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Asset Movements During the Economic Crisis: Gold and House

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ABSTRACT

This paper aims to predict the trend of gold and housing prices after COVID-19. The report examines the trends in the two assets during the economic crisis in Korea in 1997 and the financial crisis in the U.S. in 2008. Then, it uses various qualitative and quantitative metrics such as the government response during the crises, consumer behavior, and interest rates to analyze those trends and aims to use those to predict the movement of housing prices and gold prices during/after the COVID-19 crisis. I spotted the correlation between the shifts in interest rates and consumer behavior in regard to change in housing price as well as gold price. Therefore, the paper concludes that lowered interest rate increases gold price and housing price because consumers prefer assets like gold because it maintains its value and houses rather than rents as the lowered interest rate induces lower-risk loans. The research includes more details as to how such behavior is brought about to the consumer.

Introduction

A financial crisis is a period of significant negative economic development of a country, meaning main macroeconomic indicators like employment rate, prices, GDP growth rate, exports, and capital flows see significant negative trends. In general, financial crises are phases of the economic cycle in the real sector that have a high association with imbalance in macroeconomic indicators. As a result of this volatile environment, an atmosphere of uncertainty looms over households around the world. These households cut their discretionary spending, leading to a colossal detriment on the demand for manufactured goods. Consequently, there is a sharp fall in global industrial production and significant contractions in GDP in most major economies. Furthermore, we see companies struggle and unemployment rates skyrocket. To combat this, countries lower interest rates to stimulate economic growth as lower financing costs can encourage borrowing and spending.

In this paper, we'll mainly focus on the trends of two key assets: House and Gold. The movement of the two assets would reflect the status the country suffering from the economic/financial crisis is at. And ultimately, such a trend will provide insight into what the public reaction during those times would be, and we could better understand similar trends during the COVID-19 crisis based on the past history. The Severe Acute Respiratory Syndrome (SARS) caused China's GDP growth in the second quarter of 2003 to fall 3.1%, and China's domestic tourism earnings fell 79,291.63 million yuan or US$ 3.5 billion (Keogh-Brown & Smith, 2008). According to Maas (2020), the Spanish Flu "reduced rea l per capita GDP by 6 percent and private consumption by 8 percent" in the typical country. Both of these cases, similar to the COVID-19 pandemic, were health related crises that led to social upheaval and serious economic repercussions.

Background

Case Study #1

Korea 1997

A good example of a financial crisis that showed above-mentioned repercussions was The 1997 Asian Financial Crisis. A few years before 1997, in Korea, "the government in effect discouraged long-term foreign borrowing by business firms … [while] short-term borrowing was mainly regarded as trade-related financing requiring no strict regulation" (Kihwan, 200 6). This led to businesses financing long-term investments with short-term foreign borrowing, causing extreme maturity and currency mismatches. At the time, South Korea economically developed extremely fast because the government prioritized short-term foreign borrowing, which allowed for many successful short-term accomplishments. However, the economy really had no foundation as it funded these projects. Some bulk of such investment should have been allocated to the long-term investments so that the country could not only build a firm structure as it's developing, but it could also insure itself from the worst-case scenario catastrophe as it faced with the currency mismatches. These mismatches eventually led to the economy's collapse. Moreover, the government's inadequate financial supervision and regulation and inefficient use of capital ultimately led to the financial crisis. As a result of this insufficient regulation, "the currency market turbulence quickly crushed the banking sector […] most commercial banks and other financial institutions were in technical default due to the severe depreciation and high interest rates … [and] real GDP shrank 8.1 percent" (Koo & L. Kiser 2001). Furthermore, many major domestic companies like Hanbo, Kia Motor, Jinro, and Haitai collapsed.

Case Study #2

United States 2008

Another example where we saw serious repercussions arise from a financial crisis was The 2 008 Financial Crisis. In the U.S, a couple years prior to 2008, economic prosperity kept investors blind-sided and led them to underestimate the risk of the forthcoming financial crisis. Furthermore, although there were increases in economic growth, there were no improvements in household income. Therefore, many households borrowed more than they could actually pay back, and banks gave out millions of mortgages without background checking these households. Once the innumerable households could not pay their mortgages, the housing market, which was deemed to be rock solid, failed, and the U.S entered a serious financial crisis. As a result, real GDP "decreased at an annual rate of approximately 6 percent in the fourth quarter of 2008 and first quarter of 2009 [...] U.S. unemployment rate increased to 9.5% by June 2009" and "average hours per work week declined to 33" (Nastase, Stefania & Stanef 2009).

Graph Analysis

The following graphs will present the gold price movement during the 2008 crisis, housing prices in 1997 and 2008 along with an analysis of such trends.

Figure 1: Gold Price Average vs. Date

From January 2007, before the crisis, to December 2010, two years after the crisis, the average price of gold per ounce increased by 205.6%. In general, after economic crises, gold prices tend to increase, as seen in the global financial crisis of 2008. This is because gold is considered to be a consistent and safe asset as its purchasing power remains consistent regardless of its current price, so investors will flock to gold when the economy is in shambles. Moreover, gold is considered an inflation hedge; even as more money is printed and inflation rises, the gold sustains its value. The next two graphs are the quarterly changes in U.S House Price from 2004-2011 and the quarterly changes in South Korean House Price from 1995-2000.

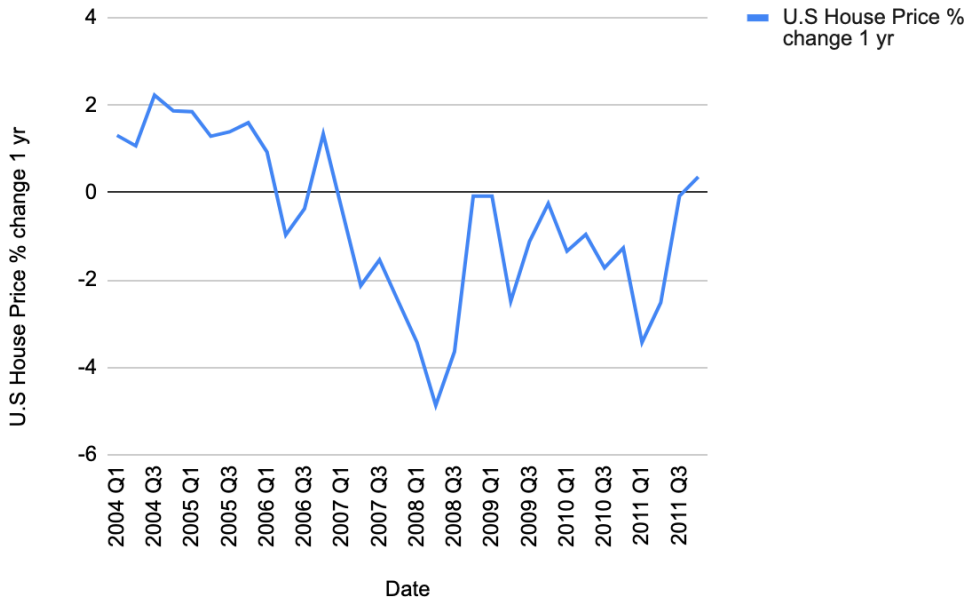

Figure 2: U.S House Price % change 1 yr. vs. Date

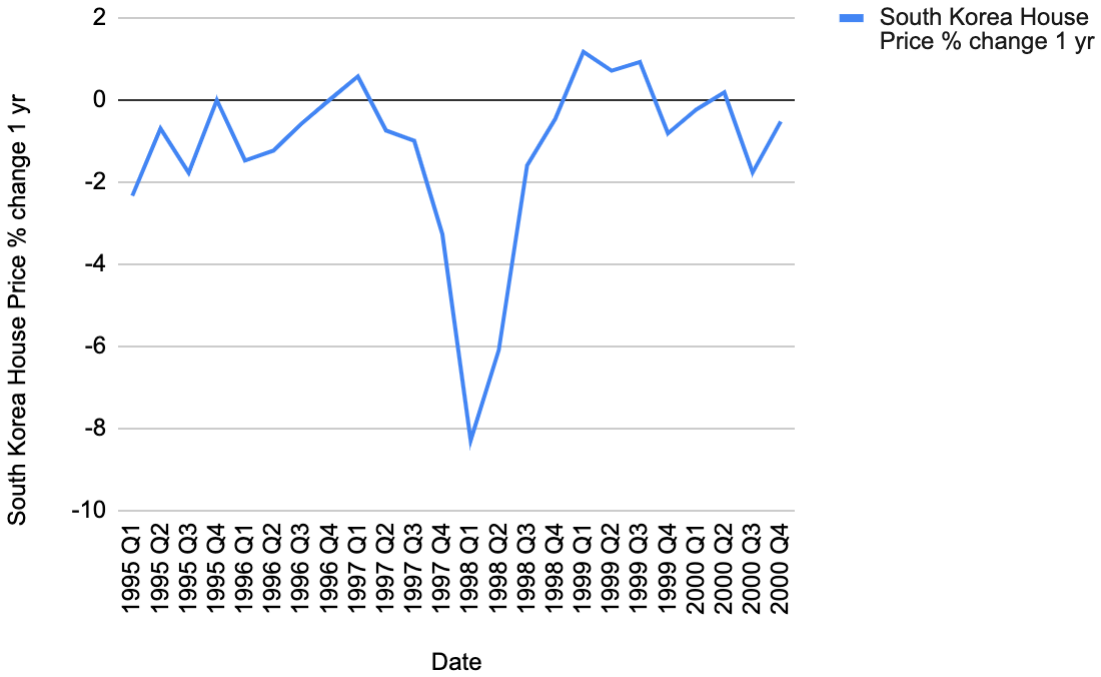

Figure 3: South Korea House Price % change 1 yr. vs. Date

The common theme between these two graphs is that the change in house price fluctuates around 0, but drastically drops at the height of the financial crisis. In 2008, the drastic decrease in housing price was inevitable because the financial crisis was directly correlated to the housing market crash. In 1997, Korea suffered from a foreign exchange crisis, where the IMF had to intervene in order to provide financial aid to the Korean government. Such a shock led to aftermath where people in Korea started to put their houses on the market due to the desperate need for cash. During that period, the housing price plummeted before it started to recover as few saw that as an opportunity to gain immense wealth.

Current Issue

Starting in March 2020, the COVID-19 pandemic shook the world. Not only did COVID-19 completely revolutionize our society, but also it seriously damaged our economy. "More than twice as many jobs were lost between March and April 2020 as were lost during the entire 200 7–09 period" (Handwerker, B. Meyer, Piacentini, Schultz & Sveikauskas, 2020) and "from January to April 2020, total consumer credit and debit card spending by all consumers decreased by $7.5 billion," (I. Garner, Safir & Schild, 2020) and food prices skyrocketed (Mead, Ransom, B. Reed & Sager, 2020).

In response to the financial crisis brought about by COVID-19, the U.S. government implemented the CARES (Coronavirus Aid, Relief, and Economic Security Act) Act on March 27, 2020. This act provided $2.2 trillion in direct financial support to American businesses, households and individuals, medical establishments, and State and local governments. The U.S. government also enforced the PPP (Paycheck Protection Program), providing businesses with funds to cover payroll costs, and interest on mortgages, rent, and utilities. The PPP helps "stabilize labor markets and facilitate recovery by allowing firms to retain workers and rehire them as conditions improve" (First Quarterly Report, 2020). Factoring in the effects of the PPP, in the first quarterly report of the Coronavirus Response Funds' economic impact, it was estimated that "80.6 percent of layoffs" were "temporary rather than permanent" (First Quarterly Report, 2020). According to the first quarterly report the "S&P 500 index fell from its Feb-

ruary 19 peak of 3,386 to a March 20 low of 2,237" (-33.9 percent), and "in March, job losses occurred at a level not seen since the Great Depression, with weekly U.I. claims spiking from 282,000 the week ending March 14 to 6.9 million two weeks later." Additionally, nearly 21 million jobs were lost in April 2020. While unemployment was expected to reach 19 percent in May 2020, which was almost double its highest in the 2008 crisis, it actually unexpectedly declined to 13.3 percent (First Quarterly Report, 2020). In the first quarter, GDP fell 5.0 percent at an annualized rate, and by the second quarter, GDP was predicted to lose 32.9 percent. Various academic studies predicted that by the end of the year, GDP would fall anywhere from 7 to 22 percent; however, these studies did not take into account the fact that the CARES Act would likely lessen the severity of GDP loss (First Quarterly Report, 2020).

Unlike the first quarter, the second quarterly report estimated that only "75 percent of layoffs since February" were "temporary rather than permanent." Nevertheless, "real disposable income increased 3.9 percent since February" because of "unemployment insurance, Economic Impact Payments, and recovering non-transfer income" (Second Quarterly Report, 2020). From May at 13.3 percent, the unemployment rate continued to decrease by September at 7.9 percent, and in a matter of five months, "the economy had regained 11.4 million jobs" (Second Quarterly Report, 2020). This September report suggests that most layoffs were temporary rather than permanent. Contrary to the first quarter, the second quarter found that the S&P 500 index had recovered to 3,363 (98 percent of its earlier loss) by September 30 (Second Quarterly Report, 2020). However, just as the first quarter predicted, GDP declined 31.4 percent at an annualized rate in the second quarter (Second Quarterly Report, 2020).

The third quarterly report found that "the CARES Act provided necessary funds for only a limited time and families and businesses are still struggling while the economy remains well below pre-pandemic levels." After unemployment peaked at 14.8 percent in April, it declined every month until November, when it plateaued at 6.7 percent (Third Quarterly Report, 2020). From November to December, the unemployment rate declined only 0.2 percentage points, and in October, 680,000 jobs were recovered, compared to only 49,000 in January (Third Quarterly Report, 2020). This slowed rate of decline is far too slow to pull us out of the pandemic jobs deficit, as there are still 10 million jobs fewer than in February. Additionally, the third quarterly report found that there is a higher level of permanent unemployment rather than temporary. Not only were there 4.3 million workers in January who were no longer temporarily laid off, 2 million more than in February, but also over 40 percent of all unemployed workers had been unemployed for more than 27 weeks (Third Quarterly Report, 2020). On the other hand, the unemployment insurance program has increased household incomes, as over $423 billion has been received by households by January (Third Quarterly Report, 2020). Moreover, nonfarm payrolls, which fell over 22 million from February to Apri l have recovered 51.5 percent, and "by September, real retail sales were 4.4 percent above their February level," showing a rebound in consumerism (Third Quarterly Report, 2020). The stock market continued to show normalcy, as "the VIX, an index of expected stock market volatility derived from options prices," fell back to pre-pandemic levels by December (Third Quarterly Report, 2020). Furthermore, in the third quarter, there was a sharp rebound in GDP, "as the economy grew at an annual rate of 33.1 percent" (Third Quarterly Report, 2020). However, from 2019-2020 real GDP had a total decrease of 3.5 percent which is greater than the decline experienced in both the 2008 crisis and the Great Depression (Third Quarterly Report, 2020).

Hypothesis

I hypothesize that in the next two years, the average price of gold will sharply increase, and the house price in the U.S. will decrease. Because of the COVID-19 pandemic, the U.S. government is printing a lot of money and is lowering interest rates to induce households to spend more money to stimulate and stabilize the economy. Because the amount of U.S. dollars in circulation increases but the amount of gold is fixed, the relative price of gold must naturally increase. As we saw with the housing crisis of 2008, I predict that gold prices will double from 2020-2023. Meanwhile, because interest rates are so low and there is a huge cash flow into the housing market, people are prompted to buy houses. When interest rates are low and the Federal Reserve is printing a ton of money, people are more likely to take out a loan and buy a house rather than rent a house because their mortgage payments are

significantly lowered. This phenomenon caused a huge demand for houses, creating a spike in the percent change of U.S house prices as opposed to the decrease in lease even in major cities such as New York. However, I predict that this increase in house price will gradually slow down because the inflation rate is too high. At some point, the U.S government will have to control the inflation rate and increase interest rates before the economy implodes. When the gov't brings the interest rate to the ideal number and decides to stabilize the economy, the demand for houses will naturally decrease.

Data Analysis

Here is a graph of the monthly U.S. gold price per ounce average from 2020-2023, but from July 2021 and on the values are a predicted average.

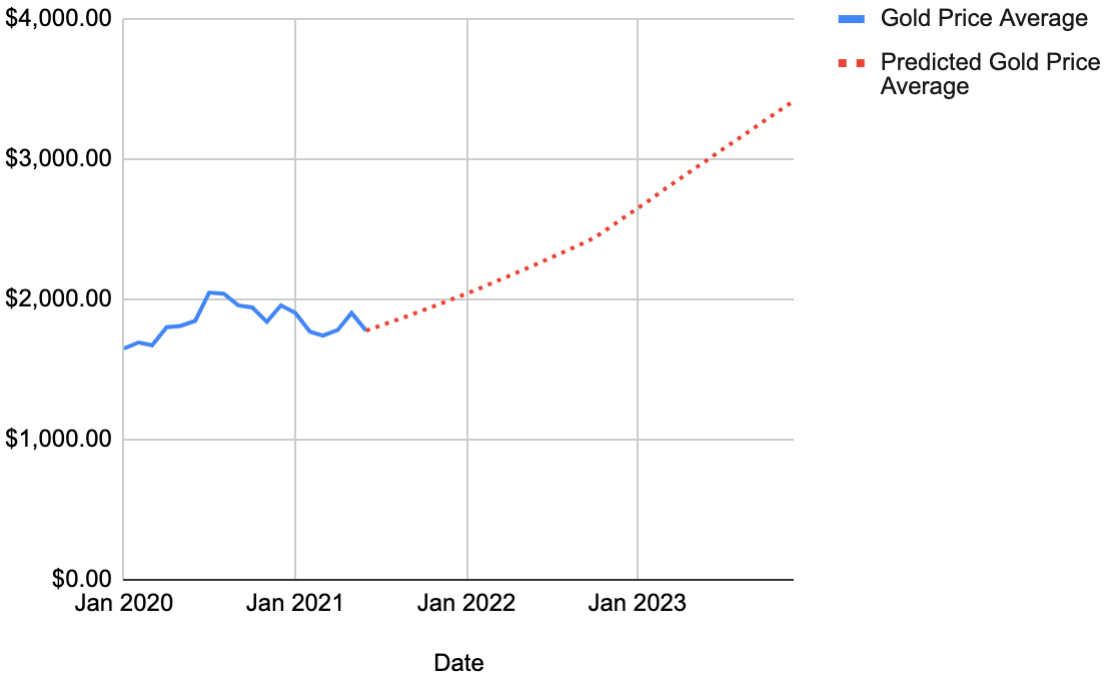

Figure 4: Gold Price Average and Predicted Gold Price Average vs. Date

I predict that the COVID-19 pandemic will affect gold in a very similar way that the housing crisis in 2008 did. Because of the economic crisis brought about by COVID-19, the U.S government, through the CARES Act and the PPP, is printing out a ton of money, increasing the inflation rate. The government is doing this so that households consume more products, allowing the economy to expand before it settles down again. As I explained earlier, because the amount of U.S dollars in the market keeps increasing, but there is a fixed amount of gold, the price of gold will increase. I believe that by December 2023 the price of gold will be about $3,416.43 per ounce, increasing by 207.1% since January 2020. And moving forward, assuming the conventional inflation rate is applied, the relative gold price will gain momentum. After the financial crisis in 1997, Korea's inflation rate increased 7.1% in 1998 (MacroTrends, 1960). From 2008-2011, the price of gold per ounce went from a low of $692.50 to a high of $1,316.00, nearly doubling (Millman, 2020). Additionally, during the Spanish Flu and the SARS outbreak, we saw elevated inflation across the world. Similar to the trends mentioned above, I believe that the COVID-19 pandemic will continue to increase inflation rates, increasing the price of gold. The next graph is the quarterly changes in U.S House Price from 2019-2023, but from July 2021, and on the rate of change is estimated.

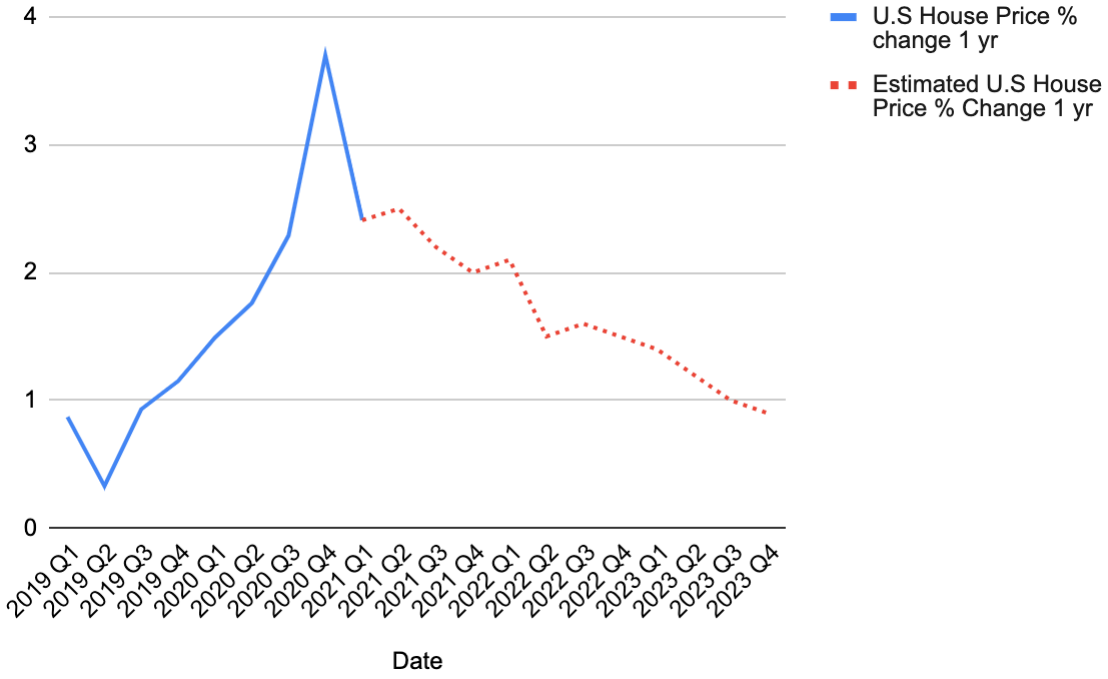

Figure 5: U.S House Price % change 1 yr. and Estimated U.S House Price % Change 1 yr vs. Date

Unlike Figure 2 and Figure 3, during the COVID-19 pandemic, the change in house price actually increased. This is because the factor that drives the price of houses is whether people are buying or renting houses. When many people are buying rather than renting houses, the demand for houses increases therefore increasing their value. In Q4 of 2020, we saw the house price percent change skyrocket because everyone wanted to buy instead of lease, creating a huge demand for houses. When there is a large cash flow in the market and the interest rate is low, there is less risk in buying a house as people can take loans from the bank without having to pay as much money back. Although we saw this massive spike in demand for houses, at some point the percent change in house price has to slow down. I predict that the house price percent change will slowly decrease and get to about a 0.9% increase by Q4 of 2023. Once the U.S is satisfied with the economy's normalcy, they will stop overprinting dollars and make efforts to normalize the economy. After the financial crisis in 1997, in Q1 of 1999, South Korea saw a 1.18% increase in house prices, but that number slowly declined in the next year. After the SARS outbreak in Hong Kong in 2003, there was a small house price decline of 1.5% (Francke & Korevaar, 2021). Similar to these two trends, I believe that the percent change in house prices will start to decrease in the next two years.

Conclusion

Even though the nature of the COVID-19 crisis differs from the two cases we observed, the current crisis is similar to those in that as the financial sector of the country took a hit, indistinguishable trends were visible in both the housing and gold prices. Based on the past data and the current trend, I believe that by 2023 the average price of gold will increase significantly, while the increasing trend in house prices will have slowed down. And from Jan. 2020 to Dec. 2023, the average price of gold per ounce will have increased more than twofold from $1,650.00 to $3,416.43. On the other hand, from Q4 of 2020, where the percent change in house prices was at its highest, to Q4 of 2023, the percent change in house prices will have decreased from 3.7 to 0.9%.

Bibliography

Bialkowski, J., T. Bohl, M., M. Stephan, P. & P. Wisniewski, T. (2014, June 4). The Gold Price in Times of Crisis, 1-37. https://core.ac.uk/download/pdf/35472027.pdf

Choudhry, T., S. Hassan, S. & Shabi, S. (2015). Relationship between gold and stock market s during the global financial crisis: Evidence from Nonlinear Causality Tests, *International Review of Financial Analysis*, 41, 1-29. https://doi.org/10.1016/j.irfa.2015.03.011

Executive Office of the President Office of Management and Budget. (2020, August 14). *The Economic Impact of Coronavirus Response Funds First Quarterly Report*

Executive Office of the President Office of Management and Budget. (2020, November 13). *The Economic Impact of Coronavirus Response Funds Second Quarterly Report*

Executive Office of the President Office of Management and Budget. (2021, March 11). *The Economic Impact of Coronavirus Response Funds Third Quarterly Report*

Francke, M., & Korevaar, M. (2021, February 24). *Housing markets in a pandemic: Evidence from historical outbreaks*. Journal of Urban Economics. https://www.sciencedirect.com/science/article/pii/S0094119021000152.

GlobalPropertyGuide. (2021, May 27). *Home price trends in South Korea.* GlobalPropertyGuide. https://www.globalpropertyguide.com/home-price-trends/South-Korea

GlobalPropertyGuide. (2021, May 28). *Home price trends in United States.* GlobalPropertyGuide. https://www.globalpropertyguide.com/home-price-trends/United-States

Hadziahmetovic, A., Halebic, J., & Colakovic–Prguda, N. (2018). Economic Crisis: Challenge for Economic Theory and Policy, *Eurasion Journal of Economics and Finance*, 6(4), 48 -55. https://doi.org/10.15604/ejef.2018.06.04.005

I. Garner, T., Safir, A. & Schild, J. (2020, December). *Changes in consumer behaviors and financial well-being* during the coronavirus pandemic: results from the U.S. Household Pulse Survey, Monthly Labor Review, U.S. Bureau of Labor Statistics, https://doi.org/10.21916/mlr.2020.26.

J. McKibbin, W. & Stoeckel, A. (2009, November). The Global Financial Crisis: Causes and Consequences, *The Lowy Institute for International Policy*, 1-39. https://www.files.ethz.ch/isn/109461/LWP_fincri.pdf

Keogh-Brown, M. R., & Smith, R. D. (2008, October). *The economic impact of SARS: How does the reality match the predictions?* Health policy (Amsterdam, Netherlands). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7114672/.

Kihwan, K. (2006, July 10-11). The 1997-98 Korean Financial Crisis: Causes, Policy Response, and Lessons, 1-25. https://www.imf.org/external/np/seminars/eng/2006/cpem/pdf/kihwan.pdf

Koo, J. & L. Kiser, S. (2001, Fourth Quarter). Recovery from a Financial Crisis: The Case of South Korea, *Federal Reserve Bank of Dallas*, 24-36. https://www.dallasfed.org/~/media/documents/research/efr/2001/efr0104c.pdf

Mass, S. (2020, May) S*ocial and Economic Impacts of the 1918 Influenza Epidemic*, National Bureau of Economic Research, 5. https://www.nber.org/digest/may20/social-and-economic-impacts-1918-influenza-epidemic

Mead, D., Ransom, K., B. Reed, S. & Sager, S. (2020, August) *The impact of the COVID-19 pandemic on food price indexes and data collection*, Monthly Labor Review, U.S. Bureau of Labor Stati stics. https://doi.org/10.21916/mlr.2020.18.

Millman, E. (2020, April 8). Gold Price History: Why Did Gold Fall In 2008?. *Gainesville Coins.* https://www.gainesvillecoins.com/blog/gold-price-2008-what-we-can-learn

Miron, Jeffrey A. 2009. Bailout or bankruptcy? *Cato Journal: An Interdisciplinary Journal of Public Policy Analysis,* 29(1), 1-17. http://nrs.harvard.edu/urn-3:HUL.InstRepos:11380185

Nastase, M., Stefania, A. & Stanef, R. (2009). Effects of Global Financial Crisis, *Metalurgia International*, 10(4), 691-699. From https://www.researchgate.net/publication/227490224_Effects_of_Global_Financial_Crisis

South Korea inflation Rate 1960-2021. MacroTrends. (1960). https://www.macrotrends.net/countries/KOR/south-korea/inflation-rate-cpi.

Verick, S. & Islam, I. (2010, May). The Great Recession of 2008-2009: Causes, Consequences and Policy Responses, *The Institute for the Study of Labor*, 4934, 1-61. from http://ftp.iza.or g/dp4934.pdf

W, Handwerker, E., B. Meyer, P., Piacentini, J., Schultz, M. & Sveikauskas, L. (2020, Dece mber). *Employment recovery in the wake of the COVID-19 pandemic*, Monthly Labor Review, U.S. Bureau of Labor Statistics, https://doi.org/10.21916/mlr.2020.27.