est.)	20.1	529,100,000		4.55	19.3	3.60%	0.091,000	500,000	11.40%	11%
Central Africa	4,829,767	0-14 years: 47.43% (male 4,050,505 female 3,954,413) 15-24 years: 19.89% (male 598,567 female 593,075) 25-54 years: 32.95% (male 988,077 female 986,019) 55-64 years: 4.32% (male 123,895 female 134,829) 65 years and over: 3.35% (2020 est.) (male 78,017 female 122,736)	total: 20 years male: 19.7 years female: 20.3 years (2020 est.)	x	829,100,000		4.04	17.8	7.8	07,1000	88,000	7.5	20.5
Chad	16,425,864	0-14 years: 46.38% (male 23,757,297 female 23,449,057) 15-24 years: 19.42% (male 9,908,686 female 9,856,841) 25-54 years: 28.38% (male 14,459,453 female 14,422,912) 55-64 years: 3.36% (male 1,647,267 female 1,769,429) 65 years and over: 2.47% (2020 est.) (male 1,085,539 female 1,423,782)	total: 16.1 years male: 15.6 years female: 16.5 years (2020 est.)	18.1	1,140,100,000		5.46	8.1	4.4	04,1000	110,000	6.1	29.2
DR Congo	89,565,403	0-14 years: 46.38% (male 23,757,297 female 23,449,057) 15-24 years: 19.42% (male 9,908,686 female 9,856,841) 25-54 years: 28.38% (male 14,459,453 female 14,422,912) 55-64 years: 3.36% (male 1,647,267 female 1,769,429) 65 years and over: 2.47% (2020 est.) (male 1,085,539 female 1,423,782)	total: 16.7 years male: 16.5 years female: 16.8 years (2020 est.)	19.90%	473,100,000		5.63	28.1	3.50%	07,1000	510,000	6.70%	23.10%
Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Congo	5,518,087	0-14 years: 41.57% (male 1,110,484 female 1,089,732) 15-24 years: 17.14% (male 454,981 female 452,204) 25-54 years: 33.5% (male 886,743 female 886,312) 55-64 years: 4.59% (male 125,207 female 117,810) 65 years and over: 3.2% (2020 est.) (male 75,921 female 93,676)	total: 19.5 years male: 19.3 years female: 19.7 years (2020 est.)	19.8	378,100,000		4.36	30.1	2.1	17,1000	110,000	9.6	12.3
Equatorial Guinea	1,402,985	0-14 years: 38.73% (male 164,417 female 159,400) 15-24 years: 19.94% (male 84,820 female 81,880) 25-54 years: 32.72% (male 137,632 female 135,973) 55-64 years: 4.69% (male 17,252 female 22,006) 65 years and over: 3.92% (2020 est.) (male 13,464 female 19,334)	total: 20.3 years male: 19.9 years female: 20.7 years (2020 est.)	x	301,100,000		4.26	12.6	3.1	4,1000	68,000	8	5.6
Sao Tome & Principe	219,159	0-14 years: 39.77% (male 42,699 female 41,277) 15-24 years: 21.59% (male 23,088 female 22,487) 25-54 years: 31.61% (male 32,900 female 33,834) 55-64 years: 4.17% (male 4,095 female 4,700) 65 years and over: 2.87% (2020 est.) (male 2,651 female 3,420)	total: 19.3 years male: 18.9 years female: 19.7 years (2020 est.)	19.4	130,100,000		3.56	49.7	5.5	05,1000	<1000	12.4	5.4

Eastern Africa

The eighteen countries in Eastern Africa are: Ethiopia, Tanzania, Kenya, Uganda, Mozambique, Madagascar, Malawi, Zambia, Somalia, Zimbabwe, South Sudan, Rwanda, Burundi, Eritrea, Mauritius, Djibouti, Comoros, and Seychelles.

Country	Population	Age Structure
Burundi	11,890,784	0-14 years: 22.41% (male 53,653 female 50,446) 15-24 years: 16.14% (male 37,394 female 37,559) 25-54 years: 47.21% (male 103,991 female 115,291) 55-64 years: 8.34% (male 19,159 female 19,585) 65 years and over: 5.9% (2020 est.) (male 13,333 female 14,067)
Comoros	869,601	0-14 years: 36.68% (male 154,853 female 155,602) 15-24 years: 20.75% (male 85,208 female 90,422) 25-54 years: 33.99% (male 136,484 female 151,178) 55-64 years: 4.49% (male 17,257 female 20,781) 65 years and over: 4.08% (2020 est.) (male 15,437 female 19,079)
Djibouti	988,000	0-14 years: 29.97% (male 138,701 female 137,588) 15-24 years: 20.32% (male 88,399 female 98,955) 25-54 years: 40.73% (male 156,016 female 219,406) 55-64 years: 5.01% (male 19,868 female 26,307) 65 years and over: 3.97% (2020 est.) (male 16,245 female 20,319)
Eritrea	3,546,421	0-14 years: 20.56% (male 622,172 female 627,858) 15-24 years: 33.42% (male 997,693 female 1,034,550) 25-54 years: 3.8% (male 105,092 female 125,735) 55-64 years and over: 4% (2020 est.) (male 99,231 female 143,949)
Ethiopia	114,963,588	0-14 years: 39.81% (male 21,657,152 female 21,381,628), 15-24 years: 19.47% (male 10,506,144 female 10,542,128), 25-54 years: 32.92% (male 17,720,540 female 17,867,298), 55-64 years: 4.42% (male 2,350,606 female 2,433,319), 65 years and over: 3.38% (2020 est.) (male 1,676,478 female 1,977,857)

Country	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Burundi	total: 31.1 years male: 30.5 years female: 31.8 years		31/100,000	total population: 78.38 years male: 76.01 years female: 80.86 years (2022 est.)	1.74	NA	2.2	1.61/1000	NA	14.1	NA
Comoros	total: 20.9 years male: 20.2 years female: 21.5 years	23	273/100,000	total population: 67.2 years male: 64.93 years female: 69.54 years (2022 est.)	2.78	19.4	5.2	0.27	<200	7.8	16.9
Djibouti	total: 24.9 years male: 23 years female: 26.4 years		248/100,000	total population: 65.3 years male: 62.72 years female: 67.96 years (2022 est.)	2.15	19	1.8	.22/1000	6,800	13.5	29.9
Eritrea	total: 20.3 years male: 19.7 years female: 20.8 years	21.3	480/100,000	total population: 66.85 years male: 64.25 years female: 69.53 years (2022 est.)	3.58	8.4	4.5	.06/1000	13,000	5	NA
Ethiopia	total: 19.8 years	19.3	401/100,000	Total: 68.25, male 66.12, female 70.44	3.99	37	3.20%	.08/1000	620,000	4.50%	21.10%

Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Kenya	33,771,296	0-14 years: 38.71% (male 10,412,321; female 10,310,908) 15-24 years: 20.45% (male 5,486,641; female 5,460,372) 25-54 years: 33.75% (male 9,046,946; female 9,021,207) 55-64 years: 4.01% (male 1,053,202; female 1,093,305) 65 years and over: 3.07% (2020 est.) (male 750,988; female 892,046)	total: 20 years male: 19.9 years female: 20.1 years (2020 est.)	20.3	342/100,000	total population: 69.69 years male: 67.98 years female: 71.43 years (2022 est.)	3.29	59.70%	4.60%	16/1000	1.4 million	7.10%	11.20%
Madagascar	27,691,018	0-14 years: 38.86% (male 5,278,838; female 5,196,036) 15-24 years: 20.06% (male 2,717,399; female 2,689,874) 25-54 years: 33.02% (male 4,443,147; female 4,456,691) 55-64 years: 4.6% (male 611,364; female 627,315) 65 years and over: 3.47% (2020 est.) (male 425,122; female 509,951)	total: 20.3 years male: 20.1 years female: 20.5 years (2020 est.)	19.5	335/100,000	total population: 68.17 years male: 66.8 years female: 69.57 years (2022 est.)	3.62	44.40%	3.70%	18/100,000	42,000	5.30%	26.40%
Malawi	19,129,852	0-14 years: 45.87% (male 4,843,107; female 4,878,983) 15-24 years: 20.51% (male 2,151,417; female 2,195,939) 25-54 years: 27.96% (male 3,944,936; female 3,982,195) 55-64 years: 2.98% (male 303,803; female 328,092) 65 years and over: 2.68% (2020 est.) (male 249,219; female 318,938)	total: 16.8 years male: 16.7 years female: 16.9 years (2020 est.)	19.1	349/100,000	total population: 72.44 years male: 69.33 years female: 75.59 years (2022 est.)	3.4	59.20%	7.4	.04/1000	990,000	5.8	9
Mauritius	1,271,768	0-14 years: 19.44% (male 137,010; female 131,113) 15-24 years: 14.06% (male 98,480; female 95,472) 25-54 years: 43.11% (male 297,527; female 297,158) 55-64 years: 12.31% (male 80,952; female 88,785) 65 years and over: 11.08% (2020 est.) (male 63,230; female 89,638)	total: 36.3 years male: 35 years female: 37.6 years (2020 est.)	x	61/100,000	total population: 74.86 years male: 72.04 years female: 77.88 years (2022 est.)	1.35	36.8	6.2	2.6/1000	14,000	10.8	NA
Mozambique	31,255,435	0-14 years: 45.57% (male 6,950,800; female 6,766,373) 15-24 years: 19.91% (male 2,997,539; female 2,994,927) 25-54 years: 28.28% (male 3,949,085; female 4,504,051) 55-64 years: 3.31% (male 485,454; female 509,430) 65 years and over: 2.93% (2020 est.) (male 430,797; female 449,771)	total: 17 years male: 16.3 years female: 17.6 years (2020 est.)	19.2	289/100,000	total population: 57.1 years male: 55.76 years female: 58.49 years (2022 est.)	4.81	27.10%	7.80%	.08/1000	2.1 million	7.20%	15.60%

Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Rwanda	12,952,218	0-14 years: 39.95% (male 2,564,893; female 2,513,993) 15-24 years: 20.1% (male 1,280,948; female 1,273,853) 25-54 years: 33.06% (male 2,001,629; female 2,201,132) 55-64 years: 4.24% (male 241,462; female 298,163) 65 years and over: 2.65% (2020 est.) (male 134,648; female 201,710)	total: 19.7 years male: 18.9 years female: 20.4 years (2020 est.)	22.7	248/100,000	total population: 65.85 years male: 63.89 years female: 67.86 years (2022 est.)	3.33	53.2	6.4	.013/1000	220,000	5.8	7.7
Seychelles	98,347	0-14 years: 18.85% (male 9,297; female 8,798) 15-24 years: 12.39% (male 6,263; female 5,607) 25-54 years: 49.03% (male 25,209; female 21,851) 55-64 years: 11.46% (male 5,545; female 5,455) 65 years and over: 8.27% (2020 est.) (male 3,272; female 4,664)	total: 36.8 years male: 36.3 years female: 37.4 years (2020 est.)	x	x	total population: 76.1 years male: 71.67 years female: 80.66 years (2022 est.)	1.82	NA	5.2	2.12/1000	NA	0.14	3.6
Somalia	15,893,222	0-14 years: 42.38% (male 2,488,604; female 2,493,527) 15-24 years: 19.81% (male 1,167,807; female 1,161,040) 25-54 years: 30.93% (male 1,881,094; female 1,755,166) 55-64 years: 4.61% (male 278,132; female 264,325) 65 years and over: 2.27% (2020 est.) (male 106,187; female 161,242)	total: 18.5 years male: 18.7 years female: 18.3 years (2020 est.)	x	829/100,000	total population: 55.72 years male: 53.39 years female: 58.12 years (2022 est.)	5.31	6.9	NA	.02/1000	8,700	8.3	23
South Sudan	11,193,725	0-14 years: 41.58% (male 2,238,534; female 2,152,685) 15-24 years: 21.28% (male 1,153,108; female 1,094,568) 25-54 years: 30.67% (male 1,662,409; female 1,577,062) 55-64 years: 3.93% (male 228,875; female 186,571) 65 years and over: 2.53% (2020 est.) (male 153,502; female 113,930)	total: 18.6 years male: 18.9 years female: 18.3 years (2020 est.)	x	1,150/100,000	total population: 59.16 years male: 57.43 years female: 60.97 years (2022 est.)	5.32	NA	6	NA	180,000	6.6	NA
Tanzania	59,734,218	0-14 years: 42.7% (male 12,632,772; female 12,369,115) 15-24 years: 20.39% (male 5,988,208; female 5,948,134) 25-54 years: 30.31% (male 8,903,629; female 8,844,180) 55-64 years: 3.52% (male 954,251; female 1,071,717) 65 years and over: 3.08% (2020 est.) (male 747,934; female 1,056,905)	total: 18.2 years male: 17.9 years female: 18.4 years (2020 est.)	19.8	524/100,000	total population: 70.19 years male: 68.42 years female: 72.02 years (2022 est.)	4.39	38.4	3.80%	.01/1000	1.7 million	8.40%	14.60%

The Ted Winnowski '63 Student Conference in Business
April 28, 2023

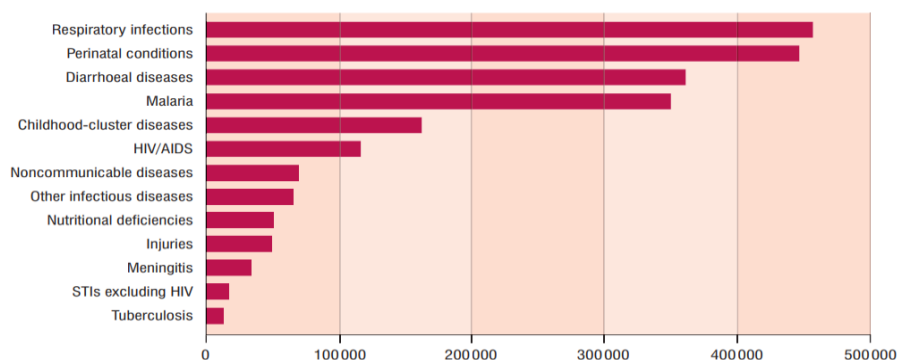
Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Uganda	45,741,007	0-14 years: 48.21% (male 10,548,913 female 10,304,876) 15-24 years: 20.25% (male 4,236,231 female 4,521,698) 25-54 years: 26.24% (male 5,202,570 female 6,147,304) 55-64 years: 2.91% (male 579,110 female 681,052) 65 years and over: 2.38% (2020 est.) (male 442,159 female 589,053)	total: 15.7 years male: 14.9 years female: 16.5 years (2020 est.)	19.4	375/100,000	total population: 68.96 years male: 66.71 years female: 71.27 years (2022 est.)	5.36	41.80%	3.80%	17/100,000	1.4 million	5.30%	10.40%
Zambia	18,383,955	0-14 years: 45.74% (male 4,005,134 female 3,964,969) 15-24 years: 20.03% (male 1,744,843 female 1,746,561) 25-54 years: 28.96% (male 2,539,697 female 2,506,724) 55-64 years: 3.01% (male 242,993 female 280,804) 65 years and over: 2.27% (2020 est.) (male 173,582 female 221,316)	total: 16.9 years male: 16.7 years female: 17 years (2020 est.)	19.2	213/100,000	total population: 66.26 years male: 64.52 years female: 68.06 years (2022 est.)	4.56	49.6	5.3	1.19/1000	24,000	8.1	11.8
Zimbabwe	14,862,824	0-14 years: 31.3% (male 3,09,991 female 306,321) 15-24 years: 19.20% (male 181,874 female 197,452) 25-54 years: 38.86% (male 373,323 female 391,901) 55-64 years: 4.98% (male 52,441 female 45,726) 65 years and over: 5.0% (2020 est.) (male 57,030 female 53,275)	total: 20.5 years male: 20.3 years female: 20.6 years (2020 est.)	20.3	458/100,000	total population: 63.32 years male: 61.18 years (2022 est.) female: 65.52 years (2022 est.)	3.89	66.8	7.7	21/1000	1.3 million	15.5	9.7

Southern Africa

The five countries in Southern Africa are: South Africa, Namibia, Botswana, Lesotho, and Swaziland.

Country	Population	Age Structure	Median Age	Mother's Median Age	Maternal Mortality	Life Expectancy	Fertility Rate %	Contraceptive Rate	Current Health	Physician Density	People Living with HIV	Obesity	Underweight Children
Botswana	2,351,627	0-14 years: 30.54% (male 357,065 female 350,550)	total: 25.7 years male: 24.5 years female: 26.7 years (2020 est.)	x	144/100,000	total population: 65.64 years male: 63.6 years female: 67.74 years (2022 est.)	2.39	67.4	6.1	53/1000	370,000	18.9	NA
		15-24 years: 18.31% (male 208,824 female 215,462)											
		25-54 years: 39.67% (male 434,258 female 484,922)											
		55-64 years: 5.92% (male 59,399 female 77,886)											
Lesotho	2,142,249	65 years and over: 5.56% (2020 est.) (male 53,708 female 75,159)	total: 24.7 years male: 24.7 years female: 24.7 years (2020 est.)	20.9	544/100,000	total population: 59.57 years male: 57.57 years female: 61.64 years (2022 est.)	2.92	64.9	11.3	07/1000	280,000	16.6	10.5
		0-14 years: 31.3% (male 309,991 female 306,321)											
		15-24 years: 19.26% (male 181,874 female 197,452)											
		25-54 years: 38.86% (male 373,323 female 391,901)											
South Africa	59,308,690	55-64 years: 4.98% (male 52,441 female 45,726)	total population: 65.32 years male: 63.99 years female: 66.68 years (2022 est.)	x	119/100,000	2.18	54.6	9.10%	91/1000	7.8 million	28.30%	5.50%	
		65 years and over: 5.6% (2020 est.) (male 57,030 female 53,275)											
		0-14 years: 27.94% (male 7,894,742 female 7,883,266)											
		15-24 years: 16.8% (male 4,680,587 female 4,804,337)											

Figure 2.1 The main causes of death in the African Region, females 0–4 years in 2004



Source: Constructed from World Health Organization, GBD 2004 Summary Tables, Health Statistics and Informatics Department, World Health Organization, Geneva, Switzerland, October 2008.

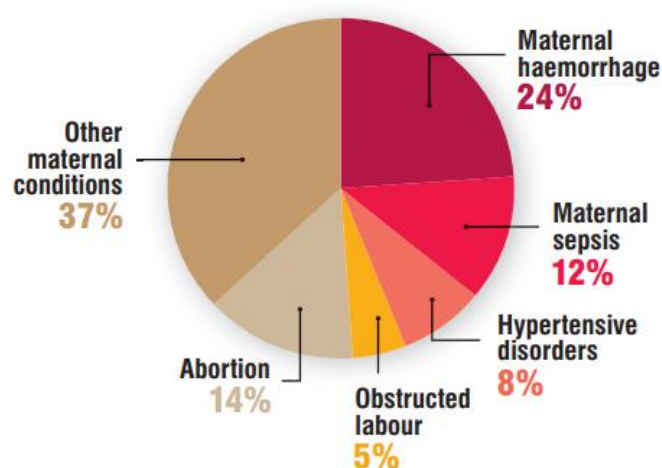
Table 3.2 Antenatal and delivery care coverage

Region/subregions	Antenatal care coverage (%) 2000–2007		Delivery care coverage (%) 2000–2007	
	<i>Attended clinic at least once</i>	<i>Attended clinic at least four times</i>	<i>Skilled attendant present at birth</i>	<i>Delivered at health institution</i>
Sub-Saharan Africa	72	42	47	40
Eastern and Southern Africa	72	40	40	33
West and Central Africa	71	44	49	46
Middle East and North Africa	72	–	81	71
South Asia	68	34	41	35
East Asia and the Pacific	89	66	87	73
Latin America and the Caribbean	94	83	85	86
CEE/CIS*	90	–	94	89

* Central and Eastern Europe and the Commonwealth of Independent States

Source: UNICEF. *Progress for Children*, New York; 2007.

Figure 3.4 Causes of maternal death in the African Region



Source: World Health Organization, Geneva; 2008.

Table 3.4 Emergency obstetric care facilities in selected countries in the African Region

Country and year	Five emergency obstetric care facilities per 500 000 population as a percentage (%) of the total number required
Cameroon (2000)	29
Mauritania (2000)	31
Mozambique (1999)	34
Malawi (2000)	36
Mali (2002)	38
Senegal (2002)	39
Chad (2002)	40
Uganda (2002)	44
Benin (2002)	67
Niger (2002)	68
Rwanda (2003)	86

Source: Shah IH, Say L. Maternal Mortality and Maternity Care from 1990 to 2005: Uneven but Important Gains. *Reprod Health Matters* 2007;15(30):17–27.

Table 5.2 Per capita productivity loss due to maternal deaths in the WHO African Region, International Dollars, 2008

Country	(A) Population in 2008	(B) Total productivity loss in International Dollars (PPP)	(C=B/A) Productivity loss per capita (Int\$)
Algeria	34 800 000	138 114 369	3.97
Angola	16 808 000	427 031 289	25.41
Benin	8 107 000	52 763 225	6.51
Botswana	1 546 000	33 374 887	21.59
Burkina Faso	14 042 000	80 580 567	5.74
Burundi	7 949 000	16 276 373	2.05
Cameroon	19 383 000	154 233 972	7.96
Cape Verde	504 000	928 584	1.84
Central African Republic	4 355 000	13 542 844	3.11
Chad	9 730 000	130 473 086	13.41
Comoros	652 000	1 691 898	2.59
Congo, Republic of	3 650 000	50 875 450	13.94
Côte d'Ivoire	19 031 000	109 666 830	5.76
Democratic Republic of Congo	62 885 000	96 565 663	1.54
Equatorial Guinea	1 240 000	20 705 511	16.70
Eritrea	5 006 000	8 636 556	1.73
Ethiopia	79 179 000	239 658 186	3.03
Gabon	1 454 000	30 135 783	20.73
Gambia	1 630 000	6 940 738	4.26
Ghana	22 532 000	83 155 341	3.69
Guinea	10 279 000	47 533 534	4.62
Guinea-Bissau	1 717 000	4 997 113	2.91
Kenya	35 265 000	239 590 136	6.79
Lesotho	2 451 000	6 060 570	2.47
Liberia	3 942 000	9 235 673	2.34
Madagascar	20 215 000	59 859 205	2.96
Malawi	13 656 000	43 384 564	3.18
Mali	13 360 000	73 158 411	5.48
Mauritania	3 032 000	24 437 451	8.06
Mauritius	1 272 000	1 648 778	1.30
Mozambique	20 747 000	90 772 756	4.38
Namibia	2 045 000	12 092 537	5.91
Niger	13 765 000	74 108 291	5.38
Nigeria	147 810 000	1 541 708 626	10.43
Rwanda	9 591 000	41 235 267	4.30
Sao Tome & Principe	160 000	—	0.00
Senegal	12 519 000	67 141 257	5.36
Seychelles	82 000	—	0.00
Sierra Leone	5 887 000	23 925 759	4.06
South Africa	48 687 000	800 816 164	16.45
Swaziland	1 022 000	11 711 729	11.46
Tanzania	39 743 000	312 536 495	7.86
Togo	6 625 000	12 260 758	1.85
Uganda	32 042 000	119 274 121	3.72
Zambia	12 450 000	52 300 391	4.20
Zimbabwe	11 732 000	6 375 405	0.54
Totals	784 579 000	5 371 516 143	6.85

Source: Commission's calculations.

Notes: (i) Population estimates are from Source of population data: International Monetary Fund, World Economic Outlook Database, October 2008; (ii) Total productivity loss in International Dollars (PPP) and productivity loss per person in population (Int\$) are estimates of the Commission on Women's Health in the African Region; (iii) Estimates for Sao Tome and Principe and Seychelles are missing because the maternal mortality statistics were missing in the WHO/UNICEF/UNFPA/World Bank latest estimates. Estimates of the indirect costs of maternal deaths for the same year also show the burden carried by Nigeria in Figure 5.1.

Table 5.3 Cost of services, and pregnancy outcomes, according to use of family planning and maternal and newborn health services in sub-Saharan Africa, 2008

Cost and health outcome categories	Cost of current level of services	Cost of 100% of met needs for services
Services	US\$ million	US\$ million
Family planning services	290	2380
Maternal and newborn care	1460	8100
Total	1750	10 480
Pregnancy outcomes	Number in thousands	Number in thousands
Intended births and miscarriages*	26 950	26 950
Unintended births and miscarriages	11 730	2750
Induced abortions	5 310	1240
Total	43 990	30 940
	Number of deaths	Number of deaths
Maternal	290 000	90 000
Newborn	1 220 000	670 000
Total	1 510 000	760 000

Source: Guttmacher Institute and UNFPA (United Nations Population Fund), New York: UNFPA; 2009.

*Number of current intended births and miscarriages are unaffected by the scaling up of family planning services.

DISCUSSION

There is no doubt that women's health in Africa remains a critical issue. The World Health Organization (WHO) indicates that On the African continent, one of the biggest health challenges facing women is the need to improve maternal health (2022). The WHO (2022) states the following about women in Africa “Women in the African Region are more likely to die from communicable diseases (e.g. HIV, tuberculosis and malaria), maternal and perinatal conditions, and nutritional deficiencies, than women in other regions. Globally, about 468 million women aged 15–49 years (30% of all women) are thought to be anaemic, at least half because of iron deficiency and most of these anaemic women live in Africa (48–57%).” The World Health Organization (2022) also found the following in Africa: Women account for a slightly smaller proportion of COVID-19 infections and deaths compared with men, a preliminary analysis by the World Health Organization (WHO) in 28 African countries shows. The analysis based on COVID-19 gender specific epidemiological data provided by countries found that although women account for around 41% of COVID-19 cases, this ranges from 31% in Niger to over 57% in South Africa.

With the pandemic accentuating challenges to accessing essential health services, a WHO preliminary analysis in 22 countries found 10 reported a rise in maternal deaths, with the highest increases reported in Comoros, Mali, Senegal and South Africa between February and July 2020, compared with the same period in 2019. Nine of the 22 countries reported a decline in births in health facilities and an increase in complications due to abortions. In most countries, women are somewhat less likely to die from COVID-19 than men. For instance, in Cote d'Ivoire the case fatality ratio stands at 0.4% for women compared with 0.5% in men, while in the Democratic Republic of the Congo it is 2.2% versus 2.7% and 0.1% versus 0.5% in Seychelles.

This comes despite women accounting for a large part of the health workforce which puts them at higher risk of infection. In Africa, more than 95 000 health workers have been infected with COVID-19. In Seychelles, women account for 71% of health worker infections, 64% in Eswatini, 55% in Cote d'Ivoire and 54% in Senegal (WHO, 2022b)

While women in Africa experienced lower COVID positive rates, Studies have also found that violence against women, and particularly domestic violence, increased in several countries as security, health, and financial worries created tensions and strains which were worsened by the confined living conditions of lockdown. The economic fallout due to COVID-19 has greatly affected women. Informal workers, most of whom are women, account for more than 90% of the labor force in sub-Saharan Africa, according to the World Bank. Informal sector jobs have been particularly hit by the pandemic. (WHO, 2022b).

WHO is working with countries to mitigate the impact of the pandemic on women's health. Several countries have implemented initiatives to ensure services for sexual, reproductive, maternal, newborn, adolescent and older people's health are maintained. The projects include reorganizing antenatal care services and providing personal protective equipment to minimize COVID infection, mobile-based family planning services, self-care options for oral and injectable contraceptives as well as public private partnerships to deliver contraceptives and other family planning commodities (WHO, 2022).

Mikayla Collins (2022) indicates that “Sixty percent of Africa’s HIV positive people are women,” The Covid-19 pandemic has exacerbated a dire situation. “There has been an alarming increase in teen pregnancies and child marriages, especially in West and Central Africa during the pandemic” (Collins, 2022). The introduction of development programs at the local level focused on women and girls can facilitate access to the [highest attainable standards](#) of health and well-being, which can in turn benefit the communities in which these women and girls live (Collins, 2022). Access to education is, according to Sanders, the key. “Less than fifty percent of African women have completed education above the elementary level,” she said. One way to address this problem, Sanders maintains, would be to register births more accurately in sub-Saharan Africa to enable complete documentation of the number of girls who will need to attend school. The educational programs need to focus heavily on health, in particular women’s unique health issues. Development personnel and policymakers need to engage with [faith leaders](#), community leaders, and elders, to get their buy-in for focusing programs on women and girls, according to Sanders, and this is necessary across all regions of the continent, in rural and urban areas. (Collins, 2022).

Women in Africa currently face massive constraints from the cultural impositions of household or community to the public and governmental policies that restrict their access to education and jobs.

One argument that has been made is that having women as leaders has resulted in a positive effect on women’s health and other services in a country (Batson, 2021). More specifically, the author states that In comparison to men, women in leadership positions are more likely to directly respond to the concerns of the community, to allocate funds toward education, health, and nutrition, to prioritize the needs of women, children, and marginalized groups, and to increase research on women’s health issues (Batson, 2021).

Correlations between women’s access to health and education

There are inequalities between women and men in their access to education. Research shows that “limited access to education for women suggests that women are less likely than men to have information about these diseases and their presentation” (Manderson et al., 1996: 8). This correlation shows women are less informed on medical education about diseases which affects their knowledge about the causes of disease and steps in preventing disease (Manderson et al., 1996). This reveals there is a negative correlation between health and education in women, signifying the less education women have about health, the less awareness they have when diseases appear (Manderson et al., 1996). More research should be done to determine the possible positive correlation between women’s education and health.

Manderson, L., Mark, T., Woelz, N., & World Health Organization. (1996). *Women's participation in health and development projects* (No. WHO/TDR/GTD/RP/96.1). World Health Organization.

Main foci on women’s health services

What are main health services geared towards women in health? In South Africa, “women’s health services consisted mainly of maternal and child health services, with an emphasis on contraceptive services

aimed at limiting population growth” (Cooper et al., 2004: 71). This shows women in health receive services that aid their reproductive systems and offspring (Cooper et al., 2004).

Cooper, D., Morroni, C., Orner, P., Moodley, J., Harries, J., Cullingworth, L., & Hoffman, M. (2004). Ten years of democracy in South Africa: Documenting transformation in reproductive health policy and status. *Reproductive health matters*, 12(24), 70-85..

CONCLUSION

The calls to improve the health care system across African countries is deafening. There is a desperate need to see a movement forward and a definitive improvement in the health and well being of the citizens across the region. These sentiments echo a loud call by Fathalla (1997) twenty-five years ago that the world health sector needed to focus on women’s health and in particular health related to women’s reproductive and sexual diseases. The author predicted that as these improvements were made, women would come to have more power over their bodies and their health (Fathalla, 1997). Uncomfortable issues such as female circumcision need to be addressed and their needs to be a conscious effort to move beyond previous social norms that are patriarchal but detrimental to women’s health. Benson (2022) supplied that the following African countries are said to have the best health care system based on the health care index:

South Africa has a health care index score of 63.97; Kenya has a health care index score of 63.40; Tunisia has a health care index score of 56.54; Algeria has a health care index score of 52.88; Nigeria has a health care index score of 48.49; Egypt: Has a health care index score of 47.01; Morocco: Has a health care index score of 46.69. These systems should be analyzed, especially across gender lines. A key question to answer is how can these systems be mimicked in other African countries?

The changes being recommended are not superficial or easy changes to make if they are to sustain each country's health care system. This was highlighted twenty-seven years ago at the Beijing Declaration and Platform For Action. There has been several advances in women’s health made worldwide since then, but more needs to be done. The rectification needed must start with each country’s infrastructure, especially to rural areas, allowing those areas an easier link to more urban sectors in each country. Those infrastructure changes must also focus on gaining clean water and improved sanitation systems. Increased educational programs that focus on informing citizens on how they can contribute to their own health care improvement must also be addressed, particularly in areas such as prenatal care, STD prevention and general health such as diabetes and hypertension. Finally a thorough tracking system that promotes accountability and documents quantitative improvements needs to be enforced in every African country. The issues must be reevaluated on a regular basis to assess effective and ineffective policies.

Based on the above discussion, more direct health care help is also needed in the form of additional doctors, more health related resources, more food and more nutritious food and more contact between the population and health care providers, especially prenatal care for women. Once babies are born, early efforts should promote more contact between parents, children and health care professionals, as well as more invasive health care provisions related to food, medication and preventative vaccines. This follows a

line of argument that encompasses a more direct and purposeful focus that will alleviate the devastating effects of poor health care systems for women and thus children. This may or may not be a new approach, but it is one that should take precedence and one that could have implications that extend beyond the continent of Africa and the individual countries in Africa to other parts of the world with similar circumstances. Most health care advocates agree that the current scenario needs major restructuring and one that is inevitable, desirable and beneficial.

The preceding arguments requires not only a reliance on singularly focusing on the key features highlighted above is not enough to eradicate the critical issues related to women's health in Africa. What is needed instead is a process by which a comprehensive focus is given. This will require careful consideration of how the various factors impact and are in turn impacted by improvements in each individual area, as well as the impact of this on other health areas. This paper served to present an accurate and up to date picture of the statistics related to women's health on the African continent and strong recommendations to address any deficiencies in the health care system. What beckons is a set of solid and feasible recommendations that can result in sustainable policies and programs to address these deficiencies.

REFERENCES

- Abrahams, Z., Mchiza, Z., & Steyn, N. P. (2011). Diet and mortality rates in Sub-Saharan Africa: stages in the nutrition transition. *BMC public health*, 11(1), 1-12.
- Ahmed, Saifuddin et al. "Trends in Contraceptive Prevalence Rates in Sub-Saharan Africa Since the 2012 London Summit on Family Planning: Results from Repeated Cross-Sectional Surveys." *The Lancet global health* 7.7 (2019): e904–e911.
- Alvarez, J. L., Gil, R., Hernández, V., & Gil, A. (2009). Factors associated with maternal mortality in Sub-Saharan Africa: an ecological study. *BMC public health*, 9(1), 1-8.
- Batson A, Gupta GR, Barry M. More Women Must Lead in Global Health: A Focus on Strategies to Empower Women Leaders and Advance Gender Equality. *Ann Glob Health*. 2021 Jul 12;87(1):67.
- Boerma, T. (1987). The magnitude of the maternal mortality problem in sub-Saharan Africa. *Social Science & Medicine*, 24(6), 551-558.
- Buor, D., & Bream, K. (2004). An analysis of the determinants of maternal mortality in sub-Saharan Africa. *Journal of Women's Health*, 13(8), 926-938.
- Chola, Lumbwe et al. "Scaling Up Family Planning to Reduce Maternal and Child Mortality: The Potential Costs and Benefits of Modern Contraceptive Use in South Africa." *PLoS ONE* 10.6 (2015): e0130077–e013007
- Coburn, C., Restivo, M., & Shandra, J. M. (2015). The African Development Bank and women's health: A cross-national analysis of structural adjustment and maternal mortality. *Social science research*, 51, 307-321.
- Collins, M. 2022. Education and Health Issues Affecting Women and Girls in Africa
<https://www.fpri.org/article/2022/04/educational-and-health-issues-affecting-women-and-girls-in-africa/>
- Cypriana, C. M., Sebastian, P. J., Devotha, G. M., Kaunara, A. A., Wessy, P. M., Malimi, E. K., & Kasankala, L. M. (2022). Determinants of underweight among children aged 0–23 months in tanzania. *Food Science & Nutrition*, 10(4), 1167-1174. doi:<https://doi.org/10.1002/fsn3.2748>
- DeVries, M. W. (1985). Temperament and infant mortality among the Masai of East Africa. *Annual Progress in Child Psychiatry & Child Development*.
- DJOUMESSI, Yannick Fosso. "The Impact of Malnutrition on Infant Mortality and Life Expectancy in Africa." *Nutrition (Burbank, Los Angeles County, Calif.)* (2022): 111760
- Ester, P. V., Torres, A., Freire, J. M., Hernández, V., & Gil, Á. (2011). Factors associated to infant mortality in Sub-Saharan Africa. *Journal of Public Health in Africa*, 2(2).
- Faria, N. R., Vidal, N., Lourenco, J., Raghwan, J., Sigaloff, K. C., Tatem, A. J., ... & Dellicour, S. (2019). Distinct rates and patterns of spread of the major HIV-1 subtypes in Central and East Africa. *PLoS pathogens*, 15(12), e1007976.
- Fathalla MF. Global trends in women's health. *Int J Gynaecol Obstet*. 1997 Jul;58(1):5-11.

Gambino, C., Trevelyan, E. N., & Fitzwater, J. T. (2014). *Foreign-born population from Africa, 2008-2012*. US Department of Commerce, Economic and Statistics Administration, US Census Bureau.

Global Health and Development. The Center For Global Health and Development.

<https://www.cghd.org/index.php/publication/global-health-challenges/investing-in-women-and-girls/144-the-global-challenges-of-health-for-women-in-africa>

Goga, A., Chirinda, W., Ngandu, N. K., Ngoma, K., Bhardwaj, S., Feucht, U., ... & Sherman, G. (2018). Closing the gaps to eliminate mother-to-child transmission of HIV (MTCT) in South Africa: understanding MTCT case rates, factors that hinder the monitoring and attainment of targets, and potential game changers. *South African Medical Journal*, 108(3 Supplement 1), S17-S24.

Guyatt, H. L., & Snow, R. W. (2001). Malaria in pregnancy as an indirect cause of infant mortality in sub-Saharan Africa. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 95(6), 569-576.

Heft-Neal, S., Burney, J., Bendavid, E., & Burke, M. (2018). Robust relationship between air quality and infant mortality in Africa. *Nature*, 559(7713), 254-258.

Hollfelder, N., Breton, G., Sjödin, P., & Jakobsson, M. (2021). The deep population history in Africa. *Human Molecular Genetics*, 30(R1), R2-R10.

Ijaiya, Gafar T et al. "Estimating the Impact of Birth Control on Fertility Rate in Sub-Saharan Africa." *African journal of reproductive health* 13.4 (2009): 137–146

Horn, J. (2003). AMANITARE and African women's sexual and reproductive health and rights. *Feminist Africa*, 2, 73-79.

Hyder, A. A., Maman, S., Nyoni, J. E., Khasiani, S. A., Teoh, N., Premji, Z., & Sohani, S. (2005). The pervasive triad of food security, gender inequity and women's health: exploratory research from sub-Saharan Africa. *African health sciences*, 5(4), 328-334.

Karim, S. S. A., & Baxter, C. (2019). HIV incidence rates in adolescent girls and young women in sub-Saharan Africa. *The Lancet Global health*, 7(11), e1470-e1471.

Kengne, Andre Pascal et al. "New Insights on Diabetes Mellitus and Obesity in Africa—Part 1: Prevalence, Pathogenesis and Comorbidities." *Heart* 99.14 (2013): 979–983.

Kudamatsu, M., Persson, T., & Strömberg, D. (2012). Weather and infant mortality in Africa. *Available at SSRN* 2210191.

Lewis, James JCa; Ronsmans, Carineb; Ezeh, Alexc; Gregson, Simona. The population impact of HIV on fertility in sub-Saharan Africa. *AIDS*: June 2004 - Volume 18 - Issue - p S35-S43

McPake, Barbara, Prarthna Dayal, and Christopher H Herbst. "Never Again? Challenges in Transforming the Health Workforce Landscape in Post-Ebola West Africa." *Human Resources for Health* 17.1 (2019): 19–19.

Mellor, J. W. (2014). High rural population density Africa—What are the growth requirements and who participates?. *Food Policy*, 48, 66-75.

- Mocumbi, A. O., & Sliwa, K. (2012). Women's cardiovascular health in Africa. *Heart*, 98(6), 450-455.
- Moodley, J., Fawcus, S., & Pattinson, R. (2018). Improvements in maternal mortality in South Africa. *South African Medical Journal*, 108(3), 4-8.
- Moultrie, Tom A, and Nuala McGrath. "Teenage Fertility Rates Falling in South Africa." *South African medical journal* 97.6 (2007): 442–443. Print.
- Mukadi, Y. D., Maher, D., & Harries, A. (2001). Tuberculosis case fatality rates in high HIV prevalence populations in sub-Saharan Africa. *Aids*, 15(2), 143-152.
- Nelms, L. W., & Gorski, J. (2006). The role of the African traditional healer in women's health. *Journal of Transcultural Nursing*, 17(2), 184-189.
- Nkalu, Chigozie Nelson, and Richardson Kojo Edeme. "Environmental Hazards and Life Expectancy in Africa: Evidence From GARCH Model." *SAGE Open* 9.1 (2019):
- [The geographical distribution of underweight children in Africa](#)
 Nube, M ; Sonneveld, B.G.J.S
 Bulletin of the World Health Organization, 2005, Vol.83 (10), p.764-770
- Pick, W., & Cooper, D. (1997). Urbanisation and women's health in South Africa. *African Journal of Reproductive Health*, 45-55.
- Pillay, N. K., & Maharaj, P. (2013). Population aging in Africa. In *Aging and health in Africa* (pp. 11-51). Springer, Boston, MA.
- Pourreza, A., Sadeghi, A., Amini-Rarani, M., Khodayari-Zarnaq, R., & Jafari, H. (2021). Contributing factors to the total fertility rate declining trend in the Middle East and North Africa: a systemic review. *Journal of Health, Population and Nutrition*, 40(1), 1-7.
- Ramjee, G., & Daniels, B. (2013). Women and HIV in sub-Saharan Africa. *AIDS research and therapy*, 10(1), 1-9.
- Sawatsky, Adam P et al. "Specialization Training in Malawi: a Qualitative Study on the Perspectives of Medical Students Graduating from the University of Malawi College of Medicine." *BMC Medical Education* 14.1 (2014): 2–2.
- Yako, Y. Y., Echouffo-Tcheugui, J. B., Balti, E. V., Matsha, T. E., Sobngwi, E., Erasmus, R. T., & Kengne, A. P. (2015). Genetic association studies of obesity in Africa: A systematic review. *obesity reviews*, 16(3), 259-272.
- Yaya, S., Idriss-Wheeler, D., Uthman, O. A., & Bishwajit, G. (2021). Determinants of unmet need for family planning in Gambia & Mozambique: implications for women's health. *BMC women's health*, 21(1), 1-8.
- World Health Organization (2022a). Women's Health. <https://www.afro.who.int/health-topics/womens-health>
- World Health Organization (2022b). Fewer COVID-19 cases among women in Africa: WHO analysis. <https://www.afro.who.int/news/fewer-covid-19-cases-among-women-africa-who-analysis>

COLLEGE STUDENTS' PERCEPTIONS OF MENTAL WELLBEING AND PHYSICAL ACTIVITY: WHAT DOES THIS MEAN FOR THE SIENA STUDENT EXPERIENCE?

*Emma McLaughlin, Siena College
Dr. Cheryl Buff, Siena College*

ABSTRACT

In 2020, 18.99 million students were reported to be enrolled in colleges and academic institutions, with an estimated increase to over 20 million by 2023 (Duffin, 2023). Due to the stressors college students face, including coursework, relationships, campus life, and athletics, it is no surprise that over 60% of college students met the criteria for at least one mental health issue during the 2020-2021 academic year (Abrams, 2022). As mental wellbeing becomes increasingly discussed, especially post-COVID-19, the number of research studies focused on college students and mental wellbeing has increased as well (Hoyt, Cohen, Dull, Castro & Yazdani, 2021; Li, Zhao, Chen, Peng & Lu, 2022). Our objective is to explore the relationship between college students' perceptions of mental wellbeing and physical activity, believing there is an opportunity to both provide, and better communicate, mental wellbeing resources on a college campus and to further emphasize the potential impact of physical activity as a means to help students cope with stressors.

Thus, the present research explores college students' perceptions of mental health and physical activity in a two-part quantitative study, using online survey methodology with convenience and referral sampling. In study one (n=131), perceptions of the severity of anxiety, depression, and insomnia are evaluated using the Health Condition Severity Scale. Additionally, students' perceptions of the effectiveness of physical activity in curing these mental health conditions is assessed using the Health Treatment Effectiveness Scale. Study two (n=200) sought to enhance our understanding of the perceived effectiveness of physical activity, in general, to address mental health issues. We study perceptions of physical activity holistically, assessing its relative importance to a number of other factors that contribute to mental wellbeing. Further, student perceptions of having a mental wellbeing class offered as part of the curriculum, likelihood of taking a course if offered, and perception of the effectiveness of mental health resource availability on campus are also assessed.

Data analysis was conducted using SPSS v28. Internal reliability and resulting Cronbach Alphas suggest the scales performed well. T-tests, MANOVA, and repeated measures ANOVA were used to test hypotheses. Results suggest that physical activity is perceived as an effective treatment for mental health symptoms. In addition, results displayed high scores in healthy relationships and proper hygiene as factors/behaviors effecting mental wellbeing, with physical activity in the middle of the pack and limiting social media use rated surprisingly low. Results also suggest a difference between NCAA athletes and club/intramural athletes, with more positive outcomes associated with club/intramural participation than NCAA sport participation. Finally, results suggest that respondents believe a mental wellbeing course should be offered on campus and mental health resources are insufficient or poorly communicated to students on their respective campuses.

Based on results, increased and expanded options for physical activity as well as a mental wellbeing class are considerations. Most academic institutions have many options for physical activity available, most notably being NCAA athletics, club teams, and intramural sports. Our research finds that club and intramural athletes feel their participation positively affects their mental wellbeing, emotional wellbeing, level of stress felt, and happiness more so than NCAA athletes. Thus, might it be appropriate and wise to increase the number of club or intramural

options? Further, our research suggests a class would be an important part of the curriculum, as 90.8% of our survey respondents answered “yes” when asked if a mental well-being course should be offered on college campuses. From an academic institutions’ perspective, however, consider what this means in terms of staffing, credit bearing or non- credit bearing decisions, timing in the curriculum, and required or elective. We hope to use this research to open a conversation about designing a student experience, with physical activity and mental health resource communication at its core, that will meet the mental health needs of current and prospective students.

Abrams, Z. (2022). Student mental health is in crisis: Campuses are rethinking their approach. American Psychological Association, Monitor on Psychology, 53. <https://www.apa.org/monitor/2022/10/mental-health-campus-care>.

Duffin, E. (2023). College enrollment in the United States from 1965 to 2020 and projections up to 2030 for public and private colleges. Statista. <https://www.statista.com/statistics/183995/us-college-enrollment-and-projections-in-public-and-private-institutions/>.

Hoyt, L.T., Cohen, A.K., Dull, B., Castro, E.M., & Yazdani, N. (2021). Constant stress has become the new normal: Stress and anxiety inequalities among U.S. college students in the time of COVID-19. Journal of Adolescent Health, 68(2), 270-276. <https://doi.org/10.1016/j.jadohealth.2020.10.030>.

Li, W., Zhao, Z., Chen, D., Peng, Y. & Lu, Z. (2022). Prevalence and associated factors of depression and anxiety symptoms among college students: a systematic review and meta-analysis. Journal of Child Psychology and Psychiatry, 63, 1222-1230. <https://doi-org.ezproxy.siena.edu/10.1111/jcpp.13606>

INFLUENCERS: TO FOLLOW OR NOT TO FOLLOW?

*Leah Chatalian, Siena College
Dr. Cheryl Buff, Siena College*

ABSTRACT

Influencer marketing is an increasingly popular social media marketing tactic that many companies are pursuing across industries. Influencers are known to be opinion leaders who communicate with their social network, the people who follow them (Boerman, 2020; Harrigan et al., 2021). These social networks exist on Instagram, Tik Tok, and other social media platforms. Influencers share their lives with consumers, create and interact with large amounts of multimedia content, and complement feedback and comments (Ryu & Han, 2021). These influencers are considered trusted tastemakers in one or more niches (De Veirman, Cauberghe and Hudders, 2017). These characteristics make them effective product and service promoters, partnering with organizations and building market awareness within their social network.

To better understand influencer marketing, including the reasons why someone chooses to follow or not to follow, a research study was conducted. A quantitative study, using an electronic survey with convenience and referral sampling, was designed and implemented. A total of 185 complete and usable responses were obtained.

Results show that 80% follow influencers while 20% do not. Through looking deeper into these respondents, we can gather that there are specific characteristics that respondents look for when following influencers as well as for not following influencers. Characteristics that are important include “type of content posted” and “relatability”, while “appearance” and “age” are not important factors when selecting an influencer to follow. Characteristics that increase the likelihood that consumers would purchase from an influencer are also explored. Repeated measures ANOVA shows significant results across the characteristics evaluated. “Lack of interest” and “lack of relatability” are two reasons indicated for not following influencers. Also, “impact on my self-perception” and “impact on my mental health” are not important reasons for opting not to follow.

These findings are important in understanding the trajectory of influencer marketing and why social media users chose to follow or not to follow influencers. With an in-depth analysis of respondents and their desire to follow influencers, the research will present further discussion points for marketers and how they can utilize this information within their strategies.

References

- Boerman, S. C. (2020). The effects of the standardized instagram disclosure for micro- and meso-influencers. *Computers in Human Behavior*, 103, February 2020, Pages 199-207
- De Veirman, M., Cauberghe V., & Hudders L. (2017). Marketing through Instagram influencers: the impact of number of followers and product divergence on brand attitude. *International Journal of Advertising*, 36(5), 798–828.
- Ryu, E. A., & Han, E. K. (2021). Social media influencer’s reputation: Developing and validating a multidimensional scale. *Sustainability*, 13(2), 631. <https://doi.org/10.3390/su13020631>
-

BEYOND TRIBALISM – WHAT VOTER PREFERENCE OF LEADERSHIP STYLE AND PERSONALITY TRAITS IN PRESIDENTIAL CANDIDATES REVEALS ABOUT AMERICAN POLITICAL LEADERSHIP

*Samuel Hearn, Siena College
Dr. Daniel Lewis, Siena College*

ABSTRACT

Americans are surveyed a myriad of ways regarding their preference for President (i.e., 'with which candidate would you most like to have a beer?'), however, leadership, perhaps of foremost importance of Presidential responsibility, is almost never directly examined. Desired candidate leadership styles and traits is a relatively new area of research within political science, with important contributions from John Petrocik's 'Theory of Issue Ownership' (1996) and Danny Hayes' 'Theory of Trait Ownership.' Using the American National Election Studies survey data on the personality traits of 'strong leadership,' empathy, competence, and integrity, I examine the reliability of the 'Theory of Trait Ownership' in the three most recent Presidential Elections (2012, 2016, and 2020). Additionally, given the partisan nature of the 'Theory of Trait Ownership,' two leadership styles can be compared. Servant Leadership, with traits empathy and competence, I expect to have larger effects on respondent evaluations of Democrats, whereas Authoritarian Leadership, with traits 'strong leadership' and integrity, I expect to have larger effects on respondent evaluations of Republicans.

Regression models of each candidate from the 2012, 2016, and 2020 elections on all four traits ('strong leadership,' empathy, competence, and integrity) were demonstrated as statistically significant in an independent regression model with controls and as well as individually by one's party affiliation with controls. When examining trait 'ownership,' Democratic Presidential candidates held a higher average than Republican candidates on all traits except for integrity in 2016. Further, upon review of parameter estimates by respondent's party identification, results were more consistent with the 'Theory of Trait Ownership.' Ultimately, the results demonstrate a complicated and evolving nature of Presidential leadership style and trait preferences, one relatively different than first theorized and worthy of attention in future Presidential elections.

The Mission of the School of Business

We empower students with the knowledge and values to lead, serve and succeed in their careers, communities and lives.

The Vision of the School of Business

To be the standard of educational excellence for a diverse learning community developing business minds for today and the future.

The Creed of the School of Business

Excellence in every interaction.



SIENA COLLEGE
School of Business
Siena Hall 301
515 Loudon Road
Loudonville, NY 12211-1462

(518) 783-2321
Email: cbuff@siena.edu
Fax: (518) 786-5040

Cover design by: Kathy Renaud, Office of Academic Affairs

The Ted Winnowski '63 Student Conference in Business
April 28, 2023