A case-study oriented analysis of the demand-side policies to reduce cyclical unemployment in the 2008 financial crisis and their potential effectiveness in a post-COVID US economy

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Abstract

The Great Lockdown, a severe pandemic-induced economic recession, has resulted in record-high levels of unemployment, last seen in the 2008 financial crisis. In response to this concern, this paper aims to formulate ideal policies to combat cyclical unemployment in a US economy following the onset of the coronavirus. As several policies have already been implemented, the paper also comments on their potential effectiveness. The Keynesian model is used as a reference, and thus demand-side policies are the central focus. This paper examines the employment-oriented fiscal and monetary policies implemented by the US, UK, Germany, Spain, and Japan during the 2008 financial crisis.[1] It then determines their potential success in the United States, chosen due to its significant impact on the world economy.

Keywords: Case Studies, Cyclical Unemployment, Demand-side Policies, The 2008 Financial Crisis, The Great Lockdown, The United States of America

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[1]This subset of nations was chosen based on the effectiveness of their responses to the unemployment in the crisis, with preference given to MEDCs.

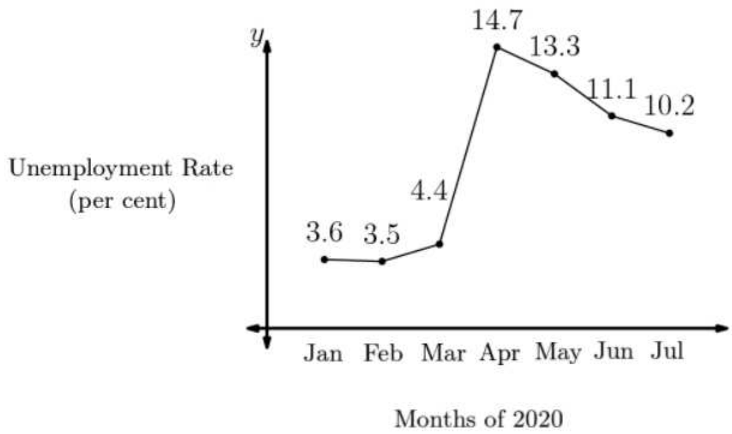
Contents

1 Introduction

The coronavirus has had severe impacts on the global economy, with a majority of countries facing economic uncertainty and record-high levels of unemployment. The lockdowns observed worldwide have restricted many to their homes, rendering them unable to go outside and purchase goods, which has affected many firms across the globe. With more and more companies shutting down their operations, millions of people have been left unemployed. Having been badly hit by the pandemic, the United States recorded an increase in unemployment rates by almost 11.2% from February to April 2020.[2] Seeing this reduction in consumption, the IMF has predicted a -4.9%[3] real GDP growth for the world economies in 2020.

The United States plays a major role in shaping world economics; it is the world's single largest economy, producing almost 22 percent of global output[4] and the largest export destination for one-fifth of the world's countries. Thus, a change in its demand patterns affects the world economy. The US Dollar is also the most widely used currency in global trade and financial transactions, and hence, US fiscal and monetary policy play a major role in global financing conditions.

Figure 1: **USA's Unemployment Rate, 2020**



Source: Statista, *US Unemployment Rate, Adjusted, July 2020*, *https://www.statista.com/statistics/273909/seasonally-adjusted-monthly-unemployment-rate-in-the-us/*

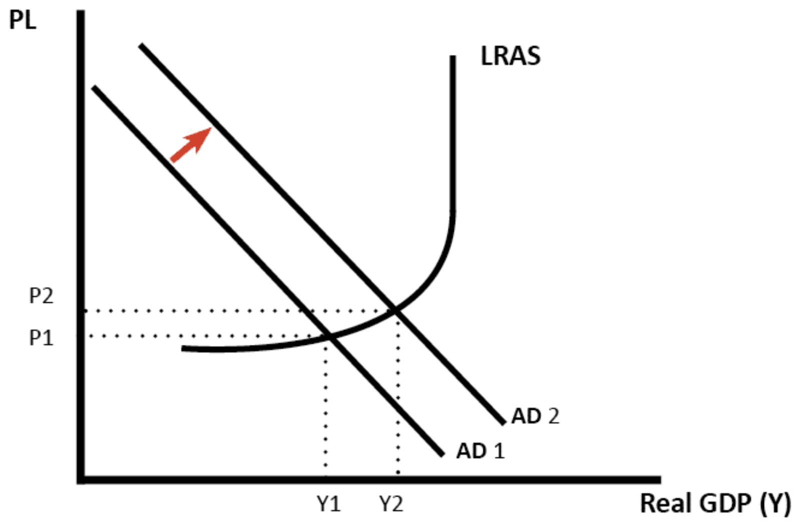
[2]Ceicdata, *United States Unemployment Rate, 1948-2020*, *https://www.ceicdata.com/en/indicator/united-states/unemployment-rate*

[3]International Monetary Fund, (April 2020), *Real GDP growth - International Monetary....*, *https://www.imf.org/external/datamapper/index.php*

[4]Kose, et al. (2017), *The Global Role of the US economy*, *econstor.eu/bitstream/10419/166746/1/884608719.pdf*

According to the Keynesian model, the level of Aggregate Demand (AD) is the major influencer in an economy. Governments generally use fiscal and monetary policy instruments to shift the AD curve; fiscal policy makes use of public expenditure and taxation, while monetary policy makes use of policies including, but not limited to, interest rates and Quantitative Easing. While some of these policies directly affect the employment level, some stimulate economic growth, having a side effect on the unemployment rate.

Figure 2: **Keynesian AD and LRAS Curve**



The last global recession, the 2008 financial crisis, severely impacted the world economy. It portrayed the ineffectiveness of certain policies, emphasised the effectiveness of others, and also demonstrated the success of new policies such as Kurzarbeit. Despite its causes and consequences not fully matching with the conditions now, it is certain that some important lessons can be learnt.

The section-by-section break down of this paper is as follows: in Section 2, we analyse the differences between the 2008 crisis and the COVID-induced economic crisis, in Section 3, we examine multiple case studies for policies used in 2008, in Section 4, we present our key findings and predict each policy's effectiveness in the current situation, and in Section 5, we formulate an ideal plan for the USA.

2 Differences between the crises

This section of the paper will look at the differences between the two crises, with reference to their causes, consequences, and limitations. Without taking these into account, we would be falsely assuming the practicality of a large number of policies as completely dependent on their effectiveness in the 2008 crisis.

2.1 Causes

The 2008 financial crisis and Great Lockdown have different causes. The major difference is that the former was caused due to market imperfections whereas the latter was caused due to a pandemic.

The liberal lending practices were a major cause of the 2008 financial crisis; in a developing economy, banks are more likely to lend to consumers and businesses with reasonable interest rates and liberal repayment terms. However, when an economy begins to contract, banks tend to tighten lending policies with high interest rates, making it difficult to borrow. In the 2008 financial crisis, liberal lending in the United States mortgage market had large scale economic repercussions. Many individuals could no longer afford to pay for their houses, thereby shaking the confidence in the entire US economy.

Another major cause was the credit crunch. A credit crunch refers to a sudden shortage of funds for lending, leading to a decline in available loans. The credit crunch of the 2008 financial crisis was driven by a sharp rise in defaults on subprime mortgages. These mortgages were mainly in the USA but due to its economy's importance in the world market, it impacted the world economy. As banks expanded their services to the subprime market in the USA, they relied heavily on the belief that the house prices would continually increase. It was on the same note that they handed housing loans to the subprime consumers. It was not until the 2008 crisis, when the housing market crashed leading to lower house prices, that the defaults in the subprime expansion began to rise. This caused people to fall into negative equity, where the value of their mortgages exceeded the value of their assets. This led to a fall in stock prices, and a fall in the general value of assets.

On the other hand, the Great Lockdown clearly has a very different cause. Due to the unpredictability of a pandemic, it is safe to call the lockdowns caused by COVID-19 a black swan event. The pandemic has had far-reaching effects on the world economy beyond just the spread of the disease. The prolonged lockdowns that were observed in several countries led to a decrease in consumer spending and investment, leading to a fall in Aggregate Demand. This led to a downward spiral effect, as when unemployment increased, consumer demand further decreased.

2.2 Consequences

The consequences of the Great Recession and the Great Lockdown, although similar in state, differ in severity and rate.

High cyclical unemployment is one of the top consequences of an economic crisis, and is also widely important to understand the depth of the crisis. While the unemployment rate peaked at 10% in the US during the Great Recession, April 2020 recorded unemployment rates of 14.7% (see Figure 1). However, unemployment here is caused by a health crisis, rather than a structural failure in the economy, indicating that a steep recovery in terms of employment is more likely. On the other hand, the IMF predicts that global real GDP growth will be -4.9% in 2020, which is grim when compared to the -0.1% in 2009. While the April WEO Report estimated a -3% figure, the June WEO Report dropped it down by 1.9%,[5] indicating a deteriorating crisis.

Furthermore, the IMF's June WEO also predicted that Government debts and deficits are set to rise more than that of the 2008-10 period. The predictions for 2020 are 18.7 (percent of GDP), while 2009 saw only 10.5%.

With these figures, it is certain that the global economy faces a downturn and crisis of greater magnitude than the Great Recession. This reflects the need for effective actions in order to minimise the increasingly detrimental impacts. While in theory the policies should still function, it is likely that their effectiveness today might differ.

2.3 Limitations

The added impact of a pandemic has imposed some limitations on certain Government policies, thereby mitigating their effectiveness.

The primary limitation that must be considered deals with the fact that as a result of the pandemic and the ensuing lockdowns, consumer mentality has observed a shift towards caution. A large number of consumers are wary about going outside to purchase goods, and are only doing so for necessities. Therefore, it may be difficult to influence consumer demand.

There are also several limitations when it comes to Government spending. The

[5] International Monetary Fund (June 2020), *World Economic Outlook Update: A crisis like no other, an uncertain recovery,* *https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020*

Great Lockdown has recorded unemployment rates much higher than that of those in 2008-09, and so, Governments' tax revenues are currently falling. The federal budget deficit in May 2020 has increased by 168% since May 2019, and corporate income tax revenue has decreased by 60%. Unemployment compensation increased by 4600% since 2019 to $93 billion[6], but it might be unsustainable for Governments to spend as much on unemployment compensation, making these policies more difficult to implement than in 2008.

When it comes to monetary policies, controlling interest rates might also become less practical. As more financial institutions are shutting down and central and commercial banks are cutting down on lending, it is harder for consumers to borrow. The USA has drastically decreased the federal funds rate, which is now expected to remain close to a zero rate until 2022[7]. This may bankrupt a large number of these institutions and may discourage saving and investment.

The limitations mentioned above will play a large role in formulating ideal policies that will function both theoretically and practically in the United States.

3 Case Studies

This section of the paper covers the various policies used in the USA, Germany, the UK, Spain and Japan, analysing their implementation and their potential impacts.

3.1 USA

The impacts of the 2008 financial crisis on the USA were severe. Unemployment rates hit a peak of 10%, and the value of American assets was decreasing. In response, the Government enacted two fiscal stimuli, tax deferrals, toxic asset programs, and a vast reform of their markets. The country also pioneered the Quantitative Easing scheme - a monetary policy that saw the Federal Reserve buying bonds and securities to increase the money supply in the economy.

The USA officially emerged successful from the recession in 2010, and unemployment rates began to decrease. Many economists attribute this to the effectiveness of American policy actions, three of which will be covered below.

[6] Congressional Budget Office, (June 2020), *Monthly Budget Review for May 2020*, *https://www.cbo.gov/publication/56458*

[7] Cox, J., (June 2020), *Fed sees interest rates staying near zero through 2022*, *https://www.cnbc.com/2020/06/10/fed-meeting-decision-interest-rates.html*

3.1.1 Economic Stimulus Act of 2008

The Economic Stimulus Act of 2008 mainly used tax rebates and incentives to stimulate Aggregate Demand. The policy provided tax rebates[8] to low- and middle-income taxpayers, and it also offered tax incentives to encourage business investment.

Enacted in early 2008 in response to the escalating levels of unemployment, the package consisted mainly of a $100 billion tax rebate program. Almost 70 million American households benefited from this policy, each receiving a tax rebate of about $950 per year. The main idea of this policy was that by putting money directly back into the hands of the American people, the Government would effectively increase spending and reduce the impact of the economic downturn.

Implementation in the USA

Tax rebates that were implemented by this policy were directed at individual households in the country. Most taxpayers below the income limit received a rebate of at least $300 per person. Eligible taxpayers also received a payment of $300 per dependent child under the age of 17. This payment was equal to the payer's net income tax liability, but could not exceed $600.

Those with no net tax liability[9] were still eligible to receive the rebate, provided they met the minimum qualifying income of $3000 per year. For taxpayers with adjusted gross income more than $75000 per year, rebates were reduced at a rate of 5% of the income above this limit. Some taxpayers who exceeded the income limits, but had qualifying children, still received a rebate.

Possible Impacts of the Act

The impacts of a fiscal stimulus are apparent. When there is more money in the economy available to consumers and businesses, the level of Aggregate Demand increases, which has the direct effect of decreasing unemployment. This allows for even more economic opportunities, thereby increasing capital spending and raising the level of investment in the economy. Some of the negatives of a fiscal stimulus include the high risk of an extremely high public debt to GDP ratio, and rising inflation due to the rising prices and the boosted supply of money in the economy.

[8] A tax rebate is a refund on taxes when the liability on tax is less than the tax paid by the individual.

[9] Tax liability is the total amount of tax debt owed by an individual, firm, or any other entity to a taxing authority.

The Economic Stimulus Act targeted individual tax rebates and tax incentives in order to stimulate consumer spending. It hoped to increase Aggregate Demand by increasing the consumer spending in the economy. The increase in AD would eventually lead to a fall in unemployment levels, thus reviving the economy from a recession.

3.1.2 American Recovery and Reinvestment Act

The American Recovery and Reinvestment Act (ARRA), was another stimulus package introduced in the USA in 2009 as a successor to the Economic Stimulus Act of 2008. It introduced new tax credits[10] and increased fiscal state spending. The primary purpose of this package was to safeguard existing jobs and create new ones. Its additional aims were to increase investments in education and healthcare, and to invest in infrastructure that would provide good returns in the long run.

The ARRA increased the money supply in the economy largely by fiscal means, but did so in a unique manner. A part of this fiscal package was not carried out by direct means such as federal spending, but rather, through reforms that could be instituted more efficiently and with a shorter time lag.

Implementation in the USA[11]

When the (approximately) $850 billion package was first introduced in the USA, it consisted of a large number of reforms and provisions, but this paper shall focus on two primary parts of this Act - state fiscal spending and taxation reforms.

State fiscal spending exists mostly to provide economic relief to state Governments, but in the case of the ARRA, it was also largely focused on maintaining the USA's federal Medicaid program. It increased the FMAP[12] for Medicaid, extended the medical assistance cap and allowed more states and individuals to be eligible for better medical programs. Additionally, it provided greater imbursements through DSH[13] programs.

[10] Meant to help lower-income families, tax credits allow for individuals to subtract the credit they own from the taxes that they have to pay.

[11] The policies and figures mentioned in this section have been taken from 111th Congress, (2009), *American Recovery and Reinvestment Act of 2009*, *https://www.govinfo.gov/content/pkg/PLAW-111publ5/pdf/PLAW-111publ5.pdf*

[12] Federal Medical Assistance Percentage - a matching funds program under which the Federal Government would provide a certain amount of money to medical programs for every one dollar that a state contributed to the programs, depending on the FMAP.

[13] Disproportionate Share Hospitals - a program that compensates medical centers and hospitals that primarily take the needy as their patients.

Under taxation provisions, a large number of changes were made to influence consumption. The primary change here was not a direct decrease in tax rates, but rather, an increase in tax credits. It provided credit at a rate of 6.2% of the earner's income, with an upper limit of $400 on deductions. It also provided an increase in earned income tax credit to help support families and children, offering credit percentages as high as 45%. The American Opportunity Tax credit was also increased, decreasing tuition fees for university students. A direct unemployment-targeted tax policy instituted would be the complete removal of taxes paid on unemployment compensation. Further sales tax and excise tax deductions were also made.

Possible Impacts of the Act

State fiscal relief typically has a highly positive impact. A greater state budget allows for further expenditure, increasing the Aggregate Demand and therefore creating more employment opportunities. Improved living and working conditions decrease voluntary unemployment or resignation, therefore safeguarding existing jobs. Additionally, Wilson (2012) constructs a model that demonstrates how employment multipliers[14] determine the impact of fiscal spending. The model shows that in an economy where employment multipliers are relatively high, the stimulus cost per job saved or created decreases. However, during a recession, these multipliers tend to go down and every dollar spent by the Government amounts to less money in the long run.

The impacts of the Medicaid reforms are quite clear. This would create more demand for labour in the health industry, and would significantly raise the level of Aggregate Demand, both of which create more jobs. The FMAP and DSH reforms have additional advantages. Since they are not federal packages, they can be enacted at a much higher pace, and therefore, have an increased efficacy.

Hospitals, through the DSH scheme, can hire more doctors and nurses, and through the FMAP scheme, medical facilities have the ability to hire more staff. These two reforms have a direct effect on employment, only amplified by the fact that they can be instituted effectively with less delay. A downside to the education reform is that people may choose to pursue higher studies instead of taking up unemployment opportunities.

[14]The employment multiplier is a factor that affects how many jobs are saved or created as a result of a certain amount of Government spending. The higher the multiplier for a certain sector, the lower it costs to save one job.

The taxation reforms are also theoretically sound. Introducing a new credit system that can be used to decrease taxes has the advantages of other expansionary fiscal policies (increasing Aggregate Demand, influencing more spending) while reducing the risk of rapidly rising public debts. However, tax credits may cause many problems, the most prominent one being an over-reliance on credit. If individuals are unable to pay back their loans, or their liabilities greatly exceed their assets, they may suffer from insolvency. This may lead to bankruptcy for individuals and firms, and in extreme cases, the public sector.

3.1.3 Quantitative Easing

Quantitative Easing (QE) was pioneered by the United States during the Great Recession as an unconventional monetary policy when lowering interest rates was no longer feasible.

The Central Bank attempts to increase the money supply by digitally crediting itself with more money. It then uses this money to purchase US Treasuries or mortgage-backed securities (MBS)[15] from commercial banks and other firms. This lowers the yields on these bonds, which theoretically pushes down the long-term interest rates on loans, inducing greater spending.

Additionally, private sector businesses will tend to invest the money they receive into financial assets such as stocks. As the demand for these assets increases, their value rises, which should benefit households holding those assets. This should result in greater spending in the economy, which, in turn, will boost employment.

Between 2008 and 2015, the Federal Bank's balance sheet increased from $900 billion to $4.5 trillion, with the first round of QE, named QE1, initiated in November 2008.

Advantages and Disadvantages

While Central Banks have traditionally used interest rates to battle recessions, QE can be used as a last resort when interest rates can no longer be lowered. This was the case in the US in 2008, when interest rates were already low. As QE provides the economy with more options, it also theoretically provides the economy with a greater probability to recover. Furthermore, QE can help decrease the threat of price deflation. Deflation is often one of the concerns of Central Banks, as it can

[15] A mortgage-backed security (MBS) is an investment similar to a bond that is made up of a bundle of home loans bought from the banks that issued them.

lead to unemployment due to decreased AD, lower production, and lower wages, all of which are detrimental, especially during a financial crisis.

Quantitative Easing also increases the size of the monetary base of the economy, by introducing more reserves in banks and increasing the value of financial assets. As the price of stocks or property rises, firms and households are expected to spend more. This will help the economy escape the detriments of deflation and maintain a healthy inflationary rate.

Additionally, QE can impact interest rates, a vital and key factor in an economy. As banks will have a greater supply of money, they will tend to buy assets to replace the ones they sold to the central bank. This will have the desired effect of increasing stock prices and lowering interest rates.

Lower interest rates in the mid-term to long-term will increase business confidence, as well as prompt more loans and spending. Theoretically, banks will also be willing to provide more loans, as their reserves are greater, increasing the total number of loans in the economy.

Altogether, this will increase spending in the economy, boosting Aggregate Demand and hence, employment.

On the other hand, Quantitative Easing does have several disadvantages and risks as well. To begin with, as it is an expansionary monetary policy, it involves 'pumping money' into the economy, which runs the risk of inflation. The greater the success of Quantitative Easing, i.e. the more money the banks actually lend out, the greater the chance of inflation.

Furthermore, part of Quantitative Easing relies on households to own financial assets such as stocks or property. However, the majority of these are owned by the rich, and thus, Quantitative Easing partly relies on a trickle-down effect.[16] This can certainly increase the wealth inequality in an economy, and since income equality is one of the five fundamental macroeconomic aims of an economy, this might cause the Government more problems in the future.

Similarly, the Central Bank cannot simply keep producing 'cheap money', and continue the policy of Quantitative Easing. This might cause another financial crisis

[16] In this, the gain of the rich would have to come down through expenditure to the lower-income classes, which can often lower the actual money given to the general public.

later as banks can no longer rely on Quantitative Easing and start demanding the loan repayments.

3.2 Germany

The German response to the 2008 financial crisis was highly successful, with German unemployment falling from 2008 to 2009. While the German economy might not reflect certain characteristics of the United States, the highly effective policies implemented in the country will certainly return important ideas upon analysis. Three of the most influential German policies during the crisis were the fiscal stimulus packages, the Social Security reforms, and Kurzarbeit. This section will look at all three, examining their theory, implementation, and possible impact or advantages and disadvantages.

3.2.1 German Fiscal Stimulus Packages

Similar to the majority of countries at the time, Germany had introduced fiscal stimulus packages in order to relieve the effects of the recession. However, it should be noted that Germany's stimulus packages were smaller when compared to the rest of the world. The purpose of these packages was the same as those in the USA: to create new jobs, and safeguard existing ones.

Implementation in Germany

Germany introduced two fiscal packages in Q4-2008 and Q1-2009. Government expenditure under these two packages amounted to around $50 billion in 2009, roughly 1.5% of the country's GDP. There were specific correctional reforms imposed as a part of both packages. The first package included deductions on health care taxes and child care taxes and an increase in social security payments for legal guardians of children. It also reduced taxpayers' contributions in the field of unemployment insurance.

The second package was more debated and more expansive. It included Government investment in transportation, more income tax cuts and a better Depreciation of Investments (DoI) program.[17] Two of its most popular changes were the Umweltpramie program (meaning environmental premium) and the extension of the short-time work program (see section 3.2.2). The former was a vehicle scrappage scheme that allowed people to trade in their old vehicles' scrap parts for newer vehicles, receiving a Government payment of $3,475. The budget for this program was $6.95

[17]This program is a scheme for asset holders whose assets' value is decreasing. It compensates for the asset depreciation by deducting a corresponding portion of their taxes.

billion, all of which was exhausted in nine months.

Possible Impacts of the Policy

These fiscal stimuli had a few elements that were unique to them: income tax and child care tax cuts, social security benefits (see Section 3.2.3) and DoI reforms. The depreciating asset reforms serve the same purpose as tax cuts, but they are additional deductions targeted at those who may be at risk of losing more money during a recession. Therefore, they have the potential impact of increasing the general level of welfare in the economy.

However, one downside is that a large number of assets become liabilities or depreciate during a recession, and deducting taxes on all of these may have a significant effect on Government debt unless the budget is capped.

The vehicle scrappage program can have a significant effect on the automobile industry, an industry that is integral to the EU, especially Germany. It has ties to various other sectors, and contributes to around 5% of the country's GDP. The workforce in the automobile industry in Germany is around 800,000 strong[18], and so, a scrappage program like this would definitely benefit Germany when it comes to employment. Germany is also the leading automobile exporter, meaning it would stimulate more external demand for its goods as well. Since the country is dependent on exports, this vehicle scrappage program has the potential to be a strong policy instrument.

3.2.2 Kurzarbeit

Kurzarbeit (literally translated as 'short work'), as a short-time working scheme, attempts to encourage firms from reducing the working hours of employees as opposed to laying them off.

In Germany, the Government did this by paying for 60% of the income for the reduced hours, while the firm paid for all the hours worked. For instance, a worker with a work-time reduction of 30% would experience a 10% loss in salary.

By having the effect of protecting workers' employment and income, the policy supported Aggregate Demand within the economy. Hence, it aided the economy, a recovery, and employment. Kurzarbeit was initiated by the German Government during the financial crisis of 2008, with an allocation of $7.5 billion for the program.

[18] Statista, *Car industry employment numbers in Germany 2005-2019*, *https://www.statista.com/statistics/587576/number-employees-german-car-industry/*

Advantages and Disadvantages

To begin with, the primary purpose of Kurzarbeit is to prevent unemployment. As a result, the fall in the demand in the economy is 'cushioned', or reduced, as an increased proportion of the population is employed and has a source of income. The incentive to save on a precautionary basis will further be reduced, stimulating economic growth and employment.

Furthermore, Kurzarbeit helps save firms from the costly process of separation, rehiring, and training, allowing for greater spending on employment, production, or investing. As a result, Aggregate Demand and employment increase.

On the other hand, economists have argued that Kurzarbeit could support companies and industries which are not competitive. However, the Organisation for Economic Co-operation and Development (OECD) has stated that it has seen no evidence of this. Nevertheless, a possible solution to this is the imposition of conditions for firms that can apply for Kurzarbeit.

Moreover, low-paid workers, such as those taking up a new low-wage or part-time job, do not benefit from Kurzarbeit as they do not have an existing contract, or full-time employment. As many OECD countries operate broader programs which are not related to an existing employment contract, but rather whether the person is in work, a possible solution is that support be provided to both existing and new workers. This could create a balance between compensating earnings' losses, reducing income inequality, and facilitating labour-market dynamism. Overall, this has the higher possibility of a fast recovery.

3.2.3 Social Security

Germany, through its social security policies, was able to control unemployment rates following the 2008 financial crisis. The social security policy in Germany is said to be one of the best in the world. Codified on the Sozialgesetzbuch (SGB), or the "Social Code", the social security policy in Germany contains a total of 12 main parts with unemployment insurance, health insurance, child support, and social care being the major ones.

This section of the paper will lay importance on the unemployment benefits, as the main goal of the paper is to evaluate policies to combat unemployment.

Implementation in Germany

Unemployment Benefits are payments made by authorized bodies to the unemployed people of the labour force. Under Germany's unemployment benefit program, the policy is divided into Unemployment Benefit I and Unemployment Benefit II.

Unemployment Benefit I in Germany is an unemployment insurance administered by the federal employment agency (Bundesagentur fur Arbeit) and funded by employee and employer contributions. These contributions are mostly mandatory, and all workers with a regular employment contract contribute to this system.

Employees pay 1.5% of their gross salary below the social security threshold, while employers pay the same on top of the additional salary paid to the employee. These contributions are paid only on earnings up to the social security ceiling ($8200, projected in 2020).[19]

This unemployment benefit is paid to workers who have contributed at least 12 months preceding their loss of employment. The allowance is paid for half of the period that the worker has contributed. People who claim these benefits are said to get 60% of their previous net salary, which is however capped at the social security ceiling. Claimants with children are allowed 67% of their previous net salary.

Unemployment Benefit II, also called the Hartz IV plan, is an open-ended welfare program intended to ensure that people do not fall into extreme poverty. If a worker is not eligible for full-time unemployment benefits, or is still in need after receiving Unemployment Benefit I, they are allowed to apply for benefits under the Hartz IV program. A person receiving a Hartz IV benefit is paid a total of $514 a month (as of 2020)[20] the living expenses and health care. A couple can receive benefits for each partner and their children. The children are also provided with benefits for education.

Advantages and Disadvantages

Unemployment benefits can have a positive impact on unemployment rates. Essentially, they allow workers to have a fixed income during their transition period

[19] Carter, A. (October 2019), *Increase in social contributions for 2020: high earners will pay much more, https://www.iamexpat.de/expat-info/german-expat-news/increase-social-contributions-2020-high-earners-will-pay-much-more*

[20] Carter, A. (2019), *German unemployment benefit Hartz IV to go up from 2020, https://www.iamexpat.de/expat-info/german-expat-news/hartz-iv-german-unemployment-benefits-go-2020*

between jobs, allowing them to sustain their families. This proves beneficial as the workers are able to pay their bills regularly while they actively seek employment. Furthermore, most unemployment benefits also keep in mind the additional costs which the worker would have to pay towards their children (like education) and often provide a higher pay towards such individuals. As such a system is often for a particular duration - half the period the worker has contributed - the workers are usually motivated to actively seek work, at the same time avoiding the 'hassle' associated with job-transition.

The disadvantages of unemployment benefits are in essence not so substantial. While it might allow 'easy money' towards people without jobs, possibly demotivating them in seeking a job, it must be kept in mind that such benefits are limited to a few months. Invariably, the worker must find a job in order to earn and sustain their livelihood.

3.3 UK

The United Kingdom has one of the most advanced economies in the world, with many of its characteristics similar to the United States. This allows for the examination of its policies to yield results that can be transferred to the USA. Two of the most prominent demand-side policies that the UK used during the 2008 financial crisis are the VAT-cut and Quantitative Easing.

3.3.1 VAT Reduction

A Value-Added Tax (VAT) is an indirect consumption tax that directly impacts the consumers. 140 countries, including the UK, have a VAT. Although it is added at every stage of production or distribution, the final cost is paid by the consumer. This allows Governments to effectively use this as an expansionary fiscal policy to help boost demand, and thus employment, during recessions.

Before the financial crisis of 2008, the VAT in the UK was 17.5%.[21] However, from December 1, 2008, it was effectively reduced to 15%. The rate would return to 17.5% from January 2010. Estimates at the time suggested the move would cost the Government $19.2.[22]

Factors affecting the effectiveness of the policy

[21] Note: Some goods are all together exempt from the VAT, while others have a reduced rate.

[22] House of Commons Treasury Committee (Jan 2009), *Pre-Budget Report 2008, Second Report of Session 2008-09*, *https://publications.parliament.uk/pa/cm200809/cmselect/cmtreasy/27/27.pdf*

Pass through refers to the extent to which the price is changed in response to the reduction in tax. A higher pass through will naturally result in a higher probability of effectiveness, as consumer demand is more likely to be stimulated. However, a pass through can often be limited due to several reasons.

In a sticky-price model[23], the time at which the change in prices will take place is postponed, inducing the expectation of deflation for consumers. As a result, consumers might limit or even reduce their current spending, expecting prices to fall, while firms, already damaged by the crisis, might now omit reducing prices. Although its likelihood is small, it can have a highly detrimental effect.

Even if the path of a sticky-price model is not followed, firms might still be reluctant to reduce their prices, fearful of losing profit. On the other hand, the UK Government at the time did say that due to the competitive nature of the UK retail sector, especially during the coming downturn, the majority of a VAT rate cut would be passed onto prices, but those prices would be reduced progressively rather than immediately.[24]

Furthermore, while pass-through indirectly looks at the potential effectiveness through the impact on prices, salience looks at the direct impact on consumers. Often, if the tax cut is too low or the pass through too small, consumers might not change their consumption patterns enough to have a notable impact on the economy. This is often the case when the cut is small, and is likely for a cut of only 2.5%.

Thus, if prices are cut, but demand is not increased, firms might be forced to lay off more workers. According to the sticky-wage model, firms often prefer to lay off workers rather than maintain the number of workers, but decrease the wages or salary. This is due to the stickiness of wages.

Another impact of a VAT-cut is the reduction in Government revenue, which hampers the implementation of a fiscal stimulus package. Hence, for any cut in the tax, an examination of its opportunity cost in terms of a fiscal stimulus package is vital.

Possible Impacts of the Policy

To begin with, a reduction in the VAT might have an income effect. This would

[23] A sticky-price model claims that firms do not immediately change their prices to changes in the economy.

[24] HM Treasury, (2008), *HM Treasury Annual Report 2007-2008*, *https://assets.publishing.service.gov.uk*

occur due to the increase in real income, as theoretically, the prices of goods would fall, reducing the cost of living.

The households which will be most impacted by this income effect would be those that are credit-constrained. They would use the increase in disposable income to pay off debts. As expenditure would likely not decrease, the consumption would increase. This could have a significant impact, as the number of credit-constrained households goes up during a financial crisis.

On the other hand, many economists believe that temporary increases in income will not induce a great change in consumption. As Keynes said, "A remission of taxation on which people could only rely for an indefinitely short period might have very limited effects in stimulating their consumption"[25]. That is because a majority of the households will be non-credit-constrained and forward-looking, preferring to save the money rather than spend it, especially considering the state of the economy.

In addition to an income effect, the temporary VAT reduction might have a substitution effect, which is in reference to the later increase in VAT, rather than the reduction. This can effectively be divided into two parts: a normal intertemporal substitution effect and an arbitrage effect.

The intertemporal substitution effect should mainly impact unconstrained households as they are the only ones capable of increasing their spending. Despite this, as already mentioned, they will most likely save money.

The arbitrage effect, or stocking-up effect, as the name suggests, refers to people purchasing[26] non-perishables close to the end of 2009, as they anticipate an increase in the general price levels. However, the net impact of this will be limited, as there will be a fall in purchases of similar magnitude after the price rises.

Generally, any increase in consumption, particularly long-term, will motivate firms to rehire employees, boosting employment.

3.3.2 Quantitative Easing

Quantitative Easing (QE), an unconventional form of monetary policy, became widespread in the global financial crisis of 2008, and was used by countries such

[25]Keynes, (1943), *The Maintenance of Full Employment*, page 319

[26]Purchasing refers to buying the good, while consumption refers to using the good. We expect consumers to simply purchase the goods, rather than consume them.

as the UK to boost spending and investment.

The following is a repetition of the theory behind Quantitative Easing, taken from Section 3.1.3:

The Central Bank attempts to do this by digitally crediting itself with more money. It then uses this money to purchase Government bonds from commercial banks, pension funds, or insurance companies. This lowers the 'yields' on these bonds, which theoretically pushes down the interest rates on loans, inducing greater spending.

Additionally, private sector businesses will tend to invest the money they got into financial assets such as stocks. As demand for these assets increases, their value rises, which should benefit households holding those assets. This should result in greater spending in the economy, which in turn will boost employment.

Quantitative Easing was introduced in the UK in March 2009, when interest rates were at an all-time low of 0.5%. While the plan was initially for $119 billion, by July 2012[27] the total amount had increased to $596 billion.

(See Section 3.1.3 for the Advantages and Disadvantages of Quantitative Easing)

3.4 Spain

Before the onset of Spain's financial crisis in 2007, coupled with the 2008 financial crisis, its economy was steadily improving. The employment-to-population rate increased three points between 2003 and 2007, while fiscal revenues continued to increase. Spain's fiscal space[28] was expanding at a healthy rate, and it could have been more flexible in its response to the crisis and its unemployment impacts, had it properly implemented fiscal policies.

Spain's unemployment rate almost doubled from 2007 to 2011.[29] Economists attribute this to certain contradicting and conflicting policies that weakened the overall impact. The EU is also believed to have played a large role in this, as Spain's

[27]While the defined date for the end of the Great Recession is July 2009, many economies did not fully recover until approximately 2014. The fact that the Bank of England would further increase spending for the Quantitative Easing program also shows it was still attempting to recover the economy.

[28]An economy's fiscal space refers to the budgetary flexibility it has when it comes to implementing stimulus packages and other fiscal policy measures.

[29]OECD, (2012), *Structural reforms in times of crisis*, *http://www.oecd.org/economy/growth/49711014.pdf*

heavy Government expenditure had been constantly exceeding limitations set by the EU. However, its economy began to turn around only in 2012-13, when it introduced some crucial labour market reforms. The unemployment rate also started gradually decreasing. Therefore, reforms from this later period must also be considered when forming policies relevant to the COVID-19 crisis.

3.4.1 "Pump-Priming" and Expansionary Techniques

Pump-priming refers to the use of fiscal and monetary stimuli in order to bring an economy out of a recession, thereby reducing the cyclical impacts of a recession on the labour market. Other such expansionary policies create a large public deficit that can only be corrected by the economic growth that should occur as a result of the Government's efforts to stimulate an upsurge in economic activity. These policies may have the direct effect of increasing the derived demand for labour.

Implementation in Spain

In 2007, Spain began implementing expansionary measures to boost its economy and stimulate employment opportunities for a larger part of the labour force. The idea was to intensify Government spending and tax cuts and loosen lending while also decreasing interest rates in order to induce more consumer spending. As a part of the European Union's stimulus package, Spain introduced its own fiscal stimulus of around $14.2 billion in the early years of the crisis in order to correct the effects of the lowered Aggregate Demand that led to cyclical unemployment. It also offered to buy $56 billion in bonds and liquid assets.

Additionally, Spain received a $112 billion bailout from the EU in 2012 after five years of economic struggles, which played a role in inducing Spain's decreasing unemployment rate since 2012. However, while it was still undergoing these struggles, it was constantly switching between expansionary and contractionary methods, which meant no policy that was used had the potential to create long-term positive effects in the Spanish economy.

Possible Impacts of the Policy

There are pros and cons to pump-priming and all other policies that are expansionary in nature. The primary advantage is that when there is more money in an economy, there is more demand for goods. The higher the demand, the higher the output, and so, more jobs are created. The creation of more jobs allows for economic opportunity for more individuals, households and firms, thereby increasing consumer and capital spending, increasing the GDP. Deficit spending is incredibly valuable in the long term as well, but Governments must ensure that the country does not plunge itself into a state of debt, or in more extreme cases, bankruptcy.

Conversely, a higher amount of money in the economy leads to a higher price level, and as the aggregate demand increases, price level is further increased. Additionally, as firms' costs rise as they hire more workers, they may increase prices too, and all of these factors contribute to unstable prices and wages and a high risk of inflation.

3.4.2 Spanish Labour Market Reforms

In 2012, after five years of high unemployment, Spain decided to implement reforms to its labour market. These changes ended up being quite successful, and combined with an EU bailout, led to Spain's recovery. These changes centered mostly around labour demand rather than labour supply. While changes to the labour market are generally oriented towards supply, as was the case with Spain, it is also important to analyse their potential impacts on Aggregate Demand.

Implementation in Spain

The labour market reform in Spain had three primary facets - decentralization of collective bargaining, permanence of working contracts, and strengthening of the EPL programme[30] in Spain. As for collective bargaining, the country provided more importance to firm-level and localized trade unions, while taking a substantial amount of power away from larger trade unions such as the UGT and the CCOO. They also provided more opportunity to local employer groups in order to promote equal opportunity and fair negotiations between employers and employees.

The primary reform when it came to the permanence of labour contracts was the introduction of a new contract for employees of small firms[31] called the Contrato de Emprendedores (Contract for Entrepreneurs). These are full-time contracts that allow new employees to gain a permanent job at a firm. Additionally, these contracts extended the trial period for a new employee in a small firm for upto one year for workers in all sectors.

In the field of employment protection, Spain aimed to make fair and unfair dismissals easier for indefinite workers. They cut the amount firms had to pay for severance in

[30]Employment Protection Legislation - it is a programme used throughout the world that deals with dismissals, monetary compensation, wages and court rulings.

[31]Here, small firms are being quantified by employees - a small firm has fewer than 50 employees.

half, from 45 days to 20 days per year in the case of fair dismissals, thereby decreasing the cost. However, if a dismissal is declared unfair, the employer has a choice between monetary compensation or rehiring. Another important addition would be the disinvolvement of social partners in collective dismissals instead of individual dismissals when it came to permanent jobs.

Possible Impacts of the Reforms

Collective Bargaining Reforms - The decentralization of collective bargaining has multiple advantages when it comes to stimulating demand. Firstly, it allows for smaller trade unions to have more power, and therefore has the direct impact of making social partners more accessible to smaller firms. This tends to inflate the mean wage, and so, it results in more consumer spending. Additionally, employees who are unionized tend to have more job security, and will therefore be less cautious when it comes to current spending and saving. However, it is also likely that smaller, localized trade unions will have less influence over employers, and will not be able to cause a dramatic change in AD.

Promotion of Indefinite Working - The addition of a permanent contract for small firms also allows for more job security. Additionally, workers with permanent contracts are more likely to get better severance pay, pensions, overtime payments, and employment benefits, all of which increase disposable income, thereby increasing consumer spending. However, the premature termination of an indefinite contract is easier than that of a fixed-time contract, and during a recession, it is quite likely that workers under this type of contract may be laid off.

Employment Protection Reforms - The employment protection reforms have negative impacts when it comes to demand. These changes focus on labour demand, and so, they try to make hiring more appealing to employers. In doing this, these reforms have an adverse effect on workers. As it becomes easier and cheaper for employers to dismiss workers, fewer workers would want to take up an employment opportunity as their confidence is lowered. This may result in more saving and less spending, resulting in a decrease in Aggregate Demand. Additionally, this reform weakens trade union power, further decreasing confidence and clashing with the aim of the collective bargaining reforms.

3.5 Japan

Japan struggled through a debilitating period of economic stagnation since the burst of its 'bubble economy' in 1990. Average real GDP growth fell below 1% for roughly ten years. Although a period of slight expansion followed in the mid-2000s, economic contraction associated with the 2008 financial crisis and the Tohoku Earthquake and Tsunami in 2011 produced nearly two decades of economic slowdown.

Economists have come up with various Japan-specific theories to determine the real cause of this economic downturn. This section of the paper will focus on one of the main policies which was implemented by the Japanese Government in response to these times.

3.5.1 Quantitative Easing

The Bank of Japan has perused decades of unconventional monetary policy. Starting in the 1980s, the BOJ has deployed strict Keynesian policy, including more than 15 years of Quantitative Easing. The Japanese consumer price index (CPI) in October 2013 was roughly the same as that of October 1993. While Japan's CPI has had its ups and downs over the past 20 years, the average inflation rate has been roughly zero or negative throughout. In December 2012, the Bank of Japan decided to come up with the third phase of the Quantitative Easing policy (QE3), which was later implemented in April 2013.

Implementation in Japan

This is, however, not Japan's first implementation of QE. An earlier program (QE1) began in March 2001. Within just two years, the BOJ increased its monetary base by roughly 60 percent. Showing these promising results, the BOJ decided to re-implement QE following the 2008 financial crisis. A second relatively small QE program (QE2) was implemented in October 2010 and has gradually grown into the recent, more expansive (QE3) program.

Possible Impacts of the Policy

In theory, Quantitative Easing policies can help bring the economy out of deflation and can help ensure that inflation does not fall below the central bank's target. Under Quantitative Easing, the Bank of Japan bought long-term Government bonds and assets in order to inject money into the economy to expand economic activity.

Conventional expansionary monetary policy usually involves the central bank buying short-term Government bonds to decrease short-term interest rates. However, as the short-term interest rates reach the zero-bound, this method may no longer work due to the possibility of a liquidity trap. In order to combat this, monetary authorities may use Quantitative Easing.

(See the Advantages and Disadvantages of Quantitative Easing under Section 3.1.3)

4 Past Effectiveness and Predictions for 2020

This section of the paper aims to expand upon Section 3 and analyse two main features of the selected policies: their effectiveness in the 2008 crisis, and how closely that translates to their potential effectiveness in a post-Q3-2020 US economy. Due to several differences in the causes and severity of the two economic crises, it is important to recognize and account for the factors that may hamper a given policy's practicality during the Great Lockdown in the US economy.

4.1 Economic Stimulus Act of 2008

Effectiveness in 2008

As was covered in Section 3.1.1 of this paper, the Economic Stimulus Act of 2008 mainly used tax rebates to stimulate consumer spending. To analyse its effectiveness in 2008, we examine the model created in Broda & Parker (2008) and borrow figures from the same.

The implementation of the tax rebates provided highly promising results. Aimed at increasing the Aggregate Demand and the level of consumer spending in the US economy, these tax rebates were successful in doing so. A typical family in the United States was said to have increased its spending on food, mass-merchandise, and medical products by almost 3.5% when the rebates arrived. Furthermore, that the overall demand for products in the second quarter of 2008 was boosted by 2.4% as a direct result of the Economic Stimulus Act of 2008.[32]

[32]Broda, C., Parker, J.. (2008), *The impact of the 2008 tax rebates on consumer spending: Preliminary evidence.*, *http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.188.9572rep=rep1type=pdf*

Table 1: **Spending in each sector as a result of the rebates**

Sector	Average increase in spending
Food and Household Products	$60
Entertainment or Personal Services	$87
Durable Goods	$91
Clothing, Shoes, or Accessories	$32
Other types of purchases	$178

Source: Broda, C., Parker, J. (2008).
The impact of the 2008 tax rebates on consumer spending: Preliminary evidence,
Northwestern University, July 29,
http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.188.9572rep=rep1type=pdf

This survey depicts the effectiveness the policy had when it came to inducing consumer spending.

In addition to increasing consumer spending, the tax rebates also allowed households to pay their debts, as seen in Table 2.

Table 2: **Responses to 2008 Rebate Survey**

	Number of responses	Percent
Mostly spend	447	**19.9**
Mostly save	715	**31.8**
Most pay off debt	1,083	**48.2**
Will not get rebate	212	-
Don't know/refused	61	-
Total	2518	**100**

Source: Shapiro, M.D., Slemrod, J. (2009),
Did the 2008 Tax Rebates Stimulate Spending?,
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3522430/

The Economic Stimulus Act of 2008 was successful in inducing consumer spending in the US economy. Therefore, it is very likely that its effects on unemployment were positive.

Predictions for 2020

As the tax rebates are a form of Government expenditure, Government spending and the budget deficit must be taken into account. A large proposal of tax rebates would have a negative consequence on the US Government's revenue, pushing the economy into a greater budget deficit. In 2020, the Trump administration proposed a would-be record $4.829 trillion federal budget proposal for fiscal year 2021. The US Government estimates it will receive $3.863 trillion in revenue, creating a $966 billion deficit for October 1, 2020 through September 30, 2021. However, a key principle under Keynesian economics is that Government spending during the recession can be made up by the Government revenue following the recovery. Keeping this in mind would be essential to reach a practical conclusion on the policy's effectiveness.

In response to the Great Lockdown, the US Government introduced the CARES Act on March 27, 2020. The Act implements tax rebates along with other forms of fiscal stimuli against the 2020 personal income tax for eligible individuals.

The program is said to provide $2,400 to each married couple filing jointly or $1,200 to each other individual. It also takes into account dependent individuals, who qualify as children under the age of 17, by providing $500 to each person who holds their dependency. The tax rebates would primarily serve to increase the disposable income of consumers. When there is more money in the economy for consumers and businesses, Aggregate Demand increases, which has the direct effect of reducing unemployment. Furthermore, the increase in disposable income would allow for higher investment levels in the economy, thus further increasing the Aggregate Demand.

4.2 ARRA and European Fiscal Stimuli

Effectiveness in 2007-09

We consult the same model referenced earlier, constructed by Wilson (2012) to find the ARRA's effectiveness. Calculations made using the jobs multipliers estimate that around 7 million jobs were saved by the Act in around a year. This clearly signals that the Act had a positive impact on the USA's recovery from the crisis.

However, the policy could have been more effective; people and businesses did not receive cash, and therefore, the number of insolvencies increased. Additionally, a small number of households were unaware about the tax cuts and the tax credits. On the whole, we can conclude that the ARRA was an effective stimulus for the economy, but had a few drawbacks that hampered its effectiveness.

The German stimulus packages and the scrappage program have been seen favourably since the stimuli's inception. The OECD, at the time, stated that the package "[has] and will continue to have a positive effect in stemming job losses." The Organization predicted that the employment rate in 2010 would have been 1%[33] lower if not for the package.

The scrappage program was also successful: car registrations in Germany increased by around 30%[34], one of the highest increases in the EU, this rate being further boosted as a result of Germany's role as a major automobile exporter.

On the other hand, the Spanish case was different. The stimulus was relatively ineffective in the country. The primary reason for this was Spain's constantly changing fiscal stance and choice of policy. These stances seemed to contradict each other, leading to Spain's rising unemployment rate. The table below demonstrates this:

Table 3: **Spanish Fiscal Stance**

Year	Fiscal Stance		Unemployment Rate
2007	Expansionary	Procyclical	8.22%
2008	Expansionary	Procyclical	11.3%
2009	Expansionary	Countercyclical	17.9%
2010	Restrictive	Procyclical	19.9%
2011	Restrictive	Procyclical	21.4%
2012	Restrictive	Procyclical	24.8%

Source: Ferreiro, J. et al, (July 2013),
Mistakes in the Fiscal Policy in Spain before the Crisis,
https://panoeconomicus.org/index.php/jorunal/article/view/85
Based on AMECO database, Data taken from OECD's database.[35]

Predictions for 2020

In general, a fiscal stimulus has mostly been and will continue to be an effective policy when it comes to mitigating recessionary impacts of crises and approaching economic recovery. The USA has already introduced a fiscal package of approximately $2 trillion, but it is important to examine how the effectiveness of such a

[33] OECD, (2009), *Employment Outlook 2009 - How does Germany Compare*, *http://www.oecd.org/employment/emp/43707146.pdf*

[34] European Central Bank, (October 2009), *The Effects of Vehicle Scrapping Schemes Across Euro Area Countries*, *https://www.ecb.europa.eu/pub/pdf/other/mb200910_focus04.en.pdf*

[35] OECD, *Spain - OECD Data*, *https://data.oecd.org/spain.htm*

package can be improved in the future or amended in the present.

We examine the ARRA first. Since the CARES Act has already accounted for tax credits, it may be impractical to allow for further tax credits (it may lead to mass insolvency). However, the Medicaid reforms introduced under the ARRA have more scope when it comes to economic recovery. Government spending in the field of healthcare is vital in overcoming a pandemic, especially in a country where healthcare is comparatively expensive, and this is where these changes come in.

Theoretically, these reforms would not only inject money into the economy, but they would also have the added (if minor) benefits of allowing for more accessible COVID recovery (via the DSH reforms), therefore flattening the curve and aiding the country's medical situation in the long run. Making healthcare more affordable also allows for more consumer spending in other sectors.

The Medicaid reforms may also be helpful in the case of what many speculate will be a second wave of the COVID pandemic. In the early stages of this second wave, increasing testing will be helpful in asserting that the economic recession is overcome as quickly as possible.

However, there are a few cautions and limitations to be considered, the primary one being that the fiscal multiplier and the employment multiplier are lower than they were during the Great Recession, and so, more Government spending is required to undo the economic impacts. Another more politically inclined limitation is that the current US administration strongly opposes the Medicaid program in general, having made reforms earlier in 2020 and 2019 that weaken the program.

One other important thing to consider would be the opportunity cost of investing large sums of Government money in healthcare. Healthcare spending may be helpful to the USA, and might allow for a quicker solution to the health crisis, but the Government must be careful of the investment opportunities missed out when investing in healthcare. One cautionary measure would be to look at various sectors that have been extremely weakened by unemployment, as this has the potential to have a more significant effect on the economy. Real estate and finance are examples of sectors that account for large portions of the American GDP, and their unemployment numbers are still high when compared to the medical sector.

Shifting our focus to Europe, we first look at the German fiscal stimulus, which was relatively different from the ARRA. It was more wary of public debt, and used its budget differently. One important point to mention is that the USA has a strong central bank, which means it can take on more debt than Germany or any EU country. Therefore, it would be less risky to spend a larger portion of the fiscal budget on child care and unemployment insurance.

The German fiscal stimulus included a vehicle scrappage program known to have positive impacts on the automobile industry. However, it is doubtful that such a program will have as great an influence in the USA. In general, the program's effectiveness will be reduced simply because of the pandemic. A large part of the demand for automobiles has decreased, thereby offsetting the policy's potential effectiveness. It can be difficult and expensive for the US Government to influence demand in this industry.[36] The automobile industry is not as important in the USA as it is in Germany, only accounting for around 2.5% of the country's GDP, roughly half of that in Germany's case.

Furthermore, Germany is heavily reliant on its exports, especially in the vehicular sector. This reliance on car exports is not present in the USA, and so, the stimulus (which is suited for an export-heavy economy) would be even less effective.

The Spanish fiscal stimulus was not very different from the ARRA in its aims and provisions. For this reason, and for the fact that it already closely resembles CARES, it would not be very effective. However, it is clear that the stimulus will be significantly more impactful in the USA than in Spain due to the lack of restrictive policies that may hamper its effectiveness.

Therefore, it can be safely concluded that while the Medicaid reforms have political pushback, they would be effective policies, with the potential of being practical both currently and in the future. On the whole, a replication of the ARRA on a much smaller scale would be beneficial, due to the large opportunity cost. This spending would be targeted towards the sole purpose of making healthcare more affordable. However, the same cannot be said for the European fiscal stimuli. While the Spanish expansionary policies during the early moments of the crisis may help the USA, they would certainly not be as effective as the ARRA. Additionally, the German vehicle scrappage program cannot be replicated in the USA to success as great as that of Germany. It would therefore be inadvisable to implement packages similar to the European stimuli given the current situation.

[36] Additionally, the US' history with scrappage programs has been poor, as a 2009 policy called "cash for clunkers" failed to cause a dramatic increase in the number of vehicles bought in the long term.

4.3 Quantitative Easing

Effectiveness in 2008

The primary purpose of Quantitative Easing in the US and the UK was to stimulate greater lending in the economy. In the UK, while there was a small increase in the lending to households, lending to non-financial firms continued to contract until late 2015.[37] However, in the US, QE had the effect of a greater increase in lending from commercial banks to the public, although not to the expected level.

Furthermore, Quantitative Easing certainly assisted the UK out of the recession. UK unemployment peaked at 8.5%[38], compared to 10% in the US and 12.1% in the eurozone.

Moreover, QE also had a positive effect on real GDP and bond prices. The Bank of England states that the $314 billion QE program raised real GDP by 1.5 - 2% and increased inflation by 0.75 - 1.5%[39]. The UK economy came out of the recession in the third quarter of 2009 and experienced a longer period of sustained growth than any other G7 nation. The central bank also estimates that QE caused the yield of UK ten-year Government bonds to fall by 1%. See Figure 4 for a clearer visual representation of the estimates and actual path taken.

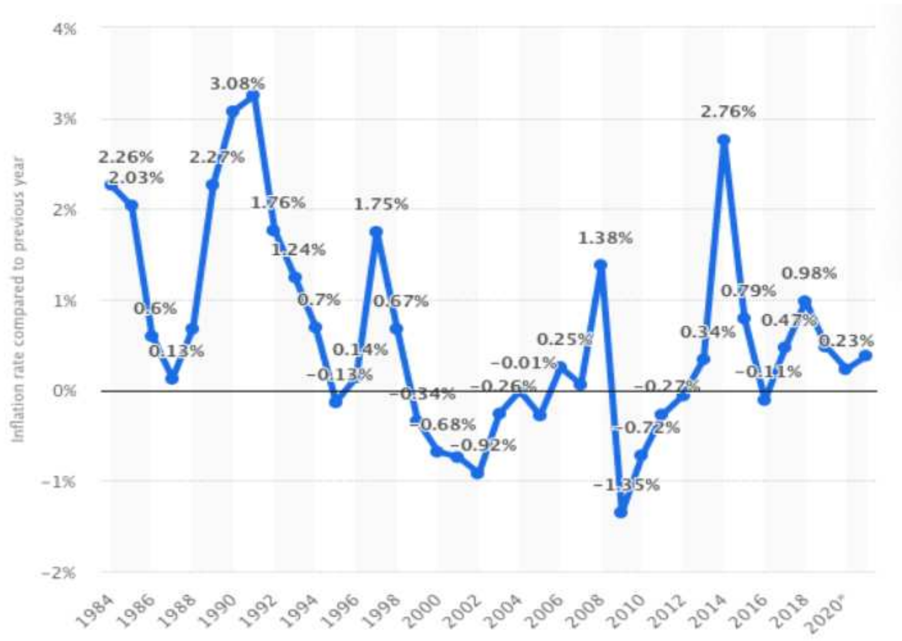
On the other hand, the primary argument presented by critics is the risk of inflation posed by QE. In Japan, QE served mainly to bring the economy out of deflation, and empirical evidence has shown that it was effective in doing this. A 4.11% increase in the country's inflation rate from 2009 to 2014 was observed. However, in both the UK and the USA, QE served an alternate purpose, and high levels of inflation were met by neither, with QE bringing inflation only to the beneficial level around 2% in the US.

[37] OECD, (2015), *OECD Economic Surveys: United Kingdom 2015*, *https://www.oecd-ilibrary.org/economics/oecd-economic-surveys-united-kingdom-2015_eco_surveys-gbr-2015-en*

[38] Office of National Statistics, *Unemployment - ONS*, *https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment*

[39] Haldane, A., (2011), *QE: the story so far*, *https://ideas.repec.org/p/boe/boeewp/0624.html*

Figure 3: **Japan's Inflation Rate**

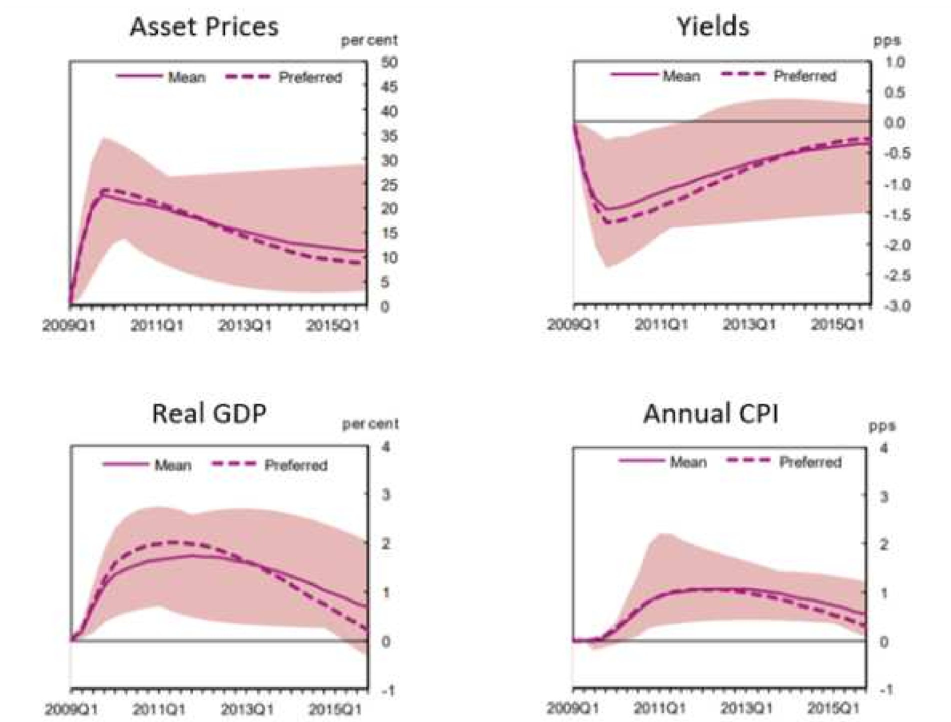


Source: Source: Statista, *Japan - Inflation Rate*, *https://www.statista.com/statistics/270095/inflation-rate-in-japan/*

Additionally, central banks have not yet sold back the bonds, giving rise to worry of the effects arising when QE is terminated: higher interest rates, falling bond prices, and less lending. While this might seem logically reasonable, no factual data is present to support it, as the situation has not yet arisen.

While it is difficult to isolate the effect of Quantitative Easing in a large economy, the general effect and direction can be seen to be positive.

Figure 4: **Effects of QE in the UK**



Source: Thomas, R., Bridges, J., (2012),
Working Paper No. 442: The Impact of QE on the UK economy - some supportive monetarist arithmetic,
https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2012/the-impact-of-qe-on-the-uk-economy-some-supportive-monetarist-arithmetic.pdf

Predictions for 2020

The 2008 financial crisis, contrary to the Great Lockdown, was a result of bank loan defaults. This made banks at the time highly cautious of lending. As the cause of the current crisis is not market imperfections, there is the probability of QE having a greater effect on bank lending, making it more effective. However, as this crisis is more severe, the effects might cancel out, or be negligible.

On the other hand, even if bank loans increase, consumer demand might still not be stimulated to a required level, as a result of future lockdowns or general precautions.

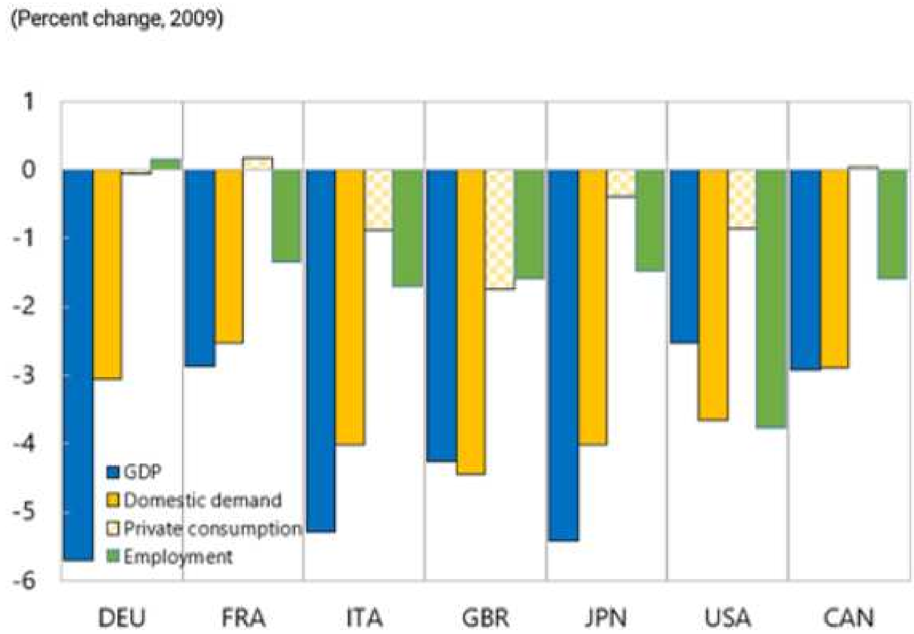
Quantitative Easing has already been initiated by the Federal Reserve on March 15, and no specified limit has been set. As QE runs the risk of high inflation, it is vital it be carried out in stages as opposed to 'large chunks'.

4.4 Kurzarbeit

Effectiveness in 2008

The effectiveness of Kurzarbeit in Germany is hardly debated, as Germany was the only G7 Nation to not experience a fall in employment in 2009. It is estimated that Kurzarbeit saved nearly 500,000 jobs, and replaced the lost income of 1.4 million workers[40], thus effectively reducing the unemployment rate in Germany. However, Germany still experienced negative economic growth, the reason for which can be attributed to the fall in external demand. On the other hand, the increase in internal demand helped Germany achieve a faster recovery. On the whole, Kurzarbeit can be regarded as a highly effective policy.

Figure 5: **The G7 Nations**



Source: International Monetary Fund, (2020), *Kurzarbeit: Short-time Work benefit, https://www.imf.org/en/News/Articles/2020/06/11/na061120-kurzarbeit-germanys-short-time-work-benefit*

Predictions for 2020

Kurzarbeit, as stated above, was a highly effective demand-side policy during the Great Recession in Germany, lowering unemployment significantly. As current unemployment rates are higher when compared to the 2008 financial crisis, such a

[40]OECD (2009), *Employment Outlook 2009 - How does Germany Compare?, http://www.oecd.org/employment/emp/43707146.pdf*

policy is particularly vital for a future recovery.

Under the $2 trillion coronavirus relief package, a $349 billion "Paycheck Protection Program" Act has been implemented. Under this program, small businesses can apply for loans at private banks, which are forgivable if the employees are not laid off. This can, arguably, be considered a less direct version of Kurzarbeit. However, two major disadvantages (and differences) of the Act are that a) only small businesses can apply, and b) the businesses borrow from commercial banks, as opposed to the Government. The Government, in this case, does not directly pay for the income of the employees.

Furthermore, Kurzarbeit might have the required effect of stimulating supply, in addition to the primary effect on demand. As workers are kept employed, the supply chain disruption caused by the crisis will be undone. The return of pre-crisis supply levels will have the effect of increasing employment opportunities. However, the central result will still be the creation of demand through the increase in income.

Moreover, by applying some changes to Kurzarbeit, its effectiveness might improve. One of these, as mentioned under Section 3.2.2, could be the inclusion of temporary workers to the policy. This might be particularly useful in the current conditions, as a large proportion of the US labour force is already unemployed.

In conclusion, Kurzarbeit can be effectively implemented in the United States, with similar guidelines, to create a successful policy to combat the high levels of cyclical unemployment faced during this crisis.

4.5 Social Security in Germany

Effectiveness in 2008

The unemployment benefits and the Hartz reforms which continued to help Germany following the Great Recession, aimed at: a) improving employment services, b) stimulating employment.

The effectiveness of the policies implemented by Germany following the 2008 financial crisis was substantial. Germany saw a fall in unemployment rates following the crisis, as opposed to other countries. While unemployment benefits may not be one of the major policies that Germany implemented, they were effective in limiting the rise in unemployment rates.

Figure 6: **Germany's Unemployment Rate**

Source: Trading Economics, *Germany Unemployment Rate*, from *https://tradingeconomics.com/germany/unemployment-rate*

As seen in the Figure 6, unemployment rates steadily fell from almost 8% in 2008 and continued to decline until the Great Lockdown, portraying the effectiveness of the policy.

Predictions for 2020

Germany was one of the few countries that combated the 2008 financial crisis with great success. It is clear that the policies implemented by Germany were successful in inducing consumer spending, and in reducing the unemployment rates.

Following the coronavirus pandemic, social security would be required even after the crisis subsides. It would allow for a smoother transition, as the unemployed workforce would motivated to seek employment. However, it must be kept in mind that the long-term implementation of this policy could potentially demotivate the workforce.

On August 9, 2020, the US Government announced a $400 per person unemployment benefit order. In an attempt to protect the workforce, the US Government said that this amount would be deducted from the country's COVID-19 relief fund. States would be required to cover 25% of the costs, while the Federal Government would cover 75%.

This policy would be beneficial as it would not only provide financial security to the American workforce, but would also help increase consumers' disposable incomes, thus inducing spending. It would also provide a good transition for the economy as it tries to recover from the Great Lockdown.

However, it must also be duly noted that unemployment benefits could be challenged. Money without value creation could lead to devaluation. These effects on Germany's unemployment benefits were moderated as a result of Germany not having its own currency. The Euro cushions any after effects of Germany's welfare, which when compared to Germany's economic strength is undervalued, thus benefiting German exports. Germany therefore has more leeway in payouts as compared to other developed nations. Hence, the direct comparison of this would be difficult in a country like the United States, which has its own currency.[41]

4.6 VAT-Reduction

Effectiveness in 2008

Although the effectiveness of the VAT-cut is a matter that is still disputed and two-sided, it is irrefutable that certain results can be drawn from it.

To begin with, the overall pass rate was 66%, which, although moderate, was still a partial success. However, of these 66%, only 14%[42] changed the shelf price (see Table 3). The primary reason for this could be the menu costs, which, for a fairly small cut of 2.5%, may seem too large. This might have the detrimental consequence of a lack of consumer awareness, resulting in no change in their consumption levels.

Table 4: **The pass-through of the VAT-cut**

Method of passing on VAT reduction	Percent
Shelf price changed	**14**
Only till price[a] changed	**43**
Mixed - some shelf prices updated, other prices changed only at till	**9**
Not passing on VAT reduction	**34**

[a] The till price is the final price noted at the counter (or till). While it is usually the same as the shelf price, during such changes it might vary.

Source: Pike, R., Lewis, M. Turner, D., (2009),
Impact of VAT reduction on the consumer price indices,
Econ Lab Market Rev 3, 1721,
https://doi.org/10.1057/elmr.2009.139

[41] It must be noted that other smaller territories have adopted the US Dollar as their official currency, but the US has a far greater impact on its value.

[42] Pike, R., Lewis, M. Turner, D., (2009), *Impact of VAT reduction on the consumer price indices*, Econ Lab Market Rev 3, 1721, *https://doi.org/10.1057/elmr.2009.139*

Furthermore, it is clear consumers were not noticeably impacted by the policy. A survey conducted by PricewaterhouseCoopers found that 88% of the people said that the VAT-cut had not prompted them to spend more. Another 5% said they were unaware there even was a change, and only 8% said they had boosted spending as a result.[43]

As the policy's primary aim was an increase in consumer expenditure, the results portray clear ineffectiveness. And while aggregate expenditure did increase by approximately 0.4%[44], it is important to keep in mind the opportunity cost of the $19.4 billion lost by the Government, which could have been used for other forms of fiscal policy, such as stimulus packages, which have a more direct impact on unemployment.

In conclusion, while the pass through of the VAT-cut was regarded as a staggering success, the salience was extremely low, and the reason for both might be the fact that a cut of 2.5% was not impactful enough. As the salience was relatively small, employment was not greatly impacted, and thus, its effectiveness was low.

Predictions for 2020

In the United States, a sales tax fulfills a similar purpose to the VAT in the UK. However, there are some key differences: the first is that in a sales tax, the tax is levied by the final retailer. This has the advantage of the possibility of a higher pass-through, as a 'ripple effect' might have lowered the pass-through in the VAT, particularly in a sticky-price model.

Another difference is that the sales tax in the US is set by the State, as opposed to the Central Government in the UK. The Federal Government in the US does not have the authority to change this sales tax. Hence, any changes must be made on a state level, as opposed to a national level, in the US. As other differences will not have a significant impact on the conclusion, they will not be discussed here.

The significant limitation of a possible sales tax reduction will be the general consumer behaviour of the majority of the population, which is currently shifting towards abstaining from the purchase of goods deemed 'unnecessary'.

[43]PriceWaterHouseCoopers, (2009), *VAT reduction has had very little impact on consumer spending so far says PricewaterhouseCoopers LLP research*, *https://pwc.blogs.com/press_room/2009/08/vat-reduction-has-had-very-little-impact-on-consumer-spending-so-far-says-pricewaterhousecoopers-llp.html*

[44]Crossley, Low, Sleeman, (2016), *Using a Temporary Indirect Tax Cut as a Fiscal Stimulus: Evidence from the UK, https://www.ifs.org.uk/uploads/publications/wps/wp201416.pdf*

Furthermore, as was concluded from the UK, even with a moderate pass-through, the salience was considerably low. To have a considerable effect, the reduction in sales tax must be greater than 2.5%. However, sales tax provides a large proportion of state revenue. Hence, a reduction in sales tax would have a deep effect, one which might not stimulate enough spending to make up further revenue losses.

In conclusion, a sales tax reduction will not have a high consumption effect, and the loss of state revenue will likely be higher than the boost in Aggregate Demand. Hence, the policy will likely not be effective.

4.7 Spanish Labour Market Reforms

Effectiveness in 2012-13

The Spanish labour market reforms had both positive and negative impacts. Firstly, the decentralization of collective bargaining was mostly unsuccessful in providing more trade union coverage since small firms did not have access to trade unions and employer organizations. This meant that workers' job security was decreasing during a time of economic recession. Introducing the permanent contract showed some change, however negligible. The permanent-to-temporary worker ratio improved in the country, which resulted in more spending.

The employment protection reforms, however, had a greater impact. Dismissals on the whole increased, but they were more fair than unfair. There was a short-term rise in employment after the implementation of this change in the economy, and this turned into a continuous, long-term rise that brought Spain out of the economic recession.

It is clear that these policies were oriented towards shifting demand in the long run, and empirical evidence supports this. Spain's unemployment rate began to decrease some time after these reforms were implemented, and this positive economic change is often attributed partly to this policy.

Predictions for 2020

The reforms in Spain in 2012 were a result of the country's market imperfections entering into the crisis, and aimed to reduce unemployment in the long term. However, the collective bargaining reforms would be effective in little to no capacity, since the

USA has a low trade union density[45] at around 10%[46]. If these reforms were to have an impact, it would more likely be negative than positive. In addition to the scarcity in privatized trade unions, the decentralization of collective bargaining may worsen income inequality, since coverage rates provided by unions have historically differed across the country.

When it comes to the permanence of labour contracts, the American permanent to fixed-time worker ratio is currently high. While the indefinite contract would not contribute severely to public debt, implementing it would still be impractical, and it would not have any particular economic impact.

Cutting costs for dismissals in the US economy may be more detrimental, since labour supply is continuously deteriorating. Focusing on labour demand in the USA (as Spain did in 2012) would be a mistake, as it would cause further disequilibrium in the labour market. Instead, an increase in dismissal costs would be recommended for a balance of the labour market, which is an important step towards increasing Aggregate Demand. However, dismissal procedures are not as strict in the USA as they are in Spain, and so, it would be difficult to enforce this policy. Additionally, as Lacasa (2013) suggests, reforms like this could focus more on work-time flexibility, in addition to wage flexibility.

5 Recommended Policies for 2020

In this section, we aim to formulate a final recommendation of policy actions to combat cyclical unemployment in the US economy following the onset of the coronavirus, on the basis of our analysis in Sections 3 and 4. While these policies would be effective individually, they would certainly be more impactful if implemented together.

To begin with, Kurzarbeit, a German short-time work scheme, has proved its effectiveness in the 2008 financial crisis. Through modifications addressing certain disadvantages (for example, the inclusion of the policy to temporary workers) and adjustments made following the severity of the Great Lockdown, it is likely that the policy will be made more effective in reducing the high cyclical unemployment observed currently. A particular advantage that Kurzarbeit holds over other policies is its direct impact on cyclical unemployment and income. However, one limitation that must be taken into account is its potential support for uncompetitive firms.

[45] The ratio of trade union member workers to non-unionized member workers.
[46] OECD, *Collective bargaining: Levels and coverage*, *https://www.oecd.org/els/emp/2409993.pdf*

Several different fiscal stimuli that were implemented in the 2008 financial crisis have been covered under the CARES Act. Under this $2 trillion fiscal stimulus package, both tax credits and tax rebates have been introduced.

Tax credits are an effective measure to increase disposable income, as evidenced by their effectiveness during the Great Recession. In addition to their direct effect on income, they would have the monetary effect of increasing the number of loans. However, they must be implemented carefully due to their high risk of mass insolvency.

Tax rebates were equally successful during the 2008 financial crisis, as depicted by the "Survey of Consumers" in Shapiro, M.D., Slemrod, J., (2009), (see Table 2). Offered to consumers with low tax liabilities, tax rebates will increase their purchasing power. One restriction to be considered is that consumers might choose to save their money rather than spend it due to the high uncertainty.

Given the effectiveness of tax rebates and credits in the Great Recession, it is highly likely that they will be successful under the CARES Act.

A policy not implemented as extensively under the CARES Act is the usage of state fiscal spending, which has the primary effect of increasing liquidity. Since state banks receive loans and bailouts from the Federal Government, this would have the added impact of credit creation between state banks and the Federal Reserve. Therefore, we recommend a portion of fiscal packages to be directed towards state fiscal spending. However, it must be ensured that this policy is balanced with Government spending towards households and businesses.

Quantitative Easing, is currently being implemented in the USA in an unconstrained manner, as it has portrayed its effectiveness numerous times during the Great Recession. Its positive influence on bank loans increases Aggregate Demand, especially when interest rates can no longer be lowered, as is currently the case. QE's risk of high inflation makes it preferable for the policy to be implemented in stages as opposed to 'large chunks'.

The implementation of unemployment benefits under the CARES Act will further be beneficial. They will continue to stimulate credit creation, which would assist the unemployed workforce in settling other liabilities. While in the long run they act as a good transition from a recession, in the short run, they could potentially demotivate the workforce.

A final recommendation of ours is the Medicaid reform. In the current situation, this policy will focus on making healthcare more affordable via the DSH scheme, as a result of which consumption expenditure on the whole increases. An added usage for the Medicaid reform would be to increase testing during the earlier stages of a potential second wave of the pandemic. By focusing on more testing, this would allow the US to flatten the curve, thus preventing the further spread of the virus, which would protect the country economically. A potential disadvantage is its effect of crowding out, which might demotivate private spending in the health sector.

6 Conclusion

In this paper, we aimed to formulate an ideal strategy for a post-Q3-2020 US economy. After a thorough examination of certain policies used by a group of selected countries in the Great Recession, we constructed a set of recommended policies whose effectiveness in 2008 reflect their potential effectiveness in 2020. These policies, together, focus on cyclical unemployment and address the issue through various angles, such as lending, income, and fiscal spending.

However, there do exist certain caveats that may hinder the practical effectiveness of these policies, the primary ones being the dynamic situation as a result of the pandemic, and any political opposition that may have not been considered.

The Great Lockdown has had severe impacts on the United States economy, to which our paper hopes to provide an insightful recommendation for ideal policies to be implemented in the country in order to reduce the currently high levels of cyclical unemployment.

7 References

111th Congress, (2009), *American Recovery and Reinvestment Act of 2009*, *https://www.govinfo.gov/content/pkg/PLAW-111publ5/pdf/PLAW-111publ5.pdf*

Accounting Today, (December 2010), *Tax Cut Extension Bill Wends Its Way to White House*, *https://www.accountingtoday.com/news/tax-cut-extension-bill-wends-its-way-to-white-house*

Atauri, P.G.D., (September 2015), *The cost of dismissals in Spain before and after the labor reforms*, *https://e-revistas.uc3m.es/index.php/SLLERJ/article/view/2883*

Blundell, R. (2009), *Assessing the Temporary VAT Cut Policy in the UK. Fiscal Studies*, 30(1), 31-38, *www.jstor.org/stable/24440144*

Broda, C., Parker, J. (2008), *The impact of the 2008 tax rebates on consumer spending: Preliminary evidence*, Northwestern University, July 29. *http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.188.9572rep=rep1 type=pdf*

Carter, A. (October 2019), *Increase in social contributions for 2020: high earners will pay much more*, *https://www.iamexpat.de/expat-info/german-expat-news/increase-social-contributions-2020-high-earners-will-pay-much-more*

Carter, A. (2019), *German unemployment benefit Hartz IV to go up from 2020*, *https://www.iamexpat.de/expat-info/german-expat-news/hartz-iv-german -unemployment-benefits-go-2020*

Ceicdata, *United States Unemployment Rate*, 1948-2020, *https://www.ceicdata.com/en/indicator/united-states/unemployment-rate*

Center on Budget and Policy Priorities, (2019), *Trump Administration's Harmful Changes to Medicaid*, *https://www.cbpp.org/sites/default/files/atoms/files/6-12-19health.pdf*

Chirakijja, J. et al, (2009). *The Stimulus Effect of the 2008 U.K. Temporary VAT Cut. Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association*, 102, 15-21., *www.jstor.org/stable/prancotamamnta.102.15*

Chodorow-Reich, G. et al. (August 2012), *Does State Fiscal Relief During Recessions Increase Employment? Evidence from the American Recovery and Reinvestment Act*, *https://www.jstor.org/stable/23249923*

Congressional Budget Office, (June 2020), *Monthly Budget Review for May 2020*, *https://www.cbo.gov/publication/56458*

Cox, J., (June 2020), *Fed sees interest rates staying near zero through 2022*, *https://www.cnbc.com/2020/06/10/fed-meeting-decision-interest-rates.html*

Crossley, Low, Sleeman; (2016), *Using a Temporary Indirect Tax Cut as a Fiscal Stimulus: Evidence from the UK*, *https://www.ifs.org.uk/uploads/publictions/wps/wp201416.pdf*

Crossley, T., Low, H., Wakefield, M. (2009). *The Economics of a Temporary VAT Cut. Fiscal Studies*, 30(1), 3-16, *www.jstor.org/stable/2444014*

Domenech, R. et al, (November 2016), *The effects of wage flexibility on activity and employment in the Spanish economy*, *https://www.bbvaresearch.com/wp-content/uploads/2016/11/WP_16-17.pdf*

European Automobile Manufacturers Association, (June 2009), *Vehicle Scrapping Schemes in the European Union*, *https://web.archive.org/web/20090419033114/http://www.acea.be/images/uploads/files/20090406_Scrapping_schemes.pdf*

European Central Bank, (October 2009), *The Effects of Vehicle Scrapping Schemes Across Euro Area Countries*, *https://www.ecb.europa.eu/pub/pdf/other/mb200910_focus04.en.pdf*

Ferreiro, J. et al, (July 2013), *Mistakes in the Fiscal Policy in Spain before the Crisis*, from *https://panoeconomicus.org/index.php/jorunal/article/view/85*

Gopinath, G. (April 2020) *The Great Lockdown: Worst Economic Downturn Since The Great Depression*, *https://blogs.imf.org/2020/04/14/the-great-lockdown-worst-economic-downturn-since-the-great-depression/*

Haldane, A., et al., (2011), *QE: the story so far*, *https://ideas.repec.org/p/boe/boeewp/0624.html*

HM Treasury, (2008), *HM Treasury Annual Report 2007-2008*, *https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/243389/7408.pdf*

Horwitz, L. Myant, M., (March 2015), *Spain's market reforms: On the road to employment - or the road to unemployment?*, *https://www.etui.org/publications/working-papers/spain-s-labour-market-reforms-the-road-to-employment-or-to-unemployment*

House of Commons Treasury Committee (Jan 2009), *Pre-Budget Report 2008, Second Report of Session 2008-09*, the *publications.parliament.uk* website

International Monetary Fund, (2020), *Kurzarbeit: Short-time Work benefit*, *https://www.imf.org/en/News/Articles/2020/06/11/na061120-kurzarbeit-germanys-short-time-work-benefit*

International Monetary Fund, (June 2020), *World Economic Outlook Update: A crisis like no other, an uncertain recovery*, *https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020*

Jahan, S. et al, (2014). *What is Keynesian Economics? - Back to Basics - FINANCE AND DEVELOPMENT*, *https://www.imf.org/external/pubs/ft/fandd/2014/09/pdf/basics.pdf*

Keynes (1943), *The Maintenance of Full Employment*, page 319

Kopecki, Dawn (2008), *"Bernanke Backs Calls for Quick Action", Bloomberg News*, *https://www.bloomberg.com/news/articles/2008-01-17/bernanke-backs-calls-for-quick-actionbusinessweek-business-news-stock-market-and-financial-advice*

Kose, et al. (2017), *The Global Role of the US economy*, *http://documents1.worldbank.org/curated/en/649771486479478785/pdf/WPS7962.pdf*

Lacasa, J.M., (2013), *The Labour Reform from a Business Point of View*, *https://contenidos.ceoe.es/resources/image/bee20902.pdf*

Oda, N., Ueda, K. (2005), *The Effects of the Bank of Japan's Zero Interest Rate*, *https://www.boj.or.jp/en/research/wps_rev/wps_2005/data/wp05e06.pdf*

OECD, *Spain - OECD Data*, *https://data.oecd.org/spain.htm*

OECD (2009), *Employment Outlook 2009 - How does Germany Compare*, *http://www.oecd.org/employment/emp/43707146.pdf*

OECD (2012), *Structural reforms in times of crisis*, *http://www.oecd.org/economy/growth/49711014.pdf*

OECD, (2015), *OECD Economic Surveys: United Kingdom 2015*, from *https://www.oecd-ilibrary.org/economics/oecd-economic-surveys-united-kingdom-2015_eco_surveys-gbr-2015-en*

OECD, *Collective bargaining: Levels and coverage*, *https://www.oecd.org/els/emp/2409993.pdf*

Office of National Statistics, *Unemployment - ONS*, *https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment*

Pike, R., Lewis, M. Turner, D., (2009), *Impact of VAT reduction on the consumer price indices*, Econ Lab Market Rev 3, 1721, *https://doi.org/10.1057/elmr.2009.139*

PriceWaterHouseCoopers, (2009), *VAT reduction has had very little impact on consumer spending so far says PricewaterhouseCoopers LLP research*, *https://pwc.blogs.com/press_room/2009/08/vat-reduction-has-had-very-little-impact-on-consumer-spending-so-far-says-pricewaterhousecoopers-llp.html*

Rinne, U., Zimmerman, K.F., (2012), *Another economic miracle? The German labor market and the Great Recession*, *https://link.springer.com/content/pdf/10.1186/2193-9004-1-3.pdf*

Rodnyansky, A., Darmouni, O. (2016), *The Effects of Quantitative Easing on Bank Lending Behaviour*, *https://www0.gsb.columbia.edu/mygsb/faculty/research/pubfiles/19250/Darmouni_quantitative_easing.pdf*

Schenkelberg, H., Watzka, S. (2011), *CESifo Working Paper no. 3486 - EconStor*, *https://www.econstor.eu/bitstream/10419/46297/1/661904342.pdf*

Serrano, F., (August 2010), *The Spanish fiscal policy during the recent 'great recession'*, The Journal of Post Keynesian Economics, *www.jstor.org/stable/40599727*

Shapiro, M.D., Slemrod, J. (2009), *Did the 2008 Tax Rebates Stimulate Spending?*, *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3522430/*

Statista, *Car industry employment numbers in Germany 2005-2019*, *https://www.statista.com/statistics/587576/number-employees-german-car- industry/*

Statista, *Japan - Inflation Rate*, *https://www.statista.com/statistics/270095/ inflation-rate-in-japan/*

Statista, *US Unemployment Rate*, Adjusted, July 2020, *https://www.statista.com/statistics/273909/seasonally-adjusted-monthly-unemployment-rate-in-the-us*

Thomas, R; Bridges, J; (2012), *Working Paper No. 442: The Impact of QE on the UK economy some supportive monetarist arithmetic*, *http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.231.4153*

Trading Economics, *Germany Unemployment Rate*, *https://tradingeconomics.com/germany/unemployment-rate*

Verick, S., Islam, I., (May 2010), *The Great Recession of 2008-2009: Causes, Consequences, and Policy Responses*, *http://ftp.iza.org/dp4934.pdf*

Vollmer, U. (2020), *The Financial Crisis in Japan - Semantic Scholar.*, *https://pdfs.semanticscholar.org/8882/c55f5f73333d3674eaad4bbcde41fe1ef3c9.pdf*

Wilson, Daniel J. (August 2012), *Fiscal Spending Jobs Multipliers: Evidence from the 2009 American Recovery and Reinvestment Act*, *https://www.jstor.org/stable/23249927*

Wilson, Daniel J., (May 2020), *The COVID-19 Fiscal Multiplier: Lessons from the Great Recession, https://www.frbsf.org/economic-research/files/el2020-13.pdf*