AN EXPERTEZE CIRCLE OF EXCELLENCE IN ECONOMICS ARTICLE

# TRUE EFFECTS OF NEGATIVE INTEREST RATES

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## Abstract:

Given the conventional wisdom that lower interest rates encourage more money into the economy, stimulate businesses to invest, and improve employment, the Federal Reserve is frequently under pressure to decrease interest rates as much as possible. Recently as a response to the financial emergency created by the coronavirus pandemic, the Federal Reserve has decreased the interest rates to near zero, and if conditions persist, it may be forced to go to negative interest territory. While negative interest rates have been applied in the past in several European countries, the real impact of a negative interest rate on a global scale has not been well understood. For example, when Germany adopted a negative interest rate, investment money found a safe haven in the US banks which still had positive interest rates. However, in the absence of such a buffer and implemented on a large scale, we will be moving into uncharted territory. This investigation will attempt to conduct a literature survey to understand and summarize the relevant micro-and macroeconomic aspects of negative rates, create models for predicting the trajectory of the economic behavior of the United States, conduct analyses and provide recommendations and guidelines for the future.

**Introductory Literature Review:**

Negative Interest Rates is a fairly new concept employed by banks in an attempt to restimulate the depressive economies. Evidently, through the name, banks in Europe and Japan are currently awarding clients with negative interest rates to store their excess capital in banks in hopes of restoring economic growth in these stagnant economies. Under the negative interest rates, banks are mandated to pay interest for parking excess reserves with the central bank. With such surplus capital, banks are able to invest in their domestic economies. Historically, individuals would hoard cash, preventing growth in the general economy. In the past, interest rates could not go below zero as banks would store the cash, instead of paying a fee to deposit it.[1]This conventional wisdom was uprooted as banks in Europe and Japan applied negative interest rates to their excess reserves. By analyzing how negative interest rates affected these countries' economies, we can achieve a greater understanding of what will occur if implemented during the current pandemic situation.

**Europe:**

The European Central Bank(ECB) introduced negative interest rates in June 2014, lowering its rates to -.01% in hopes of restimulating the struggling European economy.[2] Even before the current pandemic situation, the European economy was faltering. After the 2009 stock

[1] Johnston, Matthew. “Learn How Negative Interest Rates Work.” *Investopedia*, Investopedia, 21 July 2020, www.investopedia.com/articles/investing/070915/how-negative-interest-rates-work.asp.
[2] Johnston, Matthew. “Learn How Negative Interest Rates Work.” *Investopedia*, Investopedia, 21 July 2020, www.investopedia.com/articles/investing/070915/how-negative-interest-rates-work.asp.

market crash, the European economy has been growing extremely slowly compared to other areas around the globe. In 2019 alone, the European economy grew a mere 1.9% percent.[3]

This dire current condition forced European officials to start to make policy changes, such as negative interest rates, to foster growth. Proponents of negative interest rates argue that negative interest rates lower borrowing costs for bugsinesses and households.[4] Low or negative interest rates on european loans will discourage foreign investors, thus lowering the demand for the euro. Though this decreases the supply of active capital, the problem Europe is facing is not of supply but demand. Using a weaker currency should stimulate a greater demand for exports, and result in more businesses to expand.[5] However, there are many risks to negative interest rates. Because banks have existing assets such as mortgages that are tied to a prevailing interest rate, negative interest rates will decrease profit margins for banks. ECB doubled down on this economic policy as of recently.

The economic effects of negative interest rates have been ambivalent about the European economy. The theorized effects of negative interests have been quite evident.  Since the introduction of negative interest in 2014, the value of the euro has fallen.

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[3] "World Economic Outlook Database, April 2020". *IMF.org*. International Monetary Fund.

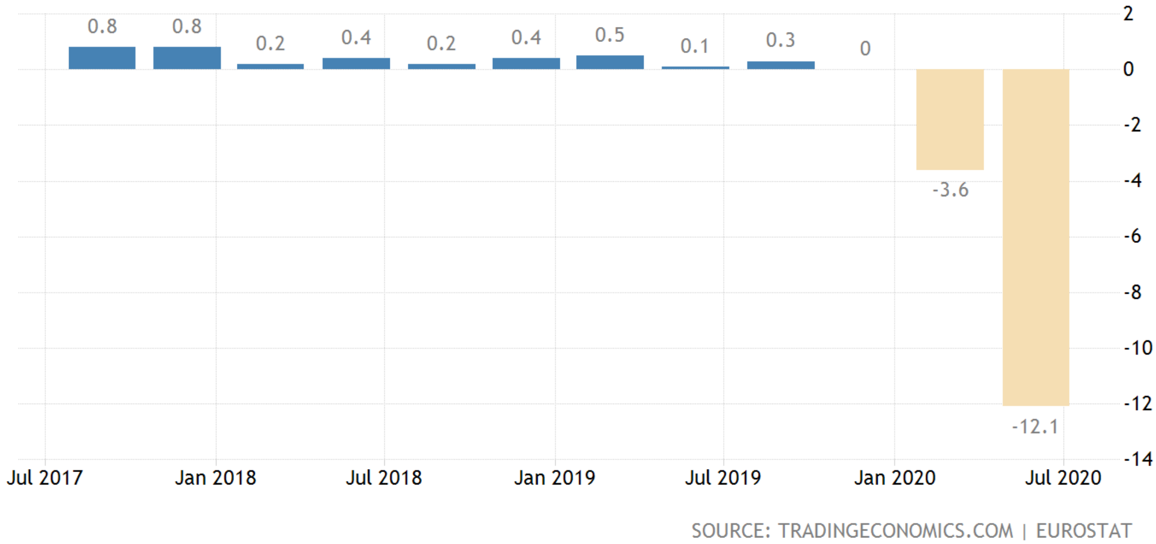
[4] Johnston, Matthew. "Learn How Negative Interest Rates Work." *Investopedia*, Investopedia, 21 July 2020, www.investopedia.com/articles/investing/070915/how-negative-interest-rates-work.asp.

[5] "World Economic Outlook Database, April 2020". *IMF.org*. International Monetary Fund.


* Provided by MacroTrends

This devalued exchange rate will allow for domestic industries in Europe to expand and grow. However, negative interest rates have not significantly affected the eurozone economy. The quarter reports indicate the economy has not grown by more than 1% for the past 4 years, well below world averages.[6] The coronavirus has exacerbated the current slow economic conditions.

[6] NEWS, RTT. "Eurozone GDP Falls Most Since 1995 | Markets Insider." *Business Insider*, Business Insider, 9 June 2020, markets.businessinsider.com/news/interestrates/eurozone-gdp-falls-most-since-1995-1029291701#.




With this, the lack of bank profits has been hurting various economic indicators. As stated before, negative interests rates resulted in european bank profits to get hit. This hasn't been ignored by investors. Since ECB introduced negative interest rates,  the EuroStoxx bank index is down 50%[7]

**Japan**

Japan currently shares a very similar economic situation to the European economy. The Japanese economy has been aptly shrinking since the 1990s. With an aging general population and crippling debt, the Japanese economy has seen a very slow annual growth for a developed nation.  From 1991 to 2003, the Japanese economy, as measured by GDP, grew only 1.14% annually, well below that of other industrialized nations.[8] This slow growth is a period known as

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[7] Briançon, Pierre. "5 Years Into Negative Rates, Europe's Banks Feel the Pain." *Barron's,* Barrons, 11 Oct. 2019, www.barrons.com/articles/5-years-into-negative-rates-europes-banks-feel-the-pain-51570831182.

[8] Bank, World. "GDP Growth (Annual %) - Japan." *Data*, 2020, data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=JP.

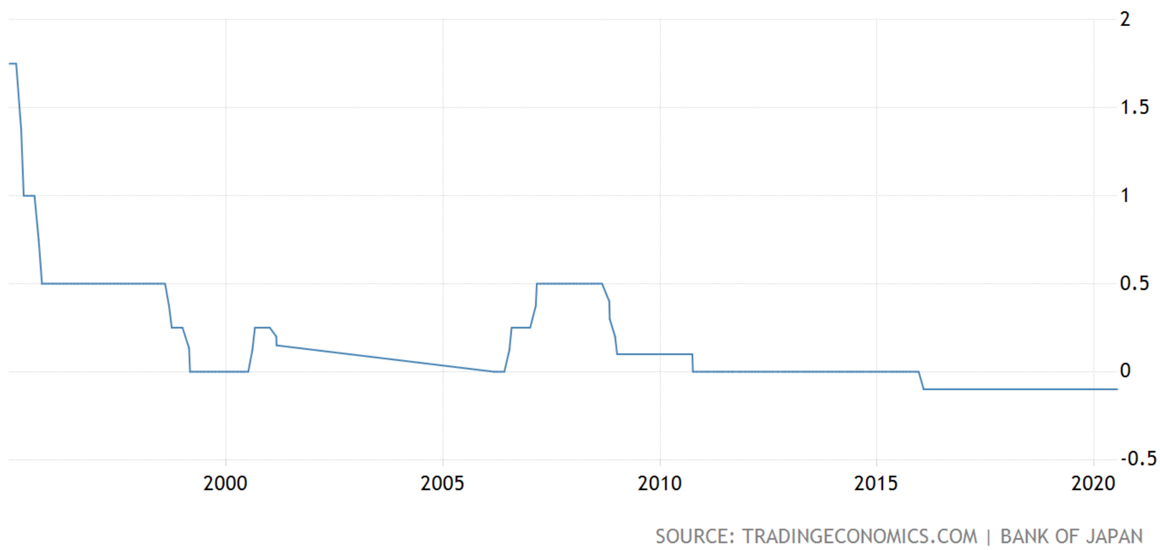
the Lost 20 years and can be attributed to many issues. One of the largest contributors to this slow economic growth is the deflation crisis that occurred in Japan. Known as the Japanese Asset Bubble, it was a period where Japanese real estate and stock were greatly inflated. But in 1992, this overvalued bubble burst and led to economic stagnation for the next 20 years.[9] This stagnation led to a large accumulation of non-performing assets loans (NPL), causing difficulties for many financial institutions. The bursting of the Japanese asset price bubble contributed to what many call the Lost Decade. The Japanese Economy struggled heavily during this time period. GDP fell from $5.33 trillion to $4.36 trillion in nominal terms, real wages fell around 5%, while the country experienced a stagnant price level.[10] As a result of these economic policies and domestic issues, the Japanese growth has been slow. Additionally, Japan has struggled with its debt crisis. Japan has taken up negative interest rates after a history of non-effective low interest rate policies to combat the high national debt. By the time the BOJ( Bank of Japan) announced its NIRP(Negative Interest Rates) would be employed, the Japanese had cut interest rates from 6% to 0.25%. Yet, even with low interest rate policies. Japanese were still unable to combat the national debt, as the debt was over 200% their annual GDP.[11] The BOJ deployed its quantitative easing in 1973, 2003, and 2005 all to combat the debt.[12]

In 2013, Prime Minister Shinzō Abe launched a serious effort, known as Abenomics, to help end the country's economic struggles. These policies aimed to combine fiscal expansion,

[9] Nielsen, Barry. "The Lost Decade: Lessons From Japan's Real Estate Crisis." *Investopedia*, Investopedia, 13 May 2020, www.investopedia.com/articles/economics/08/japan-1990s-credit-crunch-liquidity-trap.asp.
[10] Nielsen, Barry. "The Lost Decade: Lessons From Japan's Real Estate Crisis." *Investopedia*, Investopedia, 13 May 2020, www.investopedia.com/articles/economics/08/japan-1990s-credit-crunch-liquidity-trap.asp.

[11] Nielsen, Barry. "The Lost Decade: Lessons From Japan's Real Estate Crisis." *Investopedia*, Investopedia, 13 May 2020, www.investopedia.com/articles/economics/08/japan-1990s-credit-crunch-liquidity-trap.asp.
[12] Nielsen, Barry. "The Lost Decade: Lessons From Japan's Real Estate Crisis." *Investopedia*, Investopedia, 13 May 2020, www.investopedia.com/articles/economics/08/japan-1990s-credit-crunch-liquidity-trap.asp.

accomplish monetary easing, and achieve structural reform. Abenomics attempts to revive Japan's once strong economy.[13] These policies directly led to the support of negative interest rates in the country. In 2016, Japan introduced negative interest rates to aid its economic recovery. The bank of Japan adopted a negative interest primarily to compete against a yen spike from hurting their export-reliant economy.[14] It charges 0.1 percent interest on a portion of excess reserves.[15]




Other than fostering economic growth, Japanese officials may introduce negative interest rates to combat the severe debt situation. When national governments adopt low-interest policies like such, it makes it easier for governments to afford interest payments.

The effects of negative interest rates may also affect inflation. Research done by Jens H.E. Christensen and Mark M. Spiegel, explains that negative interest rates may result in

[13] Ross, Sean. "Negative Interest Rates Are Not Working in Japan." Investopedia, Investopedia, 29 Jan. 2020, www.investopedia.com/articles/markets/080716/why-negative-interest-rates-are-still-not-working-japan.asp.
[14] "How Does a Negative Rate Policy Work?" *The Japan Times*, 14 Oct. 2019, www.japantimes.co.jp/news/2019/08/14/business/negative-rate-policy-work/.
[15] "How Does a Negative Rate Policy Work?" *The Japan Times*, 14 Oct. 2019, www.japantimes.co.jp/news/2019/08/14/business/negative-rate-policy-work/.

medium inflation within the country. “Our results suggest that this movement resulted in decreased, rather than increased, immediate and medium-term expected inflation. This therefore suggests using caution when considering the efficacy of negative rates as expansionary policy tools under well-anchored inflation expectations.”[16] Another caveat in negative interest rates. Negative interest rates haven’t aided economic activity greatly. Since 2016, the Japanese economy has continued its slow growth, as is in 2019, the World Bank reported a growth rate of .6%.[17] Using this information gathered from Japan’s experience with negative interest rates, an evaluation can be made of its effectiveness in the american economy.

**United States:**

If negative interest rates are implemented in the United States, it would be under different circumstances than those in Japan and the European Union. The United States economy is a complete alternative situation than the studied economic models. Before the pandemic, the US economy was extremely strong, recording strong gdp growth and low unemployment. However, the pandemic situation has crippled the US economy. In the April-June quarter, the US economy retracted to a 32.3% annual rate, and unemployment is at record highs. [18]Thus, an implementation of negative interest rates in the US economy is comparatively different.

From the studied models, a prediction can be made of the positives of negative interest rates, specifically to the challenges the US is currently facing. First of all, one of the primary

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16 Christensen, Jens H.E., and Mark M. Spiel. “Negative Interest Rates and Inflation Expectations in Japan.” *Federal Reserve Bank of San Francisco*, Federal Reserve Bank of San Francisco, 26 Aug. 2019,
17 Bank, World. “GDP Growth (Annual %) - Japan.” *Data*, 2020, data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=JP.
18 "World Economic Outlook Database, April 2020". *IMF.org*. International Monetary Fund.

challenges is the paradox of thrift.[19] This economic paradox states that individuals try to save more during an economic recession, which essentially leads to a fall in aggregate demand and hence in economic growth.  This will undoubtedly occur in the US, as the pandemic situation worsens. By implementing negative interest rates, the US officials can incentivize borrowing money and aid economic growth.Another positive of negative interest rates is its effects on the country's currency. Negative interest rates devalue the country's current currency, which in return assists the domestic economy by making exports less expensive and enables exporters to more easily compete in the foreign markets. Especially with Trump's agenda emphasis on the domestic economy, negative interest rates may be one of the solutions to encourage growth.

However, there are many caveats and shortcomings of negative interest rates, primarily the evidence of effectiveness of such policy. Since the introduction of negative interest rates in Japan and Europe, it has not proven to aid economic growth. In Europe and Japan, economic growth still remains slow. With this, diminishing profits and inflation that come with this policy may dissuade the profit-driven american economy. Finally, the novelty and unfamiliarity of the long-term effects of negative interest rates is too great a risk to implement at a large scale in the United States.

**Conclusion:**

Negative Interest Rates is a new interesting concept, with positive theorized effects. However, without concrete evidence of its true effects, it is too risky to implement at a large scale in the US.

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[19] Chen, James. "Paradox of Thrift Definition." *Investopedia*, Investopedia, 29 Jan. 2020, www.investopedia.com/terms/p/paradox-of-thrift.asp.

**Bibliography:**


Chen, James. "Paradox of Thrift Definition." *Investopedia*, Investopedia, 29 Jan. 2020, www.investopedia.com/terms/p/paradox-of-thrift.asp.

Christensen, Jens H.E., and Mark M. Spiel. "Negative Interest Rates and Inflation Expectations in Japan." *Federal Reserve Bank of San Francisco*, Federal Reserve Bank of San Francisco, 26 Aug. 2019, www.frbsf.org/economic-research/publications/economic-letter/2019/august/negative-interest-rates-inflation-expectations-japan/.

"How Does a Negative Rate Policy Work?" *The Japan Times*, 14 Oct. 2019, www.japantimes.co.jp/news/2019/08/14/business/negative-rate-policy-work/.

Bank, World. "GDP Growth (Annual %) - Japan." *Data*, 2020, data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=JP.

Briançon, Pierre. "5 Years Into Negative Rates, Europe's Banks Feel the Pain." *Barron's*, Barrons, 11 Oct. 2019, www.barrons.com/articles/5-years-into-negative-rates-europes-banks-feel-the-pain-51570831182.

Johnston, Matthew. "Learn How Negative Interest Rates Work." *Investopedia*, Investopedia, 21 July 2020, www.investopedia.com/articles/investing/070915/how-negative-interest-rates-work.asp.

NEWS, RTT. "Eurozone GDP Falls Most Since 1995 | Markets Insider." *Business Insider*, Business Insider, 9 June 2020, markets.businessinsider.com/news/interestrates/eurozone-gdp-falls-most-since-1995-1029291701#.

Nielsen, Barry. “The Lost Decade: Lessons From Japan's Real Estate Crisis.” *Investopedia*, Investopedia, 13 May 2020, www.investopedia.com/articles/economics/08/japan-1990s-credit-crunch-liquidity-trap.asp.

Ross, Sean. “Negative Interest Rates Are Not Working in Japan.” Investopedia, Investopedia, 29 Jan. 2020, www.investopedia.com/articles/markets/080716/why-negative-interest-rates-are-still-not-working-japan.asp.

"World Economic Outlook Database, April 2020". *IMF.org*. International Monetary Fund.