



**EXPLORING THE TRENDS OF ECONOMIC DOWNTURNS ON  
SUICIDE RATES OVER THE COURSE OF HISTORY**

Dr. Teesta Chatterjee

The Heritage School, Kolkata.  
Email: chatterjeeteesta422@gmail.com

**ABSTRACT**

This paper explores the trends of the suicide rates due to economic downturns over the course of history. The paper aims to explore the causes of suicide, how it affects the victims' families, the change in suicide rates with every passing year and in different geographical areas and how society gets affected by it. This paper also aims to raise awareness on this lesser-acknowledged factor in society to prevent such happenings and their consequences. The crucial drivers of suicide and self-harm are the lack of economical and psychosocial support, along with the challenges faced by individuals to secure available jobs, like prejudice in society. This paper discusses the causes and cross-sectoral mitigation efforts to address these gaps, with the goal of building a healthy community and bringing global awareness.

**Article History:**

Received Date: **07/03/2026**

Revised Date: **11/04/2026**

Accepted Date: **19/04/2026**

Published Date: **27/04/2026**

**Keywords:** Psychosocial,  
Economic Recession,  
Knickerbocker Trust, Labour,  
Organization, Economics

## 1. Introduction

Suicide is the act or instance of one taking their own life voluntarily and intentionally. It is a disastrous and traumatic tragedy that affects families, communities and entire countries and has long lasting effects on the people left behind. People resort to suicide for multiple reasons, which can be financial instability, economic crises, emotional instability and more. People prone to suicidal thoughts are the ones who blend in the most and are always the life of groups, which makes it harder to understand what goes on in their mind. The victims might look like the happiest people on earth, leaving people bewildered on the reason of them causing the deed. Suicide is never spontaneous and it should not be normalised. People should never be taunted over their insecurities or faults which makes them question their self-worth and their purpose in life. Not a single person is indispensable in this world and this should be explained to the entire world, to the people who are prone to suicidal thought and the people who take advantage of their sensitivity alike.

### 1.1 Link Between Economic Downturns And Suicide Rates

Though the direct casualty is uncertain, the association between these macroeconomic downturns and increased rates of suicides is plausible and cannot be ignored. Studies show that a 1 percent increase in unemployment is associated with a 0.8 percent increase in suicides, especially among younger adults. For example, economic policy decisions like demonetization and introduction of GST regimes significantly affected the informal, small-scale and unorganized sectors of the Indian economy, which was amplified during the pandemic due to the stringent restrictions of mobility and economic activities. The rural populations were highly affected with every third individual battling financial instability and searching for a way to support their families. These crises caused huge economic turmoil, with the suicide rates increasing by 7.2 and 6.2 percent in 2020 and 2021. The maximum brunt of the economic fallout was borne by the unorganized sectors like micro, small and medium scale enterprises (MSME), and the unskilled labour force, like daily wage earners. In the 1991 economic crisis, the Indian economy saw a parallel increase in the suicide rate from 9.2 to 9.9 percent.

### 1.2 How Does Economic Turmoil Incite Suicidal Thoughts

Several scientific articles, in the past five years, have established that the increase of suicide rate in several countries since 2008 is related to economic crisis. An article by the Institute of Forensic Medicine in the province of Milan, aims to conduct a test on the factors causing suicidal probability. By using a logistic binary regression model, the article demonstrates that the likelihood of suicide during an economic crisis is three times higher for persons affected by a severe disease than for people who are not. The article establishes that an individual's economic status during economic crises in countries has a lasting impact on the individual's mental health. Many countries privatized health services, reducing staffing levels in the public sector during the economic crisis, creating a situation of social inequality in which lesser wealthy people could not afford necessary medicines and services. This led to detrimental effects on the lesser wealthy sections of society, causing reduced well-being and increased incidence of anxiety and depression syndromes.

## 2. Literature Review

The aftermath of the deepest recession since the 1930s, resulted in a global economic downturn and a subsequent loss of an estimated 30 million jobs worldwide, making it worthwhile to revisit the academic literature on the public health effects of economic recession. Economic recessions have an interesting effect on their consequent suicide rates, as increased suicide rates are considered as a manifestation of psychosocial stress in populations. Suicide has become an increasing public and global health problem, with a 60% increase in global suicide rates over the last 45 years.

The National Bureau of Economic Research in America defines economic recessions as "contractions that occur within an economic cycle". It is measured through indicators such as gross domestic product (GDP) and unemployment rates. Suicide rate changes in relation to the economic cycle can be described as pro-cyclical if the rate increases as an economy experiences a cyclical upturn, or counter-cyclical if the rate increases during a cyclical downturn in the performance of an

economy.

Previous studies have either reviewed the literature that has been published within a year, have systematically examined all the literature published in the last few decades, or have analysed specific major recessions. This review aims to critically examine the literature focused on the relationship between completed suicide rates and economic recession.

The literature search initiated identified 93 studies for full text review. Of these 93 studies, 38 were included in this review. Specifically, 31 studies found a positive association between economic recession and increased suicide rates following the onset of recession. Two studies reported a clear overall negative association between economic recession and suicide (i.e., economic recession appeared to be a protective factor for suicide at the ecological level), two studies did not find an association and three studies were inconclusive in their findings.

## 2.1 Graphs On The Suicide Rates During Economic Crises

The NBER's Business Cycle Dating Committee defines a recession as "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators. Recessions don't occur frequently, although they are a major worrying issue. There were 122 completed recessions in 21 advanced economies over the 1960–2007 period.

To name a couple of the greatest economic crises in history, they are the 'Asian Financial Crisis', the 'Great Depression', the 'Panic of 1907', the 'Wall Street Crash of 1929' and numerous others.

The Asian Financial Crisis, in 1997-1998, hit the economies of many East/Southeast Asian countries plunged the countries affected into deep recessions that brought rising unemployment, poverty, and social dislocation. However, its impact on suicide rates across the region has not been systematically documented. We investigated the impact of the Asian economic crisis (1997-1998) on suicide in Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand. Suicide and population data for the period 1985-2006 were extracted from the World Health Organisation's mortality database and Taiwanese mortality statistics. After analysing, it was observed that the annual suicide rate in Korea stayed relatively low, hovering around 10 per 100,000, for about a decade after official statistics were initiated in 1985. After the 1997 Asian financial crisis, the suicide rate in Korea surpassed 20 per 100,000, reaching 30 per 100,000 in 2004 (as seen in Fig. 1).

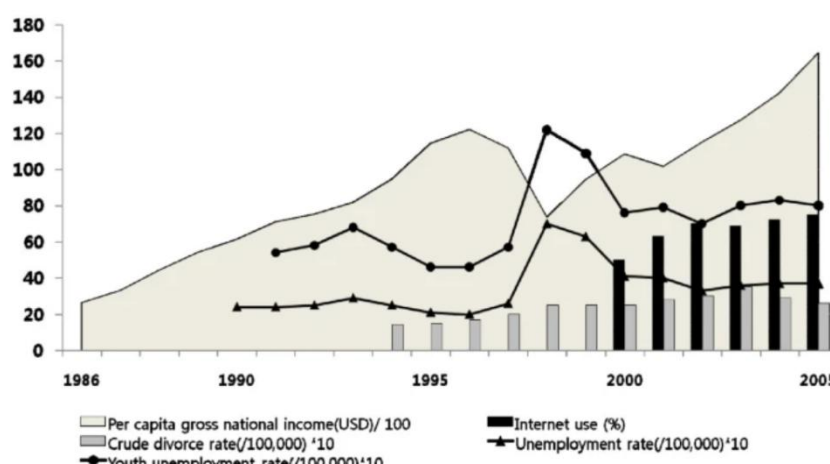
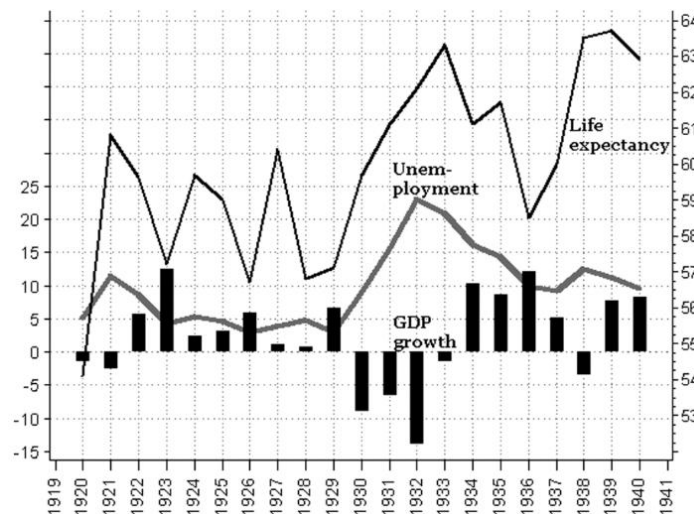


Fig. 1:- Suicide rates in South Korea from 1986-2005

The "Great Depression" was a severe, world-wide economic disintegration symbolized in the United States by the stock market crash on October 24, 1929, also known as "Black Thursday". The causes of the Great Depression were many and varied, but the impact was visible across the country. When the Depression was at its peak in 1933, 24.9% of the total work force or 12,830,000 people was unemployed (as seen in Fig. 2). Although farmers technically were not counted among the unemployed, drastic drops in farm commodity prices resulted in farmers losing their lands and homes to foreclosure.

The largest increase in the overall suicide rate occurred during the Great Depression (1929–1933),

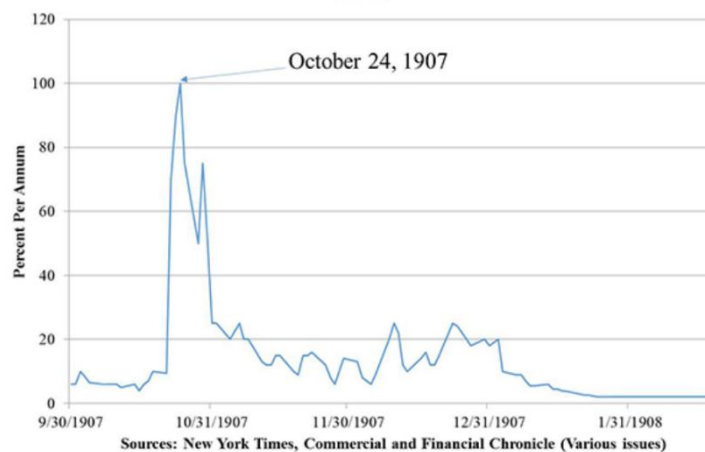
when it surged from 18.0% in 1928 to 22.1% (the all-time high) in 1932, the last full year of the Great Depression. This increase of 22.8% was the highest recorded for any 4-year interval during the study period.



**Fig. 2:- Economy during the Great Depression.**

The Panic of 1907, also known as the 1907 Bankers' Panic or Knickerbocker Crisis, was a financial crisis that took place in the United States over a three-week period starting in mid-October, when the New York Stock Exchange suddenly fell almost 50% from its peak the previous year (as seen in Fig. 3). The panic occurred during a time of economic recession, and there were numerous run-ins affecting banks and trust companies. The 1907 panic eventually spread throughout the nation when many state and local banks and businesses entered bankruptcy. The failure of New York's Knickerbocker Trust and the suicide of its president, Charles T. Barney, became the best-known tragedies of the crisis.

**Figure 1: Daily Maximum Call Loan Interest Rate**



**Fig. 3:- Panic of 1907: Horrifying tragedy that shook the USA's economy**

The Wall Street crash of 1929, also called the Great Crash, was a sudden and steep decline in stock prices in the United States in late October of that year. Any factors likely contributed to the collapse of the stock market. Among the more prominent causes were the period of rampant speculation (those who had bought stocks on margin not only lost the value of their investment, they also owed money to the entities that had granted the loans for the stock purchases), tightening of credit by the Federal Reserve (in August 1929 the discount rate was raised from 5 percent to 6 percent), the proliferation of holding companies and investment trusts (which tended to create debt), a multitude of large bank loans that could not be liquidated, and an economic recession that had begun earlier in the summer.

<https://eijhss.com/index.php/hss/inde>

While New York's actions protected commercial banks, the stock-market crash still harmed commerce and manufacturing. The crash frightened investors and consumers. People lost their life savings, feared for their jobs, and worried whether they could pay their bills. Fear and uncertainty clouded the people's minds, reducing purchases of big-ticket items, like automobiles, that people bought with credit. Firms – like Ford Motors – saw demand decline, so they slowed down production and furloughed workers. Unemployment rose, and the contraction that had begun in the summer of 1929 deepened (Romer 1990; Calomiris 1993). Even though the crash's impact faded in a few months, while curtailing economic activity, it gave way for the arousal of the nation's longest, deepest depression. However, though there was mass financial instability in this period, the effects of this economic crisis did not include suicides.

## 2.2 An Indian Study On Suicide Rates Due To Economic Downturns

According to official statistics, India is home to 20% of the world's suicide deaths, yet the issue attracts limited national public health attention. In addition, statistics on suicides released by the Indian National Crime Records Bureau (NCRB) are insufficient to understand the magnitude of the problem. In 2013, the NCRB reported that 134,799 people died of suicide, making the suicide rate 11% of total deaths. However, other studies make it evident that the NCRB's suicide rate data are grossly underreported. For instance, the WHO reported 170,000 cases of suicide deaths in India, which is about 35,000 higher than the NCRB's data, making the inaccuracy of the data frankly concerning. Similarly, the Registrar General of India implemented a nationally representative mortality survey indicating that about 3% of the surveyed deaths (2684 of 95,335) in individuals aged 15 years or older were due to suicide, corresponding to about 187,000 suicide deaths in India in 2010.

India is among the very few Low- and Middle-Income Countries (LMICs) with regular reports of suicide data through the NCRB publications. Dr. Vikas Arya (University of Melbourne) and colleagues (including Dr. Lakshmi Vijayakumar, Dr. Peter Mayer, Prof. Rakhi Dandona, Prof. Andrew Page, Prof. Ann John, Prof. David Gunnell, Prof. Jane Pirkis and Dr. Gregory Armstrong) have published various peer reviewed journal articles on the epidemiology of suicide in India based on the NCRB data. The results from some of their studies are discussed below.

It is observed that, suicide rates are generally higher among males compared to females in India. On average, higher male and female suicide rates are observed in states with: higher levels of development, higher levels of agricultural employment, higher levels of literacy, and higher proportions of people identifying with Hinduism. Higher male suicide rates are also observed in states with higher levels of unemployment. Arya and colleagues suggest that the process of modernization and rapid social change with an increasing gap between expectations and reality might be contributing towards higher suicide risk in more developed parts of India. Regarding high female suicide rates among the younger age-group, they suggest that the ongoing clash between traditional values and modern ways of living concerning issues such as age of marriage, and the value of individual decision making, along with patriarchal norms and sexual violence against women might be contributing factors. Regarding high male suicide rates among middle age groups, they suggest "that because males play the traditional role of "breadwinners" in India and failure to provide for the family during the middle age, for example, due to loss of employment, might result in higher suicide rates".

## 3. History Of Suicide Rates And Economic Stressors

The relationship between socioeconomic conditions and suicide is complex. Suicide rates are often higher in groups that experience economic disadvantage, including financial hardship and unemployment. The integrated motivational–volitional model of suicidal behaviour identifies defeat and humiliation, entrapment, lack of belongingness, and perceived burdensomeness as key precursors to suicidal thinking. A 2022 review of studies showed that increased general measures of economic hardship (eg, economic recession and unemployment) and, specifically, changes in aggregate consumption (ie, the amount of consumer spending in relation to disposable income across an economy) were associated with increased suicide rates. A meta-analysis published in 2023 examining studies predominantly conducted in high-income countries (HICs) concluded that

individuals in the general population experiencing financial stress were 74% more likely to die by suicide (23 studies) and unemployed individuals were 87% more likely to do so (43 studies), although associated mental and physical health factors could have contributed to this excess risk.

### 3.1 Analysis Of Suicide Rates During Past Economic Recession

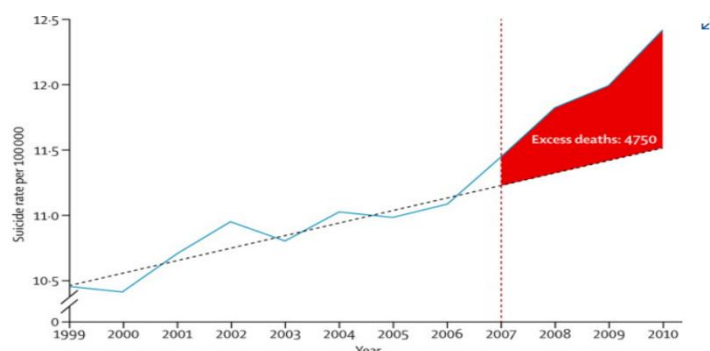
The global recession that followed after the major panic on the inter-bank loan market crisis, resulted in a sharp drop in international trade, rising unemployment and slumping commodity prices. Several economists predicted that recovery might not appear until 2011 and that the recession would be the worst since the Great Depression of the 1930s.

Studies show that the Great Recession of 2007-2009 led to nearly 500 excess suicides in the United States. After a detailed analysis, we have observed that there were 56,658 suicide deaths during the Great Recession. The models predicted 57,140 expected suicide deaths, leading to 482 fewer observed than expected suicides (95% confidence interval -2079, 943).

However, we have also observed that Great Recession did not particularly, in any way, interrupt the existing trajectories of suicide rates.

A study published by Mert Akyuz (Department of Economics, Ankara Yildirim Beyazit University, Ankara, Turkey) and Cagin Karul (Department of Econometrics, Pamukkale University, Denizli, Turkey), under the International Journal of Human Rights in Healthcare provide evidence that IP and investment have a statistically significant and negative impact on suicide mortality, whereas inflation has a statistically significant and positive effect on suicide mortality. The results of this study provide a huge help for policymakers for the creation and implementation of suicide prevention policies. Not only do investment promotion, IP and disinflation policies in developing countries have a significant effect on economic growth, but they also have a substantial impact on mental health.

In the years before the onset of the crisis (from 1999 to 2007), the suicide mortality rate in the USA was rising on average at a rate of 0.12 per 100 000 per year. Coinciding with the onset of the recession, the suicide rate accelerated, corresponding to an additional 1580 suicides per year. Thus, during the recessionary period after 2007, there were an estimated 4750 excess suicide deaths. Evidence from European countries indicates a significant rise in suicides from the economic recession, totalling more than 1000 excess deaths in the UK alone. In Greece, suicide rates have risen by more than 60% since 2007, among the worst affected economies in Europe. To assess trends in all 50 US states, previous analyses of recessions and suicides in Europe have been acquired and used (as seen in Fig. 4). Data on suicide mortality rates from 1999 to 2010 has been taken from the Centres for Disease Control and Prevention. Unemployment data come from the Bureau of Labour Statistics.



### 3.2 Comparison Of Suicide Rates Before, During, And After Economic Downturns

It is a known factor that a country's economy is uprooted into chaos no matter how stable the country's income rate is, during an economic recession. These ups and downs in the economy lead to mass unemployment and several other issues. Unemployment troubles numerous households, causing stress, deterioration of mental health, loss of income and more. These psychosocial factors

contribute largely to the increase in suicide rates. To explain this fact further, we take on the economic recessions of USA, Asia and Europe. The Great Recession in USA (December 2007-June 2009) was caused by the bursting of the housing bubble, excessive risk-taking by financial institutions and predatory lending.

TIME PERIOD	SUICIDE RATE
BEFORE THE RECESSION	0.12 per 100,000 annually
DURING THE RECESSION	0.51 per 100,000 annually
AFTER THE RECESSION	5000 excess suicides

The 1997 Asian financial crisis began in Thailand, ensuing a series of currency devaluations and capital flight. It was caused by factors such as rapid domestic credit growth, heavy foreign borrowing, and inadequate supervisory oversight. This economic unrest spread further to countries like Indonesia, Thailand and South Korea.

TIME PERIOD	SUICIDE RATE
BEFORE THE RECESSION	17% per 100,000 annually
DURING THE RECESSION	43%
AFTER THE RECESSION	10400 excess suicides

The European Sovereign Debt Crisis began in 2008 with the collapse of Iceland’s banking system along and spread to other countries. The crisis caused the collapse of financial institutions, high government debt, and rising bond yields. The International Labour Organization estimated that the number of jobless worldwide reached about 212 million in 2009, an increase of 34 million compared with 2007.

TIME PERIOD	SUICIDE RATE
BEFORE THE RECESSION	9.1 per 100,000 annually
DURING THE RECESSION	11.7%
AFTER THE RECESSION	10.2 per 100,000 annually

This study shows that economic recessions do affect suicide rates drastically. The suicide rates exhibit a steep incline in the following time periods of before the recession, during the recession and after the recession.

**3.3 Effects Of Financial Instability, Such As Loss Of Savings Or Home Foreclosure**

Economic and financial uncertainty is associated with higher suicide rates. Studies show that suicide rates increased after the 2007–2009 global economic recession. Even daily fluctuations in economic uncertainty are associated with changes in suicide rates. Extended unemployment may lead to mental health issues and financial hardship. The state of one’s mental health may mediate the

relationship between financial strain and suicide. Perceived financial threat, defined as “the anxious feeling that available resources are insufficient to meet personal needs,” is also associated with distress and increased depression and anxiety. These mental health conditions can increase suicide risk.

In the late 19th century, Emil Durkheim, sociologist, published a study. The study observed that suicide was a primary response to social circumstances, such as loss of savings and unemployment. People commit suicide when they are financially instable or well-integrated into society, rather than having mental disorders. Poverty and personal debt are also risk factors for suicide, because they cause a lot of stress and insecurity to individuals. People in problem debt are more than three times as likely to attempt suicide as those who aren't, with 3% actually attempting suicide each year. Suicide attempts can be triggered when sudden financial problem arise, particularly when someone is already struggling with other long-term issues. Income shocks-driven by time off work sick or benefit sanctions-can undermine an individual's financial security and stoke feelings of inadequacy and powerlessness, leading to suicidality. More than 100,000 people in problem debt attempt suicide in England each year.

Home foreclosure is the process of a lender repossessing a property after a borrower fails to make mortgage payments, or the borrower paying off the home loan early. Foreclosures are linked to suicide rates in ways such as them being a potent psychological stressor, increased violence and crime rates, and undermining social support. "Real-estate-owned" foreclosures, where a lender repossesses a family's house, has an even higher association with suicide, because it increases the individual's frustration and stress, as they are unable to provide a stable home for their family. The rising foreclosures are a potent risk factor for suicide rates, because the loss of a home signals status loss, shame, and stress at the individual level.

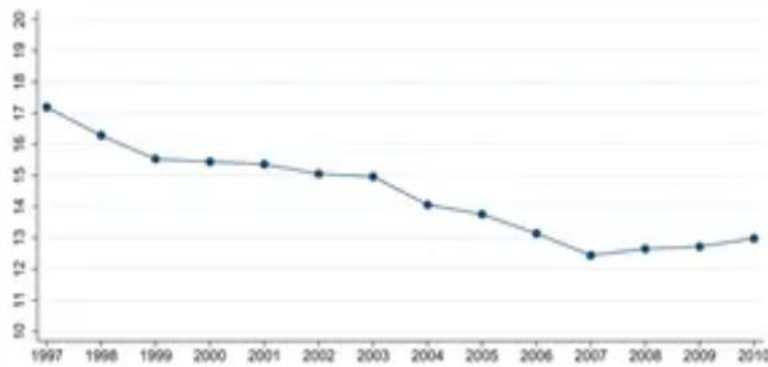
#### 4. Demographic Differences

The suicide ratio for women in India (14.7 per 100,000) is 2.1 times higher than the global ratio, while for the ratio for men (21.2 per 100,000) is 1.4 times higher than the global ratio. India accounts for 36.6% of global deaths in women and 24.3% in men, while only accounting for 17.8% of the world's population. Article 1702(2021) by BMC Public Health yields the following results. The aims of the study were to find risk factors for suicide that are robust to intercorrelation, and which were based on a large and unbiased sample. Using a training set of 5854 suicides and 596,416 control cases, a logistic regression model was fitted to evaluate the performance on a test set of 1425 suicides and 594,893 control cases. The data used was micro-data of Statistics Netherlands (CBS) with data on each inhabitant of the Netherlands. It was found that male gender, middle-age, and low income are risk factors that are robust to intercorrelation, indicating that these differences were primarily caused due to the differences in the demographic makeup of the regions. An AUC of 0.77 was found, which is high for a model predicting suicide death.

#### 4.1 Variations In Suicide Rates Across Different Age Groups, Genders, And Socioeconomic Statuses

The age group with the most suicide deaths for men were 18–29, 30–44, and 45–59 years, whereas for women were 18–29 years. Daily wage earners show a surge of 170.7% in suicide deaths among men between 2014 and 2021 accruing to SDR of 34.6 among men against 13.1 among women in 2021. Unemployed men and women had a very high SDR of 48.2 and 27.8, respectively.

An original research article by the departments of Pneumology, Helios Klinikum Emil von Behring, Berlin, Germany, Psychiatry and Psychotherapy, University of Leipzig, Leipzig, Germany, and Psychiatry, Psychosomatics and Psychotherapy, Goethe Universität, Frankfurt am Main, Germany reveals increases in district suicide rates by 1.20% ( $p < 0.035$ ) for 1% increases of district unemployment, suicide rate decreases of  $-0.39\%$  ( $p < 0.028$ ) for 1% increases in incomes, increases of 1.65% ( $p < 0.033$ ) in suicides for 1% increases in one-person-households and increases in suicide rates of 0.54% ( $p < 0.036$ ) for 1% decreases in single persons' incomes as well as suicide rate increases of 3.52% ( $p < 0.000$ ) for 1% increases in CASMIN scores of individuals who moved throughout the year preceding suicide.



**Fig. 5:- Increase in district suicide rates**

#### 4.2 How Economic Downturns Impact Vulnerable Populations Differently

Recessions can drastically affect and alter the lives of the economically vulnerable negatively. Recessions cause standard monetary and fiscal effects – credit availability tightens, and short-term interest rates tend to fall. As businesses seek to cut costs, unemployment rates increase. That, in turn, reduces consumption rates, which causes inflation rates to go down. Lower prices reduce corporate profits, which triggers more job cuts and creates a vicious cycle of an economic slowdown.

The COVID-19 economic crisis, an economic shock of rare and extreme impact, had dissolved economies around the world and caused mass-global unrest and insecurity. COVID-19 has had a devastating impact on the world economy with huge reductions in productivity and national income, and record levels of unemployment (for example and 5.2 million people filed for unemployment benefit in just one week in April 2020 in the US). The economic impact was far greater than that of the global financial crisis of 2007/8, and was likely to be worse in depth than the Great Depression of the 1930s. Multiple studies provide an overview of the unequal impacts of COVID-19 in terms of the social and spatial distribution of the economic crisis, using evidence from previous recessions to explore the unequal health impacts and reflect on the role of social safety nets in preventing them.

The results range from unequal experiences of lockdown, due to job and income loss, overcrowding, urbanity, access to greenspace, key worker roles; how the lockdown itself shaped the social determinants of health-reduced access to healthcare services for non-COVID-19 reasons as the system is overwhelmed by the pandemic, and inequalities in the immediate health impacts of the lockdown. However, arguably, the longer-term and largest consequences of the ‘great lockdown’ for health inequalities was through political and economic pathways. The economic shock of COVID-19, therefore, created large inequalities, in terms of employment and income. Thus, economic declines may have a disproportionately negative impact on vulnerable population subgroups, such as those with pre-existing mental disorders, those of lower socio-economic status and the unemployed.

#### 5. Case Studies

Case studies show detailed depiction of the topic in hand, in this case, it being suicide rates during economic recessions. These studies enable us to understand the situation on a more knowledgeable level, with several analyses and graphs.

##### 5.1 Highlighting Severe Economic Downturns And Their Consequences

The world’s most devastating financial crises were the Great Depression and the Great Recession. The Great Depression (1929–1939) was a severe global economic downturn that affected many countries across the world. It became evident after a sharp decline in stock prices in the United States, the largest economy in the world at the time, leading to a period of economic depression. The economic contagion began around September 1929 and led to the Wall Street stock market crash of October (Black Tuesday). This crisis marked the start of a prolonged period of economic hardship characterized by high unemployment rates and widespread business failures.

Between 1929 and 1932, worldwide gross domestic product (GDP) fell by an estimated 15%. Some economies started to recover by the mid-1930s. However, in many countries, the negative effects of the Great Depression lasted until the beginning of World War II. Devastating effects were seen in

both rich and poor countries with falling personal income, prices, tax revenues, and profits. International trade fell by more than 50%, unemployment in the U.S. rose to 23% and in some countries rose as high as 33%. Cities around the world were severely affected, especially those dependent on heavy industry. Farming communities and rural areas suffered as crop prices fell by about 60%. The catalyst of the Great Depression is considered to be the devastating Wall Street Crash, by economic historians. However, some see the crash less as a cause of the Depression and more a symptom of the rising nervousness of investors partly due to gradual price declines caused by falling sales of consumer goods that had already been underway as part of a gradual depression. Suicide rates surged from 18.0 in 1982 to 22.1 in 1992, which was an all-time high.

The Great Recession was a period of market decline in economies around the world that occurred in 2007 to 2009. At the time, the International Monetary Fund (IMF) concluded that it was the most severe economic and financial meltdown since the Great Depression. When housing prices fell and homeowners began to abandon their mortgages, the value of mortgage-backed securities held by investment banks declined in 2007–2008, causing several to collapse or be bailed out in September 2008. This 2007–2008 phase was called the subprime mortgage crisis. The combination of banks being unable to provide funds to businesses, and homeowners paying down debt rather than borrowing and spending, resulted in the Great Recession that began in the U.S. officially in December 2007 and lasted until June 2009, thus extending over 19 months. There was an acceleration of an additional 1580 suicides annually (95% CI 860-2300), leading to an estimate of 4750 excess suicide deaths (95% CI 2570-6920).

### 6. Recommendations

This study aims to highlight the trends of economic downturns on suicide rates over the course of history, to raise awareness about this lesser-known factor of society, which can be, by no means, ignored.

#### 6.1 Strategies And Programs That Have Been Successful In Reducing Suicide Rates During Economic Crises

The link between the Primary Care Clinic and Public Health Resources Intervention, a suicide prevention program in primary care clinics supported by community public health resources, was implemented at the district level in 2017. After adjustment for district-level confounders, an intervention-implemented district had 2.87 fewer suicide deaths per 100,000 people. In other words, the suicide rate in the intervention area decreased by 25% following the intervention

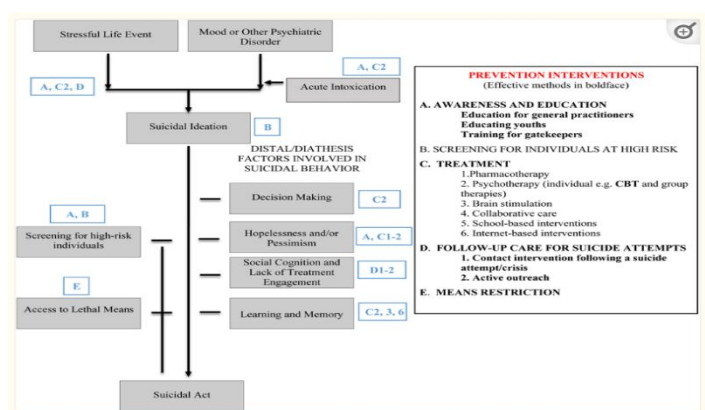


Fig. 6:- Targets and Methods of Suicide Prevention

Training primary care physicians in depression recognition and treatment prevents suicide. Educating youth regarding depression and suicidal behaviour, active outreach of psychiatric patients after discharge or a suicidal crisis, antidepressants, CBTs, DBTs are useful methods for the prevention of suicidal behaviour. Ketamine reduces suicidal ideation in hours but is untested for suicidal behaviour prevention. Active screening for suicidal ideation or behaviour is not proven to be better than just screening for depression. Education of gatekeepers about youth suicidal behaviour lacks effectiveness. No RCTs are reported for gatekeeper training for adult suicidal behaviour prevention. Algorithm-driven electronic health records (EHR) screening, internet-based

screening and smartphone passive monitoring to identify high-risk patients are under-studied. Means restriction, including firearms, prevents suicide, but is rarely employed in the U.S., even though firearms are used in half of all U.S. suicides. RCTs are required to compare effectiveness of education of adult gatekeepers versus educating higher risk adults including most psychiatric patients. Active follow-up of patients after discharge or a suicide-related crisis should be routine and restricting firearm access by at-risk individuals warrants wider-use. Combination approaches in healthcare systems show promise in reducing suicide in U.K., Denmark and U.S., but evaluating benefit attributable to each component is essential (as seen in Fig. 6).

## 7. Conclusion

Throughout this paper, we get to know of the varying effects of economic downturns on suicide rates. This paper was written, to help people know more about how instability in the economy can trigger suicidal responses and their scales. This paper aims to raise awareness about this situation, globally. Our findings show that, however suicidal responses to financial instability can never be eradicated completely, we can however lessen them considerably, by raising awareness, removing stereotypes and organising numerous intervention programs on all levels. This paper aims to motivate people to act on this matter, because as the saying goes, “one small step for man is a giant leap for mankind”.

## References

1. SUICIDE Definition & Meaning <https://www.merriam-webster.com/dictionary/suicide>
2. Systematic review of suicide in economic recession <https://pmc.ncbi.nlm.nih.gov/articles/PMC4473496/>
3. Systematic review of suicide in economic recession <https://pmc.ncbi.nlm.nih.gov/articles/PMC4473496/>
4. Recession: When Bad Times Prevail <https://www.imf.org/external/pubs/ft/fandd/basics/recess.htm>
5. Claessens, Stijn, M. Ayhan Kose, and Marco Terrones, 2009, “What Happens During Recessions, Crunches, and Busts?” *Economic Policy*, Vol. 60, pp. 653–700. <https://www.imf.org/external/pubs/ft/fandd/basics/recess.htm>
6. Finance & Development, September 1999, Volume 36, Number 3, The Asian Financial Crisis: What Have We Learned by Timothy Lane <https://www.imf.org/external/pubs/ft/fandd/1999/09/lane.htm>
7. Was the economic crisis 1997-1998 responsible for rising suicide rates in East/Southeast Asia? A time-trend analysis for Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand <https://pubmed.ncbi.nlm.nih.gov/19200631/>
8. Understanding the Fluctuations in Korea’s Suicide Rates: A Change-Point Analysis and Interrupted Time Series Analysis <https://pmc.ncbi.nlm.nih.gov/articles/PMC11004772/>
9. Kwon, JW., Chun, H. & Cho, Si. A closer look at the increase in suicide rates in South Korea from 1986–2005. *BMC Public Health* 9, 72 (2009). <https://doi.org/10.1186/1471-2458-9-72> <https://link.springer.com/article/10.1186/1471-2458-9-72#citeas>
10. FARM PRODUCT PRICES, REDISTRIBUTION, AND THE EARLY U.S. GREAT, Working Paper 28055, [https://www.nber.org/system/files/working\\_papers/w28055/w28055.pdf](https://www.nber.org/system/files/working_papers/w28055/w28055.pdf)
11. Life and death during the Great Depression [https://www.researchgate.net/publication/26871254\\_Life\\_and\\_death\\_during\\_the\\_Great\\_Depression](https://www.researchgate.net/publication/26871254_Life_and_death_during_the_Great_Depression)
12. 1907 Bankers' Panic and the birth of the FED <https://www.km3am.com/post/1907-bankers-panic-and-the-birth-of-the-fed>
13. Robert F. Bruner and Sean D. Carr, *The Panic of 1907: Lessons Learned from the Market’s Perfect Storm* (New York: John Wiley & Sons, 2007), pp. ix–xiii, 65–70. <https://www.library.hbs.edu/hc/crises/1907.html>
14. Federal Reserve History, The Panic Of 1907 <https://www.federalreservehistory.org/essays/panic-of-1907>

15. Stock market crash of 1929 <https://www.britannica.com/event/stock-market-crash-of-1929>
16. Stock Market Crash of 1929 <https://www.federalreservehistory.org/essays/stock-market-crash-of-1929>
17. According to official statistics, India is home to 20% of the world's suicide deaths, yet the issue attracts limited national public health attention <https://www.jmir.org/2019/1/e10179/>
18. Suicide mortality in India: a nationally representative survey <https://pubmed.ncbi.nlm.nih.gov/22726517/>
19. Suicide mortality in India: a nationally representative survey <https://pubmed.ncbi.nlm.nih.gov/22726517/>
20. The effect of economic downturn, financial hardship, unemployment, and relevant government responses on suicide <https://www.sciencedirect.com/science/article/pii/S246826672400152X>
21. DJ Roelfs, E Shor Financial stress, unemployment, and suicide: a meta-analysis <https://www.sciencedirect.com/science/article/pii/S246826672400152X#bib3>
22. Great Recession [https://en.wikipedia.org/wiki/Great\\_Recession](https://en.wikipedia.org/wiki/Great_Recession)
23. David Lightman. Congressional Budget Office compares downturn to Great Depression Archived March 3, 2009, at the Wayback Machine. McClatchy Washington Bureau. January 27, 2009. [https://en.wikipedia.org/wiki/Great\\_Recession#cite\\_note-24](https://en.wikipedia.org/wiki/Great_Recession#cite_note-24)
24. Did the Great Recession increase suicides in the USA? Evidence from an interrupted time-series analysis <https://pubmed.ncbi.nlm.nih.gov/28625812/>
26. Akyuz, M. and Karul, C. (2023), "The effect of economic factors on suicide: an analysis of a developing country", *International Journal of Human Rights in Healthcare*, Vol. 16 No. 5, pp. 473-482.  
[https://www.researchgate.net/publication/361739965\\_The\\_effect\\_of\\_economic\\_factors\\_on\\_suicide\\_An\\_analysis\\_of\\_a\\_developing\\_country](https://www.researchgate.net/publication/361739965_The_effect_of_economic_factors_on_suicide_An_analysis_of_a_developing_country)
27. Akyuz, M. and Karul, C. (2023), "The effect of economic factors on suicide: an analysis of a developing country", *International Journal of Human Rights in Healthcare*, Vol. 16 No. 5, pp. 473-482.  
[https://www.researchgate.net/publication/361739965\\_The\\_effect\\_of\\_economic\\_factors\\_on\\_suicide\\_An\\_analysis\\_of\\_a\\_developing\\_country](https://www.researchgate.net/publication/361739965_The_effect_of_economic_factors_on_suicide_An_analysis_of_a_developing_country)
28. Reeves A, Stuckler D, McKee M et al. Increase in state suicide rates in the USA during economic recession *The Lancet*, 2012; 380, 1813-1814  
<https://www.thelancet.com/action/showCitFormats?doi=10.1016%2FS0140-6736%2812%2961910-2&pii=S0140-6736%2812%2961910-2>
29. OP67 Increase in State Suicide Rates in the USA During Economic Recession [https://jech.bmj.com/content/67/Suppl\\_1/A32.2](https://jech.bmj.com/content/67/Suppl_1/A32.2)
30. Reeves A, Stuckler D, McKee M et al. Increase in state suicide rates in the USA during economic recession *The Lancet*, 2012; 380, 1813-1814  
<https://www.thelancet.com/action/showCitFormats?doi=10.1016%2FS0140-6736%2812%2961910-2&pii=S0140-6736%2812%2961910-2>
31. Sharp Increase in US Suicides Blamed on Financial Crisis <https://www.medscape.com/viewarticle/773911?form=fpf>
32. Sharp Increase in US Suicides Blamed on Financial Crisis <https://www.medscape.com/viewarticle/773911?form=fpf>
33. Sharp Increase in US Suicides Blamed on Financial Crisis <https://www.medscape.com/viewarticle/773911?form=fpf>
34. 1997 Asian financial crisis [https://en.wikipedia.org/wiki/1997\\_Asian\\_financial\\_crisis](https://en.wikipedia.org/wiki/1997_Asian_financial_crisis)
35. Shu-Sen Chang, David Gunnell, Jonathan A.C. Sterne, Tsung-Hsueh Lu, Andrew T.A. Cheng, Was the economic crisis 1997–1998 responsible for rising suicide rates in East/Southeast Asia? A time–trend analysis for Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand, *Social Science & Medicine*, Volume 68, Issue 7, 2009, Pages 1322-1331, ISSN 0277-9536  
<https://eijhss.com/index.php/hss/inde>

- <https://www.sciencedirect.com/science/article/abs/pii/S0277953609000100>
- 36 Shu-Sen Chang, David Gunnell, Jonathan A.C. Sterne, Tsung-Hsueh Lu, Andrew T.A. Cheng, Was the economic crisis 1997–1998 responsible for rising suicide rates in East/Southeast Asia? A time–trend analysis for Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand, *Social Science & Medicine*, Volume 68, Issue 7, 2009, Pages 1322-1331, ISSN 0277-9536 <https://www.sciencedirect.com/science/article/abs/pii/S0277953609000100>
- 37 Eurozone Debt Crisis: Causes, Consequences, and Solutions (2008–2012) <https://www.investopedia.com/terms/e/european-sovereign-debt-crisis.asp>
- 38 Unemployment reached highest level on record in 2009 <https://www.ilo.org/resource/news/unemployment-reached-highest-level-record-2009-somavia-calls-same-policy>
- 39 Euro area crisis [https://en.wikipedia.org/wiki/List\\_of\\_countries\\_by\\_suicide\\_rate](https://en.wikipedia.org/wiki/List_of_countries_by_suicide_rate)
- 40 Guerra O, Eboeime E. The Impact of Economic Recessions on Depression, Anxiety, and Trauma-Related Disorders and Illness Outcomes-A Scoping Review. *Behav Sci (Basel)*. 2021 Aug 31;11(9):119. doi: 10.3390/bs11090119. PMID: 34562956; PMCID: PMC8464685. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3776046/>
- 41 Seltzer N. Beyond the Great Recession: Labor Market Polarization and Ongoing Fertility Decline in the United States. *Demography*. 2019 Aug;56(4):1463-1493. doi: 10.1007/s13524-019-00790-6. PMID: 31214946; PMCID: PMC7197790 <https://pmc.ncbi.nlm.nih.gov/articles/PMC7197790/>
- 42 Chang S, Stuckler D, Yip P, Gunnell D. Impact of 2008 global economic crisis on suicide: time trend study in 54 countries *BMJ* 2013; 347 :f5239 doi:10.1136/bmj.f5239 <https://www.bmj.com/content/347/bmj.f5239>
- 43 Vadoros, S., Avendano, M., & Kawachi, I. (2019). The association between economic uncertainty and suicide in the short-run. *Soc Sci Med*. 2019 Jan;220:403-410. doi: 10.1016/j.socscimed.2018.11.035. Epub 2018 Nov 24. PMID: 30529798. <https://pubmed.ncbi.nlm.nih.gov/30529798/>
- 44 Franke AG, Schmidt P, Neumann S. Association Between Unemployment and Mental Disorders: A Narrative Update of the Literature. *Int J Environ Res Public Health*. 2024 Dec 19;21(12):1698. doi: 10.3390/ijerph21121698. PMID: 39767537; PMCID: PMC11727728. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11727728/>
- 45 Alleviating Financial Strain to Reduce Suicide Risk [https://www.mentalhealth.va.gov/suicide\\_prevention/docs/From-Science-to-Practice-Financial-Strain-508.pdf](https://www.mentalhealth.va.gov/suicide_prevention/docs/From-Science-to-Practice-Financial-Strain-508.pdf)
- 46 Fiksenbaum, L., Marjanovic, Z., Greenglass, E., & Garcia-Santos, F. (2017). Impact of economic hardship and financial threat on suicide ideation and confusion. *The Journal of Psychology*, 151(5), 477–495. <https://doi.org/10.1080/00223980.2017.1335686>
- 47 Frasquilho, D., Matos, M. G., Salonna, F., Guerreiro, D., Storti, C. C., Gaspar, T., & Caldas-de-Almeida, J. M. (2016). Mental health outcomes in times of economic recession: A systematic literature review. *BMC Public Health*, 16, 115. [https://www.mentalhealth.va.gov/suicide\\_prevention/docs/From-Science-to-Practice-Financial-Strain-508.pdf#:~:text=6%20Perceived%20financial%20threat%2C%20defined,and%20increased%20epression%20and%20anxiety](https://www.mentalhealth.va.gov/suicide_prevention/docs/From-Science-to-Practice-Financial-Strain-508.pdf#:~:text=6%20Perceived%20financial%20threat%2C%20defined,and%20increased%20epression%20and%20anxiety).
- 48 Crossman, Ashley. "Émile Durkheim: "Suicide: A Study in Sociology"." ThoughtCo, Jun. 7, 2024, <https://www.thoughtco.com/study-of-suicide-by-emile-durkheim-3026758>
- 49 Crossman, Ashley. "Émile Durkheim: "Suicide: A Study in Sociology"." ThoughtCo, Jun. 7, 2024, <https://www.thoughtco.com/study-of-suicide-by-emile-durkheim-3026758>
- 50 A silent killer <https://www.moneyandmentalhealth.org/publications/suicide-and-debt/>
- 51 Houle JN, Light MT. The home foreclosure crisis and rising suicide rates, 2005 to 2010. *Am J Public Health*. 2014 Jun;104(6):1073-9. doi: 10.2105/AJPH.2013.301774. Epub 2014 Apr 17. PMID: 24825209; PMCID: PMC4062039. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4062039/>
- 52 Houle JN, Light MT. The home foreclosure crisis and rising suicide rates, 2005 to 2010. *Am J Public Health*. 2014 Jun;104(6):1073-9. doi: 10.2105/AJPH.2013.301774. Epub 2014 Apr 17. PMID: 24825209; PMCID: PMC4062039.

- 53 Houle JN, Light MT. The home foreclosure crisis and rising suicide rates, 2005 to 2010. *Am J Public Health*. 2014 Jun;104(6):1073-9. doi: 10.2105/AJPH.2013.301774. Epub 2014 Apr 17. PMID: 24825209; PMCID: PMC4062039. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4062039/>
- 54 Houle JN, Light MT. The home foreclosure crisis and rising suicide rates, 2005 to 2010. *Am J Public Health*. 2014 Jun;104(6):1073-9. doi: 10.2105/AJPH.2013.301774. Epub 2014 Apr 17. PMID: 24825209; PMCID: PMC4062039. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4062039/>
- 55 India Has Highest Suicide Rate In Southeast Asian Region, Says Study <https://www.newslick.in/india-has-highest-suicide-rate-southeast-asian-region-says-study>
- 56 Berkelmans G, van der Mei R, Bhulai S, Gilissen R. Identifying socio-demographic risk factors for suicide using data on an individual level. *BMC Public Health*. 2021 Sep 18;21(1):1702. doi: 10.1186/s12889-021-11743-3. PMID: 34537046; PMCID: PMC8449910. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8449910/>
- 57 Berkelmans G, van der Mei R, Bhulai S, Gilissen R. Identifying socio-demographic risk factors for suicide using data on an individual level. *BMC Public Health*. 2021 Sep 18;21(1):1702. doi: 10.1186/s12889-021-11743-3. PMID: 34537046; PMCID: PMC8449910. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8449910/>
- 58 Suryakant Yadav, Aathavan K K, Solveig Argeseanu Cunningham, Pravat Bhandari, Udaya Shankar Mishra, Aditi Aditi, Ravita Yadav, Changing pattern of suicide deaths in India, *The Lancet Regional Health - Southeast Asia*, Volume 16, 2023, 100265, ISSN 2772-3682, <https://www.sciencedirect.com/science/article/pii/S2772368223001257>
- 59 Associations of Suicide Rates With Socioeconomic Status and Social Isolation: Findings From Longitudinal Register and Census Data [https://www.researchgate.net/publication/338579236\\_Associations\\_of\\_Suicide\\_Rates\\_With\\_Socioeconomic\\_Status\\_and\\_Social\\_Isolation\\_Findings\\_From\\_Longitudinal\\_Register\\_and\\_Census\\_Data](https://www.researchgate.net/publication/338579236_Associations_of_Suicide_Rates_With_Socioeconomic_Status_and_Social_Isolation_Findings_From_Longitudinal_Register_and_Census_Data)
- 60 Näher, Anatol-Fiete & Rummel-Kluge, Christine & Hegerl, Ulrich. (2020). Associations of Suicide Rates With Socioeconomic Status and Social Isolation: Findings From Longitudinal Register and Census Data. *Frontiers in Psychiatry*. 10. 10.3389/fpsy.2019.00898. [https://www.researchgate.net/publication/338579236\\_Associations\\_of\\_Suicide\\_Rates\\_With\\_Socioeconomic\\_Status\\_and\\_Social\\_Isolation\\_Findings\\_From\\_Longitudinal\\_Register\\_and\\_Census\\_Data/citation/download](https://www.researchgate.net/publication/338579236_Associations_of_Suicide_Rates_With_Socioeconomic_Status_and_Social_Isolation_Findings_From_Longitudinal_Register_and_Census_Data/citation/download)
- 61 Recession <https://corporatefinanceinstitute.com/resources/economics/recession/>
- 62 Chapter 1. The economic impacts of the COVID-19 crisis <https://www.worldbank.org/en/publication/wdr2022/brief/chapter-1-introduction-the-economic-impacts-of-the-covid-19-crisis>
- 63 Kirkbride JB, Anglin DM, Colman I, Dykxhoorn J, Jones PB, Patalay P, Pitman A, Sonesson E, Steare T, Wright T, Griffiths SL. The social determinants of mental health and disorder: evidence, prevention and recommendations. *World Psychiatry*. 2024 Feb;23(1):58-90. doi: 10.1002/wps.21160. PMID: 38214615; PMCID: PMC10786006. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10786006/>
- 64 Great Depression [https://en.wikipedia.org/wiki/Great\\_Depression](https://en.wikipedia.org/wiki/Great_Depression)
- 65 Great Depression [https://en.wikipedia.org/wiki/Great\\_Depression](https://en.wikipedia.org/wiki/Great_Depression)
- 66 Great Depression [https://en.wikipedia.org/wiki/Great\\_Depression](https://en.wikipedia.org/wiki/Great_Depression)
- 67 Great Depression [https://en.wikipedia.org/wiki/Great\\_Depression](https://en.wikipedia.org/wiki/Great_Depression)
- 68 What Caused the Stock Market Crash of 1929—And What We Still Get Wrong About It <https://time.com/5707876/1929-wall-street-crash/>
- 69 Suicide in the United States [https://en.wikipedia.org/wiki/Suicide\\_in\\_the\\_United\\_States](https://en.wikipedia.org/wiki/Suicide_in_the_United_States)
- 70 Great Recession [https://en.wikipedia.org/wiki/Great\\_Recession](https://en.wikipedia.org/wiki/Great_Recession)
- 71 Reeves A, Stuckler D, McKee M et al. Increase in state suicide rates in the USA during economic recession *The Lancet*, 2012; 380, 1813-1814 <https://www.thelancet.com/action/showCitFormats?doi=10.1016%2FS0140-6736%2812%2961910-2&pii=S0140-6736%2812%2961910-2>
- 72 Hyunsuk Jeong, Hyeon Woo Yim, Seung-Yup Lee, Misun Park, Woolim Ko, The effectiveness of a suicide prevention program in primary care clinics supported by community <https://eijhss.com/index.php/hss/inde>

public health resources: A difference-in-differences analysis, *Psychiatry Research*, Volume 334, 2024, 115803, ISSN 0165-1781, <https://www.sciencedirect.com/science/article/pii/S016517812400088X>

- 73 Mann JJ, Michel CA, Auerbach RP. Improving Suicide Prevention Through Evidence-Based Strategies: A Systematic Review. *Am J Psychiatry*. 2021 Jul;178(7):611-624. doi: 10.1176/appi.ajp.2020.20060864. Epub 2021 Feb 18. PMID: 33596680; PMCID: PMC9092896. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9092896/>