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Comparing the Impact and Duration of the Great Recession: Italy vs. the USA

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Introduction

The Great Recession, spanning from late 2007 to 2009, stands as one of the most profound economic downturns since the Great Depression. Its impacts were global, causing significant disruptions in economic activities, leading to government interventions, and reshaping economic policies worldwide. Given its magnitude and the extensive consequences it had on various economies, analyzing the Great Recession provides critical insights into economic vulnerabilities, policy responses, and the pathways to recovery. This thesis aims to dissect the multifaceted effects of the Great Recession, particularly focusing on its origins, impact on economic performance, and the responses from central banks and governments.

The decision to compare the effects of the Great Recession in the United States and Italy stems from a deliberate effort to understand the crisis's impact both at its origin and in a severely affected foreign country. The United States, where the financial crisis originated, provides a baseline for understanding the direct consequences and initial responses. Conversely, Italy, one of the European Union countries that suffered the most due to the financial crisis, offers a contrasting perspective of how the recession's effects were imported and managed in a different economic and regulatory environment. This comparison aims to make the analysis as accurate and comprehensive as possible, shedding light on the varied impacts and responses between a country at the crisis's epicenter and one significantly affected by its ripple effects.

Chapter 1 lays the foundation by providing a comprehensive overview of the Great Recession. It delves into the origins and escalation of the crisis, starting from changes in lending practices and the burst of the housing bubble in the United States. The chapter further explores how the recession transmitted to Europe, triggering the Sovereign debt crisis, and highlights the global interconnectedness that exacerbated the economic turmoil.

In Chapter 2, the focus shifts to the economic performance during the Great Recession. This chapter examines the impact on GDP growth, with a detailed analysis of the United States and Europe, particularly Italy. It also covers changes in unemployment rates, central bank interest rates, and household consumption patterns. By comparing these metrics across different regions, the chapter highlights the varied effects and recovery trajectories.

Chapter 3 scrutinizes the responses from central banks to mitigate the recession's effects. It reviews monetary policies implemented by the Federal Reserve and the European Central Bank (ECB), fiscal policies from the U.S. and Italian governments, and regulatory measures to stabilize financial systems. This chapter underscores the critical role of central banks in managing economic stability and supporting recovery.

Chapter 4 investigates the factors influencing resilience and recovery from the recession. It compares the recovery paths of the United States and Italy, analyzing economic policies, structural adjustments, and external factors. The chapter also reflects on the long-term changes a decade after the crisis, assessing whether the implemented measures led to sustainable improvements or merely short-term relief.

Finally, the conclusion synthesizes the findings from the preceding chapters, reflecting on the lessons learned from the Great Recession, Discussing the importance of timely and precise interventions from the Government and CB as well as of other structural factors.

Chapter 1) Overview of the Great Recession.

The Great Recession refers to the economic downturn that occurred from late 2007 to around 2009.This crisis had widespread repercussions, affecting economies worldwide, leading to government bailouts and emergency measures to stabilize the financial system; during this period unemployment sky-rocketed in many countries, business struggled, and consumer spending declined sharply.

The Great Recession is often compared to the Great Depression of the 1930s due to its severity and global impact. A recession and a depression both describe periods of economic downturn, but they differ significantly in terms of severity, duration, and impact.

A recession is a period of temporary economic decline during which trade and industrial activity are reduced; it is typically identified by a fall in GDP in two successive quarters. Recessions are generally short-term, lasting from a few months to a couple of years, and are less severe than depressions: while recessions can cause significant economic discomfort, the overall impact is less catastrophic, common indicators of a recession include reduced consumer spending, increased unemployment, lower industrial production, and declining retail sales. Recessions are relatively common in economic cycles, occurring every few years as part of the natural ebb and flow of economic activity.

In contrast, a depression is a more severe and prolonged economic downturn; it involves a substantial decline in economic activity across the economy, lasting much longer than a recession, often several years. Depressions are characterized by extreme declines in economic activity, leading to very high unemployment rates, significant decreases in consumer and business spending, widespread bankruptcies, and severe deflation or hyperinflation as well as more profound and sustained declines in GDP, sharp drops in stock market values, and long-lasting high unemployment rates.

Governments around the world implemented various monetary and fiscal policies to stimulate economic growth and prevent further deterioration, but the effects of the recession were felt for years afterward, influencing policy decisions, and shaping economic perspectives.

Origins and Escalation of the Great Recession

The origins of the Great Recession can be traced back to changes in lending practices that began as early as 1997, the year in which The Community Reinvestment Act (CRA) was enacted.

CRA[1] is a U.S. federal law aimed to prevent discrimination against low-income borrowers, allowing mortgage lenders to invest in "subprime" securities to meet their affordable housing targets increasing lending and investment in underserved areas and contributing to economic development and revitalization.

Furthermore, following the dot-com bubble burst and ensuing recession, the U.S. Federal Reserve responded by lowering interest rates[2], creating an environment conducive to easy credit. This led to a surge in speculative buying and relaxed lending standards, particularly in the housing market, which saw prices skyrocket, reaching their peak in late 2006 (see figure 1).

[1] "Board of Governors of the Federal Reserve System". 2024. Www.Federalreserve.Gov. https://www.federalreserve.gov/comsumer-communities/cra_about.htm

[2] Kraay, Aart, and Jaume Ventura. "The Dot-Com Bubble, the Bush Deficits, and the U.S. Current Account." In *G7 Current Account Imbalances: Sustainability and Adjustment*, edited by Richard H. Clarida, 457-484. Chicago: University of Chicago Press, 2007.

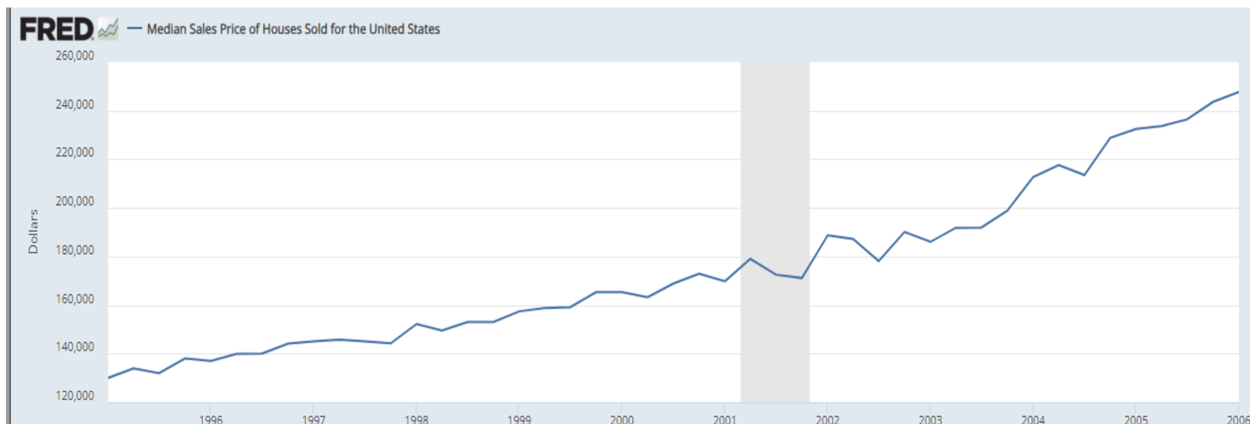

Figure 1:Median sales price of houses sold in America from 1995 to 2006. Source: Federal Reserve Economic Data (FRED), https://fred.stlouisfed.org/series/MSPUS

In 2004, a robust expansion stimulated global economic growth, which continued steadily until 2005 when it noticeably slowed down. By 2006, the world economy was expected to maintain a moderate pace, with an anticipated 3% increase from the previous year, as per the Federal Reserve Board's annual report[3]. This positive outlook was mirrored in household consumption, which saw rapid growth supported by rising employment, gains in real income, and increased household wealth stemming from the appreciation of housing values.

Despite a slowdown in the first two quarters, In the last two quarters of 2007 the IMF expected an economic growth of about 5.2%[4] due to emerging markets and developing countries (see figure 2), at the same time warnings about the rising of credit risk and rising difficulties in the U.S. subprime market and leveraged loan market were issued by Jaime Caruana, Director of the IMF's Monetary and Capital Markets Department : "Materialization of the risks is set to continue as rising mortgage rates will translate into higher resets on adjustable-rate mortgages, many of which will reset this year and the next. Evidence of the effects of the previous weakening of credit discipline is also visible in the leveraged loan market associated with leverage buyout activity."[5]

[3] Federalreserve.gov. "FRB: Annual Report 2006, Economic and Financial Developments in 2006 and Early 2007," 2007 https://www.federalreserve.gov/boarddocs/rptcongress/annual06/sec1/c2.htm.

[4] IMF. "IMF Survey: Global Growth Seen at 5.2 Pct in 2007," 2007. https://www.imf.org/en/News/Articles/2015/09/28/04/53/sonew0725a.

[5] International Monetary Fund. *Global Financial Stability Report: Market Developments and Issues*. World Economic and Financial Surveys. Washington, DC: International Monetary Fund, 2007. https://www.imf.org/en/News/Articles/2015/09/28/04/53/sonew0725a

Stronger outlook The global economy continues to expand at a brisk pace, led by emerging markets. (Annual percent change)			Current Projections	
	2005	2006	2007	2008
World output	**4.9**	**5.5**	**5.2**	**5.2**
Advanced economies	2.6	3.1	2.6	2.8
United States	3.2	3.3	2.0	2.8
Euro area	1.5	2.8	2.6	2.5
Japan	1.9	2.2	2.6	2.0
United Kingdom	1.8	2.8	2.9	2.7
Newly industrialized Asian economies	4.7	5.3	4.8	4.8
Other emerging market and developing countries	7.5	8.1	8.0	7.6
Sub-Saharan Africa	6.0	5.5	6.9	6.4
Central and eastern Europe	5.6	6.3	5.7	5.4
Commonwealth of Independent States	6.6	7.7	7.6	7.1
Russia	6.4	6.7	7.0	6.8
Developing Asia	9.2	9.7	9.6	9.1
China	10.4	11.1	11.2	10.5
India	9.0	9.7	9.0	8.4
Middle East	5.3	5.7	5.4	5.5

Figure 2:IMF projections for 2007 and 2008. Source: https://www.imf.org/en/News/Articles/2015/09/28/04/53/sonew0725a

Despite these warnings, the economy continued to perform well until the last quarter of 2007, when cracks began to appear, evidenced by declining home sales and prices. The pivotal moment arrived on September 15, 2008, with the collapse of Lehman Brothers, which had ventured heavily into mortgage origination, essentially transforming into a real estate-focused hedge fund disguised as an investment bank by 2006.

By 2008, Lehman's assets had swelled to $680 billion, over six times the $111 billion they held at the end of the 2007 fiscal year, they were supported by a mere $22.5 billion in firm capital.[6] In essence, Lehman was operating with an extremely high level of leverage. Its risky investments in commercial real estate were valued at thirty times its capital. This highly leveraged structure meant that even a modest decline of three to five percent in real estate values would completely wipe out Lehman's capital.

The bankruptcy signaled a significant constraint on the government's capacity to handle the crisis and sparked widespread financial panic. Money market mutual funds, crucial for providing credit, faced massive withdrawal requests as investors sought to avoid potential losses and simultaneously the interbank lending market tightened considerably, placing banks at risk of imminent collapse.

Transmission to Europe and the Sovereign debt crisis.

In Europe the period leading up to the crises, spanning from January 1999 to July 2007, was marked by the implementation of the European Central Bank's (ECB) monetary policy strategy.[7] Despite challenges such as the bursting of the dot-com bubble, fluctuating exchange rates, and geopolitical tensions following the September 11 attacks, the ECB succeeded in achieving price stability. During this time, there was sustained economic growth, a decline in unemployment rates, and expansion in trade of goods and services.

[6] Wiggins, Rosalind Z., Thomas Piontek, and Andrew Metrick. "The Lehman Brothers Bankruptcy A: Overview." *Journal of Financial Crises* 1, no. 1 (2019): 39-62. https://elischolar.library.yale.edu/journal-of-financial-crises/vol1/iss1/2.

[7] Hobelsberger, Karin, Christoffer Kok, and Francesco Paolo Mongelli. "*A tale of three crises: synergies between ECB tasks*. " European Central Bank. 2022. https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op305~f9d43bd762.en.pdf.

Integration in money markets and sovereign bond markets progressed rapidly, with increased cross-border bank activity. However, much of this activity involved short-term financial flows, particularly unsecured interbank lending, from economically stronger countries to those on the periphery of the euro area. These flows eventually fueled a credit boom in the recipient countries.

The relaxation of cross-currency matching restrictions facilitated a surge in cross-country holdings of public debt. Meanwhile, advancements in risk-sharing instruments, such as securitizations and collateralized debt obligations, allowed financial institutions to expand and take on greater risks; however, the decline in the value of underlying assets, such as subprime loans in the United States, rendered many of these instruments toxic, resulting in substantial losses for the institutions holding them.

Furthermore, according to some experts (most prominently, Padoa-Schioppa, 2007)[8], although central banks had begun to identify and communicate threats to financial stability through processes like financial stability reviews, there was a lack of systematic instruments to address and prevent identified risks from materializing across countries.

Banking supervision in Europe was in fact characterized by limited information exchange at the EU level and varying supervisory practices and regulatory frameworks across member states. Cooperation among supervisors was lacking until well into the global financial crisis, despite evident cross-border spillover effects. (Cassola et al., 2019)[9].

After Lehman Brothers went bankrupt in September 2008, financial tensions intensified and spread around the world, resulting in a global financial crisis since its involvement in complex credit derivatives contracts and securitization structures raised concerns about a potential domino effect in the wider financial system, leading to a crisis of confidence.

This induced solvency concerns for several banks worldwide, leading to a breakdown of most segments of the euro area money market by late September 2008 and a hoarding of liquidity. In response to the escalating crisis, leading central banks coordinated cuts in interest rates.

The European Central Bank (ECB) took measures to secure liquidity for money market participants by offering unlimited liquidity at a fixed rate against collateral and transitioning to fixed-rate full allotment tender procedures for all refinancing operations in October 2008.

Despite these support measures, financial tensions spilled over into the real economy, leading to the Great Recession: Imports and exports collapsed for the EU27 and 10 other nations (which collectively account for three-quarters of global trade by more than 20% from the second quarter of 2008 to the second quarter of 2009, with many experiencing declines of 30% or more[10].

The loss of economic confidence led to reductions in production, investment, and consumption, accompanied by a credit squeeze as credit to households and firms dried up. Consequently, the euro area entered a severe recession from the second quarter of 2008 until the third quarter of 2009.

Throughout the crisis, the ECB implemented a series of measures to support monetary policy transmission, complemented by other policy responses such as fiscal loosening. By the spring of 2009, the effects of these policies, along with the Supervisory Capital Assessment Program[11] conducted by the US Federal Reserve, began to have a beneficial impact on banks and financial markets.

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[8] Padoa-Schioppa, Tommaso. "Europe needs a single financial rulebook." *Financial Times*, London, 2007. https://www.ft.com/content/b3c5f9c0-a750-11dc-a25a-0000779fd2ac

[9] Cassola, Nuno, Christoffer Kok, and Francesco Paolo Mongelli. *The ECB after the Crisis: Existing Synergies among Monetary Policy, Macroprudential Policies and Banking Supervision*. ECB Occasional Paper Series No. 237. European Central Bank, Frankfurt am Main. 2019.

[10] Baldwin, Richard. "The Great Trade Collapse: What Caused It and What Does It Mean?" VoxEU. 2009. https://cepr.org/voxeu/columns/great-trade-collapse-what-caused-it-and-what-does-it-mean.

[11] U.S. Department of the Treasury. "Supervisory Capital Assessment Program & Capital Assistance Program (SCAP and CAP)." 2024. https://home.treasury.gov/data/troubled-assets-relief-program/bank-investment-programs/scap-and-cap.

However, attention soon shifted to sovereign debt overhangs and housing bubbles. The significant pressure exerted on several governments by the global financial crisis and the ensuing Great Recession led to rapid deterioration in fiscal fundamentals across several euro area countries. Rising deficits and swelling public debt levels raised doubts about the sustainability of public finances in an increasing number of these countries, prompting market scrutiny and concerns about their fiscal stability.

In late 2009, concerns regarding the sustainability of Greek public debt were significantly heightened due to large-scale revisions of its fiscal statistics. By April 2010, with the imminent risk of losing access to financial markets, the Greek government, in collaboration with the European Commission and the International Monetary Fund (IMF), entered a Memorandum of Understanding[12]. This agreement outlined a comprehensive program aimed at addressing Greece's fiscal, structural, and macroeconomic imbalances.

While Greece emerged as the epicenter of the financial crisis, contagion swiftly spread to other economically vulnerable countries. Apprehensions regarding the viability of public finances also surfaced in countries like Ireland, Portugal, and subsequently Spain, Cyprus, and Italy. Sovereign bond spreads in several euro area nations surged, reflecting growing market unease (see figure 3).

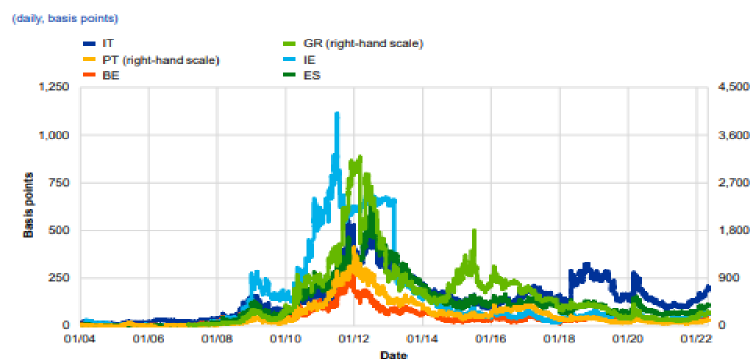

Figure 3: Ten-year government bond spreads. Source: Bloomberg and ECB calculations. https://www.bloomberg.com/news/articles/2024-03-15/ecb-s-new-rate-system-to-narrow-german-swap-spread-says-natixis

Negative feedback loops between financially fragile banks, indebted governments, and weakened economies took root in various nations. A succession of downgrades to sovereign ratings worsened the situation. These downgrades were coupled with declines in the credit quality of securities issued by banks in countries facing financial strain. As a result, a domino effect ensued, leading to additional downgrades across various types of assets in private securities markets. The diminishing worth of these assets compromised the financial health of banks, while their recapitalization through equity issuance and/or government support appeared increasingly unlikely.

This double-dip recession posed significant challenges for policymakers, as it prolonged economic uncertainty and hindered efforts to achieve sustained growth and stability. Governments and central banks implemented various measures to stimulate the economy and mitigate the impact of the downturn, including fiscal stimulus packages, monetary easing, and financial sector reforms.

Overall, Europe's double-dip recession underscored the complexities of navigating a fragile economic environment and highlighted the need for coordinated and effective policy responses to support recovery and promote long-term resilience.

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[12] European Commission. *The Economic Adjustment Programme for Greece*. European Economy, Occasional Papers 61. Brussels: European Commission, May 2010. https://ec.europa.eu/economy_finance/publications/occasional_paper/2010/op61_en.htm.

Chapter 2) Economic Performance during the Great Recession

2.1) Impact on GDP growth

Gross Domestic Product, GDP, represents the total market value of all goods and services produced within a country's borders over a specific period. It includes both market-based and nonmarket-based production, like government-provided education services[13].

GDP can be calculated in two ways: nominal or real. Nominal GDP measures the total value of goods and services produced within a country's borders using current prices, not accounting for inflation. Real GDP, on the other hand, adjusts for inflation to reflect the economy's output in constant dollars, allowing for comparisons across different periods.

Constant dollars[14] are adjusted values used to compare dollar amounts from one period to another, providing a more accurate measure of economic performance over time. Inflation changes the purchasing power of currency, so real GDP corrects for this by adjusting nominal values to a constant dollar basis. This adjustment gives a clearer picture of a country's economic health over the long term, focusing on actual changes in output rather than fluctuations in price levels.

Nominal GDP can be evaluated in the local currency or converted to U.S. dollars for international comparisons, using currency market exchange rates. Since it reflects current prices, nominal GDP is useful for comparing different quarters within the same year. However, when comparing GDP across different years, real GDP[15] is typically used because it adjusts for inflation, allowing for a focus on actual production volume instead of price changes. This adjustment gives a more accurate measure of economic growth over time, separating the impact of inflation from changes in output.

To calculate real GDP, economists use a process that adjusts for inflation, using a reference point called the base year. The GDP price deflator, which measures the difference in price levels between the current year and the base year, is used to convert nominal GDP into real GDP. This adjustment helps to isolate real growth by accounting for inflation's effect on monetary values.

Real GDP is useful for comparing a country's GDP across different years because it highlights changes in output without the influence of inflation. If there's a significant discrepancy between nominal GDP and real GDP, it might indicate considerable inflation or deflation within an economy, providing insight into broader economic trends and potential concerns.

The GDP growth rate measures the rate of change in a country's economic output over a specific period, typically on a year-over-year or quarterly basis. I'm going to analyze GDP% change on a quarterly basis for the most important years of the recession and the Sovereign debt crisis. It is usually expressed as a percentage, providing a quick indication of how fast an economy is expanding or contracting.

Economic policymakers often use the GDP growth rate to estimate the health of the economy, as it is closely linked to other key factors like inflation and unemployment. A higher growth rate can suggest increased business activity and job creation, while a lower or negative growth rate can indicate economic troubles.

[13] "Gross Domestic Product: An Economy's All". 2024.
Www.Imf.Org. https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/gross-domestic-product-GDP.

[14] "Constant Dollar: Overview, Examples, and Formulas". 2024.
Www.Investopedia.Com. https://www.investopedia.com/terms/c/constantdollar.asp.

[15] "Real Gross Domestic Product (GDPC1) | FRED | St. Louis Fed". 2024. Fred.Stlouisfed.Org. https://fred.stlouisfed.org/series/GDPC1.

When the GDP growth rate accelerates[16], it might signal that the economy is overheating, with risks of high inflation. In such cases, central banks might consider raising interest rates to cool down the economy. On the other hand, if the growth rate slows down or turns negative, indicating a recession, central banks might lower interest rates and implement stimulus measures to boost economic activity. Thus, the GDP growth rate is a crucial tool for guiding monetary and fiscal policies to maintain economic stability.

The U.S. GDP is primarily measured based on the expenditure approach. This approach can be calculated using the following formula: GDP= C+I+G+NX, where "C" stands for consumption, "G" stands for government spending, "I" for investment and "NX" for net exports (the difference between exports and imports).

The foreign balance of trade is a critical component of a country's GDP. It represents the difference between the value of goods and services that domestic producers sell to foreign countries and the value of goods and services that domestic consumers buy from abroad. This balance can significantly impact a country's GDP.

When domestic producers sell more to foreign countries than domestic consumers buy from foreign sources, the country has a trade surplus. This surplus tends to boost the GDP because the inflow of money from exports is greater than the outflow from imports.

Conversely, if domestic consumers spend more on foreign products than domestic producers can sell to foreign markets, a trade deficit occurs. A trade deficit can lead to a decrease in GDP because it indicates that more money is leaving the country than is coming in from exports.

Therefore, a positive balance of trade (trade surplus) generally contributes to economic growth, while a negative balance of trade (trade deficit) may signal a reduction in GDP and economic activity. Balancing trade is often a key consideration for policymakers to ensure sustainable economic growth.

2.1.1) Impact on GDP growth in the U.S.

As stated in the previous chapter, GDP in the US had been growing since the economic expansion of 2004 and, despite GDP growth noticeably slowing down in the following years, it was expected from the IMS to keep growing at a moderate pace in 2007.

The economy grew by just 2.2% in 2007, according to the Bureau of Economic Analysis (BEA), the weakest performance since the 2001 recession; critical was the last quarter[17] in which real GDP increased only by 0.6%, a large decrease compared to the 4.9% increase in the previous quarter; the deceleration in GDP growth reflected downturns in inventory investment, a decrease in exports, government spending and personal consumption expenditures (PCE).

in detail, real personal consumption expenditures increased by 2.3% (2.8% in Q3), real non-residential fixed investment increased by 6% (a 3% decrease from Q3's 9.3%), real exports increased by 6.5%, a slowdown from the 19% increase in Q3, which was offset by a decrease in imports.

The decrease in investments and consumption can be attributed to the worsening situation created by the burst of the housing market bubble; investors were in fact uncertain about how financial markets would perform.

The decrease in consumption is mainly explained by taking into account the welfare effect, which links the value of houses owned by individuals to their consumption and saving rate; after the burst of the bubble and the decline in houses' prices, people started to be more careful about their spending habits.

The first and especially the second quarter of 2008 gave the impression that the American economic system's resilience was going to be able to recover the slow growth of 2007.In the first quarter of 2008[18], the United

[16] "DataBank". 2024. Databank.Worldbank.Org. https://databank.worldbank.org/metadataglossary/world-development-indicators/series/NY.GDP.MKTP.KD.ZG.

[17] "Gross Domestic Product and Corporate Profits, Fourth Quarter 2007 (final) | U.S. Bureau of Economic Analysis (BEA)". Www.Bea.Gov. https://www.bea.gov/news/2008/gross-domestic-product-and-corporate-profits-fourth-quarter-2007-final.

[18] "Gross Domestic Product and Corporate Profits, First Quarter 2008 (final) | U.S. Bureau of Economic Analysis (BEA)". Www.Bea.Gov. https://www.bea.gov/news/2008/gross-domestic-product-and-corporate-profits-first-quarter-2008-final

States' real GDP grew at an annual rate of 0.6%, as it did in the previous quarter. The growth in real GDP was driven by positive contributions from personal consumption expenditures (PCE) which increased by 1.0%, private inventory investment which contributed 0.81 percentage points to GDP growth after subtracting 1.79 percentage points in the previous quarter, exports of goods and services which increased by 5.5%, compared to 6.5% in the fourth quarter, and federal government spending with an increase of 4.6;however, it was partly offset by negative contributions from residential fixed investment (decreased by 26.7%), along with an increase of 2.5% in imports.

The second quarter of 2008[19] brought a notable uptick in economic growth for the United States, with real GDP expanding at an annual rate of 2.8%. This growth, while significant, represented a marked improvement from the sluggish 0.6% growth recorded in the first quarter of the year. However, despite this positive momentum, the economy faced several challenges and complexities. However, amidst the overall growth, there were areas of concern and vulnerability. Corporate profits, for instance, saw a significant decrease during this period, with profits from current production declining by $60.2 billion. This decline was particularly pronounced in the financial sector, highlighting the challenges faced by businesses in navigating a complex and evolving economic landscape.

Moreover, while government spending provided a boost to economic growth, private investment and inventories experienced declines. Private inventory investment subtracted 1.50 percentage points from GDP growth, indicating potential challenges in inventory management and demand forecasting.

The price indexes also presented a mixed picture, with increases observed in the price index for gross domestic purchases. These increases, while reflecting some inflationary pressures, were mitigated by stable prices when excluding food and energy costs. This suggests a nuanced economic environment characterized by both inflationary and deflationary forces at play.

In terms of personal consumption, while there was an uptick in real PCE growth, certain sectors such as equipment and software saw declines. This divergence in consumption patterns underscores the uneven nature of economic growth and the differential impact on various industries and sectors.

The climate of optimism generated by the excellent performance in the second quarter of 2008 was, however, erased from the third and especially the fourth quarter, which went down as the beginning of one of the most complicated periods in the history of the American economy.

The fourth quarter of 2008[20], with real GDP plummeting at an annual rate of 6.3%, the nation experienced a sharp contraction, consequences of the collapse of Lehman Brothers; this decline marked a significant departure from the modest 0.5% decrease witnessed in the preceding quarter, amplifying concerns about the health of the economy.

The drivers behind this downturn were multifaceted. Negative contributions from exports, personal consumption expenditures, equipment and software, and residential fixed investment played a pivotal role in driving the GDP drop. While federal government spending emerged as a positive contributor, its impact was overshadowed by the broader economic downturn. Import reductions provided some relief, albeit only partially offsetting the overall decline in economic activity.

Investment activity bore the brunt of the downturn, with real nonresidential fixed investment plummeting by 21.7%. This decline was particularly pronounced in nonresidential structures and equipment/software, signaling businesses' reluctance to commit to long-term capital expenditure amidst prevailing economic headwinds. In contrast, real federal government consumption expenditures and gross investment experienced a modest increase, albeit at a slower pace compared to the previous quarter.

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[19] "Gross Domestic Product and Corporate Profits, Second Quarter 2008 (final) | U.S. Bureau of Economic Analysis (BEA)". .Www.Bea.Gov. https://www.bea.gov/news/2008/gross-domestic-product-and-corporate-profits-second-quarter-2008-final.

[20] "Gross Domestic Product, Fourth Quarter 2008 (final) and Corporate Profits | U.S. Bureau of Economic Analysis (BEA)". .Www.Bea.Gov. https://www.bea.gov/news/2009/gross-domestic-product-fourth-quarter-2008-final-and-corporate-profits.

The impact on corporate profits was profound, with profits from current production witnessing a significant decline of $250.3 billion in the fourth quarter. This downturn underscored the pervasive nature of the economic challenges facing businesses across various sectors, further amplifying concerns about the health of the economy.

Overall, the data from the fourth quarter of 2008 paints a sobering picture of the U.S. economy during the height of the Great Recession. The downward revisions to GDP estimates underscore the depth of the financial crisis, highlighting the urgent need for decisive policy action to mitigate its adverse effects and pave the way for sustainable economic recovery. As the nation grappled with unprecedented challenges, the lessons learned from this period continue to resonate, shaping economic policies and strategies aimed at fostering resilience and stability in the face of future uncertainties.

In 2009 the economic landscape kept worsening, in the first quarter of 2009[21] GDP growth was registered at 5.5%, this was the first time since 1991 of two consecutive decreasing quarters being recorded in the history of American economy.

This prompted a series of intervention by the FED, initially these interventions focused on three main goals: providing liquidity and funding guarantees to reduce market stress, removing impaired assets from bank balance sheets, and recapitalizing or restructuring weak financial institutions while resolving the nonviable ones.

To achieve these goals, authorities implemented several policy measures, including offering unprecedented liquidity injections to a wider range of entities, easing credit by purchasing or accepting credit instruments as collateral, guaranteeing bank liabilities, injecting capital into financial institutions, and implementing schemes to offload impaired assets from banks.

The Recovery phase had thus started, and its positive effects were shown immediately in the second and third quarter where the GDP contracted only by 0.3% and grew by 1.3%; by June 2009 according to the National Bureau of Economic Research (NBER), which is the official arbiter of U.S. recessions, the recession was officially over[22].

The fourth quarter of 2009 was described by Christina Romer (Chair of the Council of Economic Advisers) as “truly extraordinary”[23] as the three-quarter swing in growth rates was the largest since 1981, with real GDP that increased at an annual rate of 5.7%.

Part of the rapid growth in real GDP was due to a substantial rise in inventory investment. This inventory bounce, though likely to be transitory, is a normal part of healthy recoveries. As firms’ confidence in the future increases, their desire to run down inventories wanes. This change in behavior is often a powerful force for growth early in a recovery.

Other components of GDP also rose strongly: business investment in equipment and software rose at an annual rate of 13 percent and residential investment rose at a 6 percent rate. And consumer spending rose at a rate of 2 percent.

This broad-based rise in GDP was surely fueled in part by the tax cuts and investment spending in the Recovery Act and other rescue actions, but some appears to be the result of private sector demand returning.

In 2010 the economy kept on improving, the mission was now to tackle the issues regarding interest rates, unemployment and inflation, which will be the topic of the next segment.

[21] "Gross Domestic Product, 1st quarter 2009 (final) and Corporate Profits | U.S. Bureau of Economic Analysis (BEA)”. Www.Bea.Gov. https://www.bea.gov/news/2009/gross-domestic-product-1st-quarter-2009-final-and-corporate-profits.

[22] National Bureau of Economic Research: US came out of recession in June 2009, says NBER - The Economic Times (2010). https://economictimes.indiatimes.com/news/international/us-came-out-of-recession-in-june-2009-says-nber/articleshow/6594546.cms?from=mdr

[23] "On the Advance Estimate of GDP for the Fourth Quarter of 2009". 2024. Obamawhitehouse.Archives.Gov. https://obamawhitehouse.archives.gov/blog/2010/01/29/advance-estimate-gdp-fourth-quarter-2009.

Chapter 2.1.2) Impact on GDP growth in Europe, focus on Italy.

In Europe the economic landscape before in the 2000s was similar to the one in the U.S., after the turmoil generated by the burst of the dot-com bubble and by the sharp exchange rate fluctuations caused by geopolitical tensions surrounding the September 11 attack, growth was sustained, unemployment declined and trade in goods and services expanded.[24]

Money markets and sovereign bond markets became closely integrated, and there was a significant rise in cross-border banking activities, predominantly involving short-term financial flows from core countries to the periphery of the euro area.

Additionally, the elimination of cross-currency matching restrictions spurred a rapid increase in cross-country holdings of public debt. Financial institutions used advanced risk-sharing instruments like securitizations, collateralized debt obligations, and credit default swaps, which enabled them to expand and assume greater risks.

Financial turbulence emerged in August 2007, when delinquencies on subprime financial products started to surge in the United States. The fact that many of these subprime loans had been packaged into complex credit risk and sold on across the global financial system quickly led to losses at many European financial institutions.

Financial market tensions then spilled over from the United States into Europe, setting in motion a confidence and liquidity crisis which caused the market for short-term unsecured funding to freeze up, as reflected in the spread between the unsecured interest rate (specifically, the EURIBOR) and the overnight index swap rate to widen in all maturities.[25] (see figure 4).

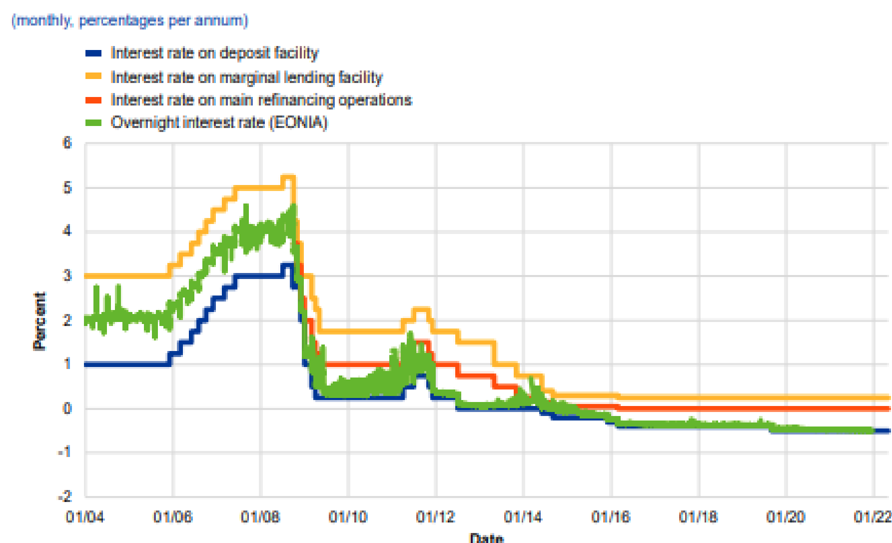

Figure 4: ECB interest rates and money market rates. Source: ECB https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op305~f9d43bd762.en.pdf

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[24] "A tale of three crises: synergies between ECB tasks". ECB, 2021. https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op305~f9d43bd762.en.pdf.

[25] "The 2007 subprime market crisis through the lens of European Central Bank auctions for short-term funds". 2011. Www.Ecb.Europa.Eu. https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1374.pdf.

The global interconnectedness of financial markets amplified the effects of the collapse of Lehman Brothers, which reached a global level. Global economic confidence decreased sharply, driving down production, investment, consumption and thus GDP; the second quarter of 2008 marked the beginning of the recession in the Euro area, which lasted until the third quarter of 2009[26].

Among European states, Italy was particularly hit by the ensuing recession (most major European countries registered a relatively small but positive percentage change in GDP from 2007 to 2008, while Italian GDP in 2008 went from the 1.6% scored in 2007 to a -1%), despite its banks not being as much as involved in the trading of U.S. debt securities; this happened since its economic growth was already struggling in the previous years with Real GDP growth averaged 1.6 percent during the period 1995–2007, down from over 2 percent in the earlier decade.

The transmission of the financial crisis did not concern the Italian financial markets, it instead mostly spread through the links with the European central bank and exports, which are one of the most important factors contributing to Italian GDP.

Evidence of this is the fact that most major European countries registered a relatively small but positive percentage change in GDP from 2007 to 2008, while Italian GDP in 2008[27] went from the 1.6% scored in 2007 to a -1%.

The contraction in GDP was caused by nearly all components of the aggregate demand with personal consumption expenditures which dropped by -0.4%, private investments dropped by - 0.6%, exports and imports both decreased by roughly 1%, while government spending increased marginally (see figure 5).

	Italy 2008	Italy 2009	France 2008	France 2009	Germany 2008	Germany 2009	Spain 2008	Spain 2009	EMU 2008	EMU 2009
Final consumption	-0.3	-0.9	0.8	0.6	0.7	0.7	0.7	-2.0	0.7	-0.2
Household and ISP consumption	-0.5	-1.0	0.6	0.5	0.2	0.1	-0.3	-2.8	0.2	-0.6
Public administration consumption	0.2	0.1	0.3	0.1	0.4	0.5	1.0	0.7	0.5	0.7
Gross fixed investments	-0.8	-2.5	0.1	-1.5	0.6	-1.7	-1.4	-4.4	-0.1	-2.3
Domestic demand excluding inventories and valuables	-1.1	-3.4	0.9	-0.7	1.2	-1.0	-0.7	-6.4	0.5	-2.5
Change in inventories and valuables	-0.3	0.0	-0.3	-1.5	-0.3	-2.2	-1.1	-2.0	-0.7	-2.0
Domestic demand	-1.5	-3.4	0.7	-2.2	0.9	-3.3	-1.8	-8.4	-0.1	-4.5
Net external demand	0.1	1.2	-0.3	2.6	0.4	-1.7	2.8	4.7	0.7	0.5
Exports	-1.3	-3.4	-0.2	-3.2	1.3	-6.7	-0.7	-8.0	-0.4	-5.4
Imports (-)	-1.4	-4.5	-0.6	-0.6	0.9	-7.0	-3.5	-8.4	-1.1	-5.8
Gross Domestic Product	-1.3	-5.0	0.4	-2.2	1.3	-5.0	0.9	-3.6	0.6	-4.1

Figure 5: comparison of key economic aggregates for Italy, France, Germany, Spain, and the Euro Area (EMU) for the years 2008 and 2009
Source: Calculations based on data from Istat, Eurostat, Insee.

The drop in consumption is mainly explained by the rise in unemployment due to production activities slowing down and by the contraction in purchasing capacity of families: disposable income in 2008 decreased, in real terms, by 0.7 percent after having grown in previous years at a moderate but relatively constant pace.

The decline in the purchase of durable goods has probably been influenced by the reduced access to credit due to the financial crisis; in particular, medium-term loans (from one to five years) granted by banks to households, which had already decreased by 2.4 percent in 2007, experienced a further drastic contraction of 7.9 percent.

[26] Marcin Szczepanski, "BRIEFING EPRS | European Parliamentary Research Service a Decade on from the Crisis Main Responses and Remaining Challenges SUMMARY. 2019. https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/642253/EPRS_BRI%282019%29642253_EN.pdf.

[27] "SISTEMA STATISTICO NAZIONALE ISTITUTO NAZIONALE DI STATISTICA RAPPORTO ANNUALE, La situazione del paese nel 2008.". 2009. https://www.istat.it/it/files/2016/05/Volume2008edizione2009.pdf.

In 2009 GDP[28] kept going down both in Italy and in the euro area with a mean of -4.1% in the EMU and Italian GDP at -5%; the larger decrease in Italian GDP is mainly due to the previous year's contraction since in 2009 Italian economy performed along the mean of other states.

In 2010[29], thanks to the mix of fiscal and monetary policies enforced by financial authorities, Italian production was able to bounce back to its pre-crisis values, exports and investment increased as well bringing GDP to a 1.8% yearly increase.

The recession was officially over and although the worst effects of the crisis had mostly passed, key vulnerabilities remained, mainly concerning unemployment, future investment, and high public debt which made Italy vulnerable to external shocks.

During 2011[30], the worsening international cycle, high commodity prices, and the negative impact on families and businesses from the sovereign debt crisis were reflected in a loss of momentum in the economic recovery of the euro area. Following the still-vibrant growth seen in the first quarter (+0.8 percent quarter-on-quarter), the cyclical dynamics quickly deteriorated, showing a decline in the fourth quarter (-0.3 percent) after two quarters of substantial stagnation.

The Italian economic cycle was affected by the deterioration in international demand conditions and the negative impact of the sovereign debt crisis. The severity of fiscal measures implemented, labor market difficulties, and the decline in household purchasing power resulted in a stagnation of real-term consumption; investments were also impacted, on the one hand, by the decline in productive activity and, especially, the resurgence of strong uncertainties about growth prospects in the context of high levels of unused production capacity.

On the other hand, businesses experienced difficulties in accessing bank credit, which re-emerged in the autumn. The weakness of domestic demand was reflected in a significant reduction in the importation of goods and services which, along with still-significant growth in exports, resulted in a substantial positive contribution to the growth of net external demand.

In 2011, the volume of GDP registered a growth of 0.4 percent, showing a marked slowdown compared to the dynamic of the previous year (+1.8 percent).

The quarterly dynamics of GDP, adjusted for seasonality and calendar effects, weakened in the second half of the year: following mild growth in the first and second quarters (respectively +0.1 and +0.3 percent), there were two negative changes (-0.2 percent in the third and -0.7 percent in the fourth).

In 2012[31], the Italian economic cycle was characterized by a further decline in domestic demand, in a scenario marked by the slowdown in international demand and the easing of tensions in financial markets.

The significant loss of purchasing power among households, largely due to increased taxation, led to a collapse in real consumption. Investments suffered from falling production levels and from business credit access difficulties, which intensified at the start of the year.

The drop in domestic demand resulted in a significant reduction in imports of goods and services, while foreign demand remained relatively stable, providing a positive contribution to economic activity. Overall, GDP decreased by 2.4 percent in real terms in 2012, erasing the gains made in the previous two years.

[28] "SISTEMA STATISTICO NAZIONALE ISTITUTO NAZIONALE DI STATISTICA RAPPORTO ANNUALE
La Situazione Del Paese Nel 2009." https://www.istat.it/it/files/2016/05/Avvio2009-edizione2010.pdf.

[29] "SISTEMA STATISTICO NAZIONALE ISTITUTO NAZIONALE DI STATISTICA RAPPORTO ANNUALE La Situazione Del Paese Nel 2010." https://www.istat.it/it/files/2016/05/Avvio2010-edizione2011.pdf.

[30] "La Situazione Del Paese nel 2011". https://www.istat.it/it/files//2012/05/Rapporto-annuale-2012.pdf.

[31] " La Situazione Del Paese nel 2012 ". Www.Istat.It. https://www.istat.it/it/files//2013/05/Rapporto_annuale_2013.pdf.

Moreover, Weak demand prospects and credit access difficulties caused a sharp contraction in gross fixed investments, which decreased by 8% in 2012, continuing the downward trend that began in the second quarter of the previous year.

After six quarters of contraction, the euro area's economic activity turned around in the second quarter of 2013 but maintained a relatively modest dynamic in the latter part of the year; due to carryover effects from 2012, the annual average showed a contraction in output of -0.4%, after a -0.7% contraction in 2012.

The weak recovery was driven by internal demand components, specifically during the third and fourth quarters, both investments (adding one and two-tenths of a point, respectively) and consumption (adding one-tenth of a point in both quarters) contributed modestly to economic growth.

Net external demand, however, provided a neutral contribution in the second half of the year: the negative impact (by four-tenths of a point) in the third quarter was offset by an equivalent positive contribution in the fourth quarter.

In 2013[32], Italy's GDP in volume contracted again by 1.9 percent, bringing the level of economic activity slightly below that of 2000; GDP per capita returned to the levels of 1996. Final national consumption and gross investments saw a significant decline (respectively -2.2 and -4.7 percent), though less severe than the contraction observed in 2012. Similarly, imports also fell, impacted by weak domestic demand (-2.8 percent), while exports of goods and services benefited, particularly in the latter part of the year, from moderate international recovery and exchange rate depreciation, stabilizing in 2012's average levels (+0.1 percent).

In the fourth quarter of 2013, a modest signal of economic recovery emerged. The long recessionary phase, with nine consecutive quarters of contraction in activity since the summer of 2011, appeared to halt at the end of 2013: GDP grew quarter-on-quarter by 0.1%, due to the positive contributions from investments (by one-tenth of a point) and net exports (by three-tenths). The former benefited from the less negative trend in machinery and equipment components and the strong performance of transportation equipment investments (respectively -0.2 percent and +14.4 percent). The more vibrant performance of exports of goods and services (1.2 percent) was accompanied by a slowdown in the pace of imports (+0.2 percent compared to +0.9 percent in the third quarter). For final consumption, the decline halted, with a flat variation.

Household consumption decreased, though with less intensity. In 2013, families reduced their spending on consumption by an average of -2.6 percent, marking the third consecutive year of decline, albeit with less severity compared to 2012 (-4.0 percent). The contraction in consumption is partly explained by the trend in households' disposable income in real terms, which saw an average annual decrease of -1.1 percent (compared to -4.6 percent in 2012). However, for the first time since the beginning of the crisis, the reduction in consumption was greater than the decline in income.

In 2013, the propensity to save, or the ratio of gross savings to disposable income, began to rise again: after dropping by over 4 percentage points since 2007 and reaching a historical low of 8.4 percent in 2012, it increased to 9.8 percent last year. This shift suggests that families, perceiving that the ongoing crisis was not nearing its end, may have ceased financing their expenses by reducing their savings.

The effects of the sovereign debt crisis continued to impact the Italian economy for years, even after interventions by the European Central Bank, drastically altering the consumption habits of families and businesses, and leaving a lasting impact mainly concerning inflation and unemployment rates.

2.2) Changes in unemployment rate

The unemployment rate represents the number of unemployed people as a percentage of the labor force (the sum of all individuals that can work, both employed and unemployed) and is calculated using the following: (Unemployed/Labor force) x 100.

[32] " La Situazione Del Paese nel 2013". Www.Istat.It. https://www.istat.it/it/files//2014/05/Rapporto-annuale-2014.pdf.

The unemployment rate is one of the primary economic indicators used to measure the health of an economy since it tends to fluctuate with the business cycle, increasing during recessions and decreasing during expansions.

Policymakers and central banks track how much the unemployment rate has risen during a recession to assess its impact on the economy and determine how to adjust fiscal and monetary policies to counteract the negative effects. They also work to forecast the future direction of unemployment rates to create long-term plans for reducing them.

Investors and the general public rely on the unemployment rate to estimate the health of a country's economy and evaluate how effectively the government is managing the nation. A high unemployment rate indicates that the economy is struggling to generate enough jobs for those seeking work. High unemployment can lead to greater social issues and prolonged hardship for families, and it can also make the country less appealing to foreign investors, thereby reducing the flow of investment capital into the nation.[33]

2.2.1) Unemployment in the U.S.

Before the Great Recession unemployment in the U.S. was recorded at 5%, value around which it had been constantly around for the previous 30 months. Since November of 2007[34] unemployment started a rapid growth increasing by about 5.3% points in the two years of the recession, peaking at 10% in October 2009 and translating to more than 15 million people unemployed.

Unemployment rate increased[35] for people in all age, gender, race, ethnicity, and education groups; groups with already higher unemployment rates such as young people, immigrants and African americans continued to experience a higher rates. During the recession, unemployment was higher among men (which peaked at around 11.1% in 2009) than among women (which peaked at 9% in 2010); this was the largest gap between male and female unemployment rates since the 1970s and it reflects men's concentration in sensitive occupations such as construction and manufacturing.

The unemployment rates for prime-working age individuals (from 25 to 54 years old) and older (55 years and over) people more than doubled, peaking at 9.0 percent in October 2009 and 7.4 percent in August 2010 respectively, while young people (16 to 24 years old) saw their unemployment rate rise from 10.8 percent in November 2007 to a record high of 19.5 percent in April 2010.For those with less than a high school diploma, the unemployment rate peaked at 15.8 percent in February 2010. The peak rate for high school graduates was 11.0 percent in October 2009 and March 2010, and the peak rate for those with some college or an associate's degree was 8.9 percent in September 2010. The unemployment rate among those with a bachelor's degree or higher peaked at 5.0 percent in September 2009 and November 2010.

The situation began to change thanks to the interventions of the state, which through the Economic Stimulus Act (2008), the American Recovery and Reinvestment Act (2009), and, most importantly for unemployment, the Tax Relief Unemployment Insurance Reauthorization and Job Creation Act of 2010.

Through the Economic stimulus act and The American Recovery and Reinvestment act (ARRA)[36], the government aimed at stimulating consumption and incentivizing business investment by cutting taxes and providing additional credit to families. Federal taxes were reduced by an estimated $287 billion over 10 years. Over 80 percent of the tax cuts ($232 billion) were for individuals; other cuts went toward a handful of business provisions, including subsidies for investment in renewable energy. The Making Work Pay (MWP) tax credit accounted for half of the ARRA individual tax cuts. The credit equaled 6.2 percent of earned income up to a

[33] "Unemployment and Inflation: Implications for Policymaking - EveryCRSReport.com". 2016. Www.Everycrsreport.Com. https://www.everycrsreport.com/reports/R44663.html.

[34] " The Recession of 2007–2009: BLS Spotlight on Statistics ". 2012. Www.Bls.Gov. https://www.bls.gov/spotlight/2012/recession/pdf/recession_bls_spotlight.pdf.

[35] "U.S. labor market in 2008": economy in recession ". 2009. Www.Bls.Gov. https://www.bls.gov/opub/mlr/2009/03/art1full.pdf.

[36] "Recovery Act Third Quarterly Report - Tax Relief and Income Support Provisions". 2009. Obamawhitehouse.Archives.Gov. https://obamawhitehouse.archives.gov/administration/eop/cea/factsheets-reports/economic-impact-arra-3rd-quarterly-report/section-4.

maximum of $400 ($800 per couple) and phased out at 2 percent of income over $75,000 ($150,000 for couples)

As the economy was starting to grow, unemployment started to decrease steadily in the U.S., about 0.1% per quarter after the peak of 2009; in 2013 the unemployment rate was recorded at around 7%[37].

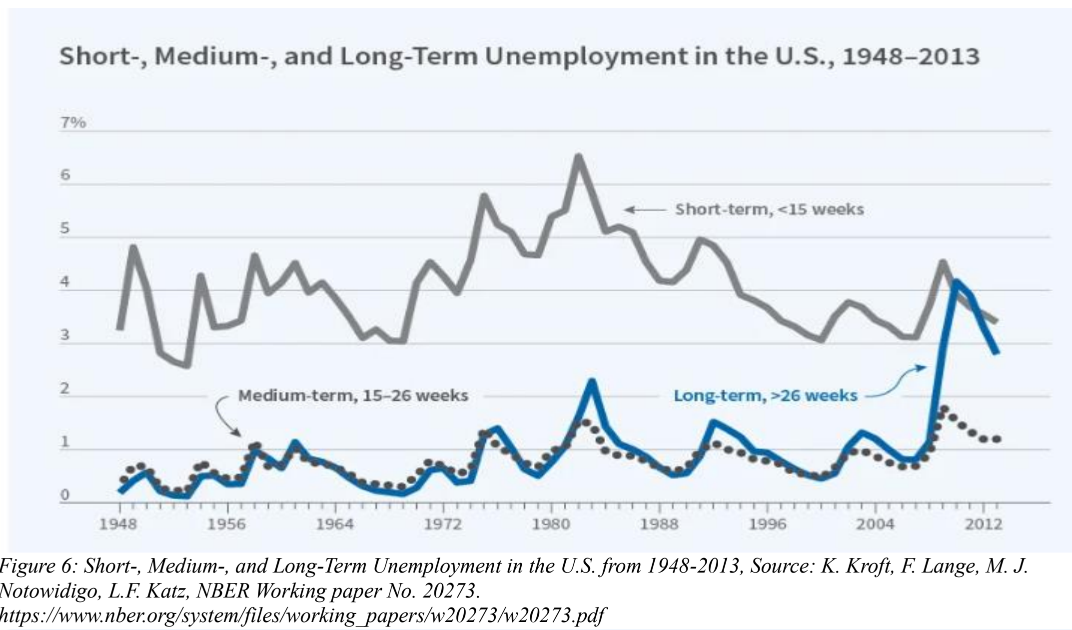

Figure 6: Short-, Medium-, and Long-Term Unemployment in the U.S. from 1948-2013, Source: K. Kroft, F. Lange, M. J. Notowidigo, L.F. Katz, NBER Working paper No. 20273. https://www.nber.org/system/files/working_papers/w20273/w20273.pdf

The main unresolved issue caused by the great recession concerns the amount of long-term unemployed individuals: from 2007 to 2009 the ranks of the long-term unemployed (those jobless for 27 weeks or longer) more than quadrupled in the two-and-a-half years starting in November 2007. At 6.8 million in April 2010, long-term unemployment represented an unprecedented 45.5 percent of total unemployment. This proportion remained above 40 percent for about 3 years, from December 2009 to November 2012. The median duration of unemployment increased from 8.6 weeks (about 2 months) in November 2007 to 25.2 weeks (about 6 months) in June 2010 (see figure 6).

The number of unemployed people who had been trying to find work for shorter periods peaked near the official end date of the recession (June 2009). As civilian employment reached its trough at the start of 2010, layoffs declined, but job openings and hiring had not begun to recover. The number of people who had been unemployed for less than 27 weeks declined, but the number of long-term unemployed remained elevated. Research suggests that, when job openings began to reappear, people who had been unemployed for a shorter period tended to be hired first. This, in turn, led to an increase in the proportion of the unemployed who had been looking for work for extended periods.

2.2.2) Unemployment in Italy

Between 2008 and 2012, Italy's labor market was significantly impacted by two major economic events: the global financial crisis, which lasted from 2007 to 2009, and the ensuing Eurozone sovereign debt crisis. These crises dramatically affected economies worldwide, and Italy, with its distinctive labor market characteristics and economic policies, was not spared.

[37] "Unemployment continued its downward trend in 2013". 2013. Www.Bls.Gov. https://www.bls.gov/opub/mlr/2014/article/unemployment-continued-its-downward-trend-in-2013.htm.

The onset of the global financial crisis led to a marked downturn in Italy's economic performance, with a substantial contraction in GDP by 2009, reflecting downturns in both domestic and global demand. Unlike other European nations, however, Italy experienced a more gradual increase in unemployment during the initial phase of the recession, largely due to its strong labor laws and the prevalence of long-term employment contracts that buffered against immediate job losses[38]. Businesses retained employees but reduced working hours, a practice known as labor hoarding.

In 2010[39], Italy showed signs of economic recovery, with a 1.5% growth in GDP largely driven by a resurgence in exports. Yet, this recovery did not translate into improved labor market conditions, as unemployment continued to rise, highlighting the structural weaknesses in the Italian economy such as rigid labor markets and a mismatch between available skills and those demanded by employers.

The situation worsened with the Eurozone sovereign debt crisis in 2011, exacerbating Italy's economic troubles. Rising bond yields indicated dwindling investor confidence, and Italy re-entered recession. The economic downturns in late 2011 and throughout 2012 were accompanied by sharp increases in unemployment, particularly impacting young people and the southern regions, where youth unemployment escalated to 33.9% by early 2012[40]. The Social and Employment Situation in Italy

The recession's impacts were uneven across various sectors and demographic groups. Industries reliant on male labor, like manufacturing and construction, experienced significant job losses, whereas sectors with a higher proportion of female employees were less severely affected. Young and temporary workers, already vulnerable, found themselves disproportionately impacted, underscoring persistent inequalities within the labor market.

In response to the escalating crises, both the Berlusconi and Monti governments[41] implemented a series of austerity measures and structural reforms aimed at fiscal stabilization and enhancing labor market flexibility. These measures, though necessary for fiscal health, led to public sector job cuts and reduced public spending, which, in turn, aggravated the unemployment crisis in the short term. Nevertheless, these reforms were crucial in restoring some degree of investor confidence and setting the stage for potential long-term recovery.

Overall, the resilience of Italy's labor market was severely tested by these crises, revealing both strengths in its protective labor laws and weaknesses in its economic structure. The government's response, while stabilizing, highlighted the need for ongoing efforts to enhance labor market flexibility and economic growth. As Italy continues to navigate the post-crisis landscape, the lessons learned during this period will be vital in shaping future policies aimed at ensuring labor market stability and fostering equitable economic growth. The period from 2008 to 2012 thus not only reflected the immediate impacts of economic crises but also emphasized the long-standing structural issues within the Italian labor market, necessitating comprehensive and sustained policy efforts to foster a more resilient and inclusive economic environment.

2.3) Changes in CB 's interest rates.

2.3.1) Changes in FED 's interest rates.

Interest rates are a fundamental aspect of financial systems, representing the cost of borrowing money. They are usually expressed as a percentage of the principal loan amount charged by lenders to borrowers for the use of money. Interest rates can apply to various financial products, including loans, mortgages, savings accounts,

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[38] " The impact of the crisis on the Italian Labour Market". 2011. Iris.Unimore.It. https://iris.unimore.it/retrieve/742f97e5-0e13-43c8-8273-739189c5f087/Capp_p86.pdf.

[39] "Economic Bulletin No. 55 - 2010". 2010. Www.Bancaditalia.It. https://www.bancaditalia.it/pubblicazioni/bollettino-economico/20100001/index.html?com.dotmarketing.htmlpage.language=1.

[40] " The Social and Employment Situation in Italy ". 2024. Www.Europarl.Europa.Eu. https://www.europarl.europa.eu/RegData/etudes/note/join/2014/518757/IPOL-EMPL_NT%282014%29518757_EN.pdf.

[41] " Italy's economy in the euro zone crisis and Monti's reform agenda". 2012. Www.Swp-berlin.Org. https://www.swp-berlin.org/publications/products/arbeitspapiere/Italy_Economy.pdf.

and bonds. They are determined by several factors, including the policies of central banks (like the Federal Reserve in the U.S.), market forces, economic conditions, and the risk involved in lending.

Central banks use interest rates as a primary tool to control monetary policy. By adjusting the key interest rates, such as the federal funds rate in the U.S., central banks influence inflation, control economic growth, and manage employment levels. Lowering interest rates encourages borrowing and spending, which can stimulate economic activity. Conversely, raising rates can help cool down an overheating economy and control inflation.

Interest rates reflect the overall health of the economy. Low interest rates might indicate that the economy is weak, prompting central banks to make borrowing cheaper to stimulate growth. High rates might suggest an economy is growing too fast, increasing the risk of inflation. Thus, interest rates help gauge the current economic climate and future economic expectations.

Consumer spending and saving behaviors are significantly influenced by interest rates. Lower rates make loans and mortgages more affordable, encouraging consumers to buy homes and make large purchases. Higher rates might encourage saving as the returns on savings accounts and fixed-income investments increase.

Interest rates affect the cost of capital for businesses, influencing their decisions on investment and expansion. Lower rates reduce the cost of borrowing, making it more attractive for businesses to invest in new projects or expand operations. This can lead to job creation and economic growth.

The level of interest rates relative to other countries can affect the exchange rate of a country's currency. Higher interest rates offer lenders in an economy a higher return relative to other countries. As a result, higher rates attract foreign capital and cause the exchange rate to rise. The strength of a currency can influence the country's exports and imports.

Interest rates also signal the direction of bond markets. When interest rates rise, bond prices typically fall, and vice versa. This inverse relationship can affect investors' portfolios, influencing decisions about asset allocation between bonds, stocks, and other investments.

Before the financial crisis, Following the 2001 recession, triggered by the dot-com bubble burst and exacerbated by the September 11 attacks, the Federal Reserve substantially lowered interest rates to stimulate economic activity. The federal funds rate was reduced from 6.5% in 2000 down to 1.75% by the end of 2001, and it reached as low as 1% in 2003[42].

Interest rates remained unusually low for an extended period in the early to mid-2000s, which was intended to ward off deflationary pressures and support the economy's recovery. The low-rate environment during this period is often cited as a factor that contributed to the housing bubble, as it made borrowing cheaper and encouraged speculation in real estate.

As the economy began to recover and concerns about inflation emerged, the Federal Reserve started to gradually increase rates from 2004 onwards. By June 2006, the federal funds rate had been increased to 5.25%, where it remained until the onset of the financial crisis in 2007.

The low interest rate policy during this period contributed to an asset price boom, particularly in housing. The low rates made financing cheaper, fueling borrowing and speculative investment in real estate, leading to inflated housing prices and increased financial risk-taking. This eventually contributed to the formation of a housing bubble and its subsequent burst, which was a central element of the financial crisis.

During the Great Recession, changes in monetary and fiscal policies had significant implications for interest rates, especially in the context of the zero lower bound (ZLB) on nominal interest rates. As the financial crisis deepened, the Federal Reserve and other central banks quickly reduced their key interest rates to historically low levels, by December 2008[43] these rates approached the zero lower bound (ZLB), which refers to the

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[42] "Board of Governors of the Federal Reserve System". 2010. Www.Federalreserve.Gov. https://www.federalreserve.gov/newsevents/speech/bernanke20100103a.htm.

[43] "Evaluating Unconventional Monetary Policies after the Great Recession". 2019. Www.Nber.Org. https://www.nber.org/digest/oct19/evaluating-unconventional-monetary-policies-after-great-recession.

situation where nominal interest rates are at or near zero, limiting the central bank's ability to use traditional monetary policy tools to further stimulate the economy.

Lowering interest rates was also aimed at stabilizing the financial system. By reducing the cost of borrowing, financial institutions could shore up their balance sheets and continue to provide credit to the economy. This was crucial in preventing a more severe credit crunch and deeper economic downturn.

With the standard interest rate policy toolkit constrained by the ZLB the Federal Reserve adopted unconventional monetary policies, these included quantitative easing (QE), which involved large-scale purchases of longer-term securities to increase the money supply and put downward pressure on longer-term interest rates further easing financial conditions and the American Recovery and Reinvestment Act of 2009, which aimed to boost economic activity directly through government spending and indirectly by supporting aggregate demand.

The Federal Reserve also used forward guidance as a tool to shape market expectations about the future path of interest rates, which influences economic decisions. By keeping interest rates low for an extended period, the Fed aimed to provide certainty to investors and consumers, encouraging longer-term investments in a low-interest-rate environment.

It wasn't until December 2015[44] that the Federal Reserve decided to raise the federal funds rate by 25 basis points, marking the first-rate hike since 2006. The decision to begin raising rates was due to confidence in the ongoing economic recovery and an approaching return to normal employment levels and inflation rates closer to the Fed's target of 2%.

2.3.2) Changes in CB's interest rates.

During the pre-recession period, Italy, along with other Eurozone countries, experienced a convergence of interest rates across member states, orchestrated by the European Central Bank (ECB) policies aimed at harmonizing economic conditions across Europe. This policy initiative led to notably lower real interest rates in Italy, a trend that was part of a broader European pattern but more pronounced in economies like Italy and Spain. While the reduction in real interest rates was apparently an advantage, reducing borrowing costs, it had unintended consequences for Italy's economy.

As a member of the Eurozone, Italy's national monetary policy was tightly integrated with the ECB's overarching strategies, which focused on achieving interest rate convergence among the member states. This convergence resulted in lower real interest rates, a policy intended to stabilize prices and promote economic uniformity across the continent. However, the side effects of this policy were significant for Italy, presenting challenges in adapting to economic shocks and diminishing the nation's ability to tailor monetary responses to its specific economic conditions. The lower interest rates, while beneficial in some respects, complicated Italy's economic management, limiting its flexibility in addressing unique national economic issues.

Italy's rigid labor markets and stringent product market regulations further exacerbated the negative impacts of low real interest rates. These structural rigidities hindered the efficient reallocation of resources, thereby magnifying the productivity issues associated with low interest rates[45]. The interplay between these structural factors and monetary conditions created a complex economic environment that was less responsive to traditional fiscal stimuli and adjustments.

The period leading up to the Great Recession was characterized by a significant slowdown in productivity growth in Italy. This slowdown was closely linked to the broader context of declining real interest rates and the resultant inefficient allocation of capital and labor resources. While similar trends in interest rates were observed across major economies, Italy's specific institutional and economic contexts made it particularly

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[44] "Board of Governors of the Federal Reserve System". 2017. Www.Federalreserve.Gov. https://www.federalreserve.gov/econres/notes/feds-notes/how-have-the-feds-three-rate-hikes-passed-through-to-selected-short-term-interest-rates-20170602.html.

[45] " Productivity growth in Italy: a tale of a slow-motion change ". 2018. Www.Bancaditalia.It. https://www.bancaditalia.it/pubblicazioni/qef/2018-0422/QEF_422_18.pdf.

vulnerable to negative outcomes. The case of Italy underscores the importance of considering structural economic factors when assessing the impact of monetary policy on national productivity.

As the financial crisis deepened, the ECB recognized the need for immediate action to prevent a severe economic downturn across its member states[46], including Italy. Starting from a benchmark interest rate of 4.25% in mid-2008, the ECB undertook a series of aggressive rate cuts, lowering the rate by 325 basis points to a historical low of 1% within seven months. This rapid reduction in interest rates was aimed at stimulating economic activity by making borrowing cheaper, thereby encouraging spending and investment.

While lower interest rates theoretically reduce borrowing costs, the actual impact on Italy's economy was muted. The Italian banking sector, burdened by non-performing loans, was constrained in its lending, which limited the transmission of lower rates to the real economy.

Italy struggled with economic stagnation and high unemployment during the recession. The low interest rate environment did not translate effectively into economic growth, as ongoing structural issues and subdued loan demand curtailed the expected positive effects.

Italy's high public debt further complicated the situation. Although lower interest rates reduced the cost of government borrowing, fiscal constraints limited the scope for expansive fiscal policies that could have complemented the ECB's monetary efforts.

The interaction between monetary policy and fiscal measures during the recession was critical, especially for countries like Italy with significant fiscal and structural challenges.

The sovereign debt crisis that escalated in 2011 compounded Italy's economic troubles. The crisis led to heightened fears of default, which drove up government bond yields and, by extension, the overall borrowing costs. In response, the ECB embarked on several unconventional monetary measures to stabilize the Eurozone's financial markets.

In 2011, the ECB expanded the SMP[47] to include Italian government bonds, purchasing approximately €102.8 billion worth. This action was intended to stabilize the bond market by reducing the yields, which had skyrocketed due to the crisis. The program had a measurable effect on lowering bond yields, thereby indirectly supporting Italy's fiscal sustainability.

The ECB also introduced three-year LTROs (Longer-Term Refinancing Operations) in December 2011[48] and February 2012, providing banks with longer-term loans at a fixed rate. This initiative was designed to prevent a credit crunch by ensuring that banks had adequate liquidity to continue lending. Italian banks significantly utilized this facility, borrowing close to €255 billion, which helped alleviate the immediate liquidity constraints but did not fully translate into increased lending due to ongoing balance sheet weaknesses.

Announced in September 2012, the OMTs were designed as a tool to purchase bonds of troubled governments conditionally, primarily to reassure markets and reduce bond yields. Though never activated, the announcement of OMTs helped reduce speculative attacks on sovereign bonds and played a role in moderating interest rates pressures in Italy.

[46] "Monthly Bulletin October 2010". 2010. Www.Ecb.Europa.Eu. https://www.ecb.europa.eu/pub/pdf/other/art1_mb201010en_pp59-74en.pdf.

[47] Barry Eichengreen. "The European Central Bank: From Problem to Solution". 2017. Www.Bbvaopenmind.Com. https://www.bbvaopenmind.com/en/articles/the-european-central-bank-from-problems-to-solution/.

[48] "ECB announces measures to support bank lending and money market activity". 2011. Www.Ecb.Europa.Eu. https://www.ecb.europa.eu/press/pr/date/2011/html/pr111208_1.en.html.

2.4) Changes in Household consumption

2.4.1) Changes in Household consumption in the U.S.

The effects the Recession had on GDP, unemployment and interest rates are reflected by the choices of consumption and investment of households**.**

During the Great Recession, there was a significant retrenchment in household consumption[49]. Personal consumption expenditures dropped from over 95% of disposable personal income in 2005 to below 92% by the second quarter of 2009. This marked a reversal from the decades-long trend of increasing consumer spending and was a direct result of diminished household wealth, alongside a tightening of credit conditions; as credit dried up, households were unable to maintain previous consumption levels, which were often financed through debt.

Type of reason	2001	2004	2007	2010
Education	10.9	11.6	8.4	8.2
For the family	5.1	4.7	5.5	5.7
Buying own home	4.2	5.0	4.2	3.2
Purchases	9.5	7.7	10.0	11.5
Retirement	32.1	34.7	34.0	30.1
Liquidity	31.2	30.0	32.0	35.2
Investments	1.0	1.5	1.6	1.2
No particular reason	1.1	.7	1.1	1.4
When asked for a reason, reported do not save	4.9	4.0	3.3	3.5
Total	100	100	100	100

Figure 7: Reasons respondents gave as most important for their families' saving, distributed by type of reason, 2001-2010 surveys. Source: Federal Reserve. https://www.federalreserve.gov/pubs/bulletin/2012/pdf/scf12.pdf.

This shift was starkly reflected in the stagnation of household debt growth from 2008 onwards, which directly restricted the capacity of consumers to finance purchases, reinforcing the trend toward lower consumption. As consumption waned, the savings rate saw an inverse reaction. Historically low savings rates, which hovered around 2.2% before the crisis, increased to approximately 5.3% by 2009 (see figure 7).

This increase was partly a reflection of heightened economic uncertainty, which spurred a shift towards savings and debt repayment: households adopted a more conservative financial stance, prioritizing liquidity and security over expenditure.

The economic downturn disproportionately affected different demographic groups, revealing key insights into the vulnerabilities and resilience within the socio-economic fabric of the USA (see figure 8). Younger families, particularly those under 55, faced steeper declines in both income and net worth, exacerbated by their exposure to the housing market crash. Families aged 35-44 saw their median net worth collapse by over 50%, largely due to high levels of mortgage debt relative to their home values.

Households headed by individuals with higher education levels experienced more significant reductions in income, reflecting job losses in sectors such as finance and technology that typically employ a higher-educated workforce. This group's income fell sharply, demonstrating the risk of high-paying but volatile employment sectors.

Geographic location played a crucial role in the financial outcomes for families. Those in the South and West regions heavily affected by the housing bubble burst witnessed more substantial declines in both income and

[49] "Surveying the Aftermath of the Storm: Changes in Family Finances from 2007 to 2009 ". 2011. Www.Federalreserve.Gov. https://www.federalreserve.gov/pubs/feds/2011/201117/201117pap.pdf.

net worth. For instance, median net worth in the West plummeted by 55.3%, underscoring the regional disparities in economic impact.

Overall, households across the U.S. experienced marked declines in income during the recession[50]. Both median and mean incomes fell sharply across the board. The median income dropped by 7.7%, while the mean income saw an even steeper decline of 11.1% between 2007 and 2010.

Table 1. Before-tax family income, percentage of families that saved, and distribution of families, by selected characteristics of families, 2001–10 surveys—*continued*

Thousands of 2010 dollars except as noted

Family characteristic	2007				2010			
	Income		Percentage of families that saved	Percentage of families	Income		Percentage of families that saved	Percentage of families
	Median	Mean			Median	Mean		
All families	**49.6**	**88.3**	**56.4**	**100.0**	**45.8**	**78.5**	**52.0**	**100.0**
	(.8)	(1.4)			(.6)	(1.2)		
Percentile of income								
Less than 20	12.9	12.9	33.7	20.0	13.4	12.9	32.3	20.0
20–39.9	30.1	29.7	45.0	20.0	28.1	27.9	43.4	20.0
40–59.9	49.6	49.5	57.8	20.0	45.8	46.3	49.8	20.0
60–79.9	78.7	80.2	66.8	20.0	71.7	73.6	60.1	20.0
80–89.9	119.5	121.6	72.9	10.0	112.8	114.6	67.7	10.0
90–100	216.8	416.6	84.8	10.0	205.3	349.0	80.9	10.0
Age of head (years)								
Less than 35	39.2	54.2	58.9	21.6	35.1	47.7	54.6	21.0
35–44	59.3	87.7	56.4	19.6	53.9	81.0	47.6	18.2
45–54	67.2	117.8	55.8	20.8	61.0	102.2	51.8	21.1
55–64	57.2	116.5	58.4	16.8	55.1	105.8	51.4	17.5
65–74	40.8	96.8	56.7	10.5	42.7	75.8	53.6	11.5
75 or more	23.9	47.9	49.4	10.6	29.1	46.1	54.1	10.7
Family structure								
Single with child(ren)	30.2	44.1	41.6	12.2	29.5	39.4	38.2	12.0
Single, no child, age less than 55	35.5	49.4	54.9	14.0	30.5	42.4	49.8	14.7
Single, no child, age 55 or more	25.8	38.4	48.5	14.9	24.2	39.6	45.4	15.2
Couple with child(ren)	74.6	118.4	60.1	31.8	67.7	109.4	52.8	31.6
Couple, no child	64.6	120.5	64.0	27.1	61.8	101.7	62.2	26.5
Education of head								
No high school diploma	23.2	32.8	41.6	13.5	23.0	33.7	36.9	12.0
High school diploma	38.5	53.6	51.1	32.9	36.6	48.1	47.4	32.2
Some college	47.8	71.3	53.6	18.4	42.9	58.7	49.5	18.6
College degree	81.9	150.7	68.6	35.3	73.8	128.9	62.0	37.3

Figure 8: Before-tax family income, percentages of families that saved, distribution of families by selected characteristics, 2001-2010 surveys. Source: Federal Reserve. https://www.federalreserve.gov/pubs/bulletin/2012/pdf/scf12.pdf.

Household net worth suffered significantly due to declines in both financial and non-financial assets. Financial assets encompass a diverse array of holdings, ranging from stocks to bonds and cash-value life insurance. The distribution of financial assets underwent notable shifts: stocks were among the assets with the sharpest declines, the median value of directly held stock, for families with any, dropped from $18,500 to $12,000, and the median percent change was –31% while pooled investment funds, which traditionally constituted a substantial portion of total financial assets, saw their aggregate share diminish by 2009.

Families with higher levels of wealth and diversified asset portfolios were better positioned to weather the storm, evidence of this is the fact that the share of families with stock or business equity increased among families that moved up the wealth distribution by three or more percentiles, and the share declined for families that moved down the distribution by 10 or more percentiles.

In contrast, the share of bonds exhibited an upward trajectory, rising from 4.0 percent to 6.1 percent, reflecting perhaps a flight to safety amid market volatility. Transaction accounts also witnessed an increase in their share of financial assets, indicative of their perceived stability amidst economic uncertainty. Additionally, certificates of deposit and retirement accounts emerged as more prominent components of households' financial portfolios, signaling a shift towards safer, long-term investment vehicles.

[50] "Changes in U.S. Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances ". 2012. Www.Federalreserve.Gov. https://www.federalreserve.gov/pubs/bulletin/2012/pdf/scf12.pdf.

Despite the tumultuous market conditions, the rate of ownership of financial assets remained relatively stable, with 94% of families owning some financial assets in 2010. However, the median value of these financial assets fell by 28.8%, erasing the gains from the previous three-year period.

Turning to nonfinancial assets, vehicles, primary residences, and non-residential real estate experienced substantial declines in median values. The primary driver was the collapse of the housing market, where the national purchase-only Loan Performance Home Price Index fell by 22.4% from September 2007 to September 2010. In some states like California, Nevada, Arizona, and Florida, the declines were even more dramatic, ranging from 40 to 50%.

Other categories of nonfinancial assets, such as residential real estate excluding primary residences, exhibited mixed trends, with median values declining but the share of total nonfinancial assets increasing.

Debt dynamics also played a pivotal role in shaping wealth outcomes during this period: mortgage debt, constituting the largest component of total debt, saw a modest rise, changes in debt ownership were influenced by factors such as changes in asset values and shifts in ownership rates, with implications for leverage ratios and overall financial stability.

A comparison of the quartiles suggests that changes in home equity likely played a greater role in the evolution of families' wealth between 2007 and 2009 than did changes in business and equity; households facing financial vulnerability, characterized by high debt burdens, or missed payments, experienced heightened exposure to economic shocks, with implications for wealth mobility and financial well-being.

The overall debt levels of households remained relatively stable; however, the leverage ratios deteriorated due to the falling asset values. The average interest rate on consumer loans like mortgages fell, reflecting the Federal Reserve's efforts to stimulate the economy by lowering interest rates. For instance, the interest rate on a 30-year fixed-rate mortgage decreased from an average of 6.38% in September 2007 to 4. 35% in September 2010.

Overall, the data suggest that families exhibited cautious financial behavior in response to changing economic conditions, with a desire for increased precautionary savings and asymmetric responses to changes in asset prices, which could impact short-term economic revival efforts.

2.4.2) Changes in Household consumption in Italy.

During the initial phase of the global financial crisis, Italian households managed to maintain relatively stable consumption levels, largely due to their historically high savings rates. Italy, known for its prudent savings behavior, had one of the highest household savings rates among industrialized nations.

This financial cushion allowed many Italian families to absorb the initial shock of the economic downturn without making significant cuts to their daily expenditures[51]. In the earlier phase of the financial crisis from 2007 to 2009, Italian households experienced a decrease in consumption expenditures, falling to 98.5 by 2009 from a base of 100 in 2007. This represents a 1.5% decrease in consumption during this initial phase.

The double dip caused by the sovereign debt crisis, which intensified after 2010, had a profound impact on Italian households, which had already used their savings to smooth consumptions during the first wave of financial turmoil. As financial instability deepened, households curtailed spending, particularly on non-essential items. This trend was evident from the decrease in average monthly consumption expenditures, which fell by 2.4% from 2010 to 2012, reflecting growing economic pressures and reduced disposable income.

In the same period, data concerning Italian households indicates a noticeable shift towards reduced savings[52] and increased debt, exacerbating difficulties in financing daily expenditures. This has sparked debates about the relationship between saving habits, indebtedness, and poverty, influencing economic and social policies.

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[51] " Consumption during the Great Recession in Italy". 2016. Ifs.Org.Uk. https://ifs.org.uk/sites/default/files/output_url_files/WP201610.pdf.

[52] Tullio Jappelli , Immacolata Marino, Mario Padula "Households' Saving and Debt in Italy". 2015. Www.Csef.It. https://www.csef.it/WP/wp395.pdf.

Since 1980, the aggregate saving propensity among Italian families has significantly declined from 25 percent to just 10 percent by 2014.

Concurrently, household indebtedness as a ratio of GDP has almost tripled, reaching about 60 percent in the same period. More than 30 percent of households report financial difficulties, as indicated by the Bank of Italy's Survey of Household Income and Wealth (SHIW), with an increasing number finding it challenging to match monthly expenses with current income—from 28 percent in 2006 to 32 percent in 2012.

Young households, particularly those under 35, experienced the most drastic reductions in consumption due to soaring unemployment rates during the crisis. The spending for this group decreased by about 25%, with a noticeable 30% drop in discretionary expenditures such as entertainment and dining out. These reductions were a direct result of heightened financial instability and reduced disposable income, which hit younger demographics hardest due to their precarious position in the labor market.

Middle-aged households, those between the ages of 35 and 54, while slightly more insulated, also faced significant economic pressures. Despite having better employment security and some savings, their consumption decreased by approximately 15%. The most substantial cutbacks were seen in durable goods, including appliances and cars, reflecting a cautious approach to spending amid economic uncertainties. This demographic often juggled more financial responsibilities, such as mortgages and family expenses, making their consumption cutbacks both necessary and impactful.

Older adults over 55, often reliant on fixed incomes from pensions and savings, saw a modest 10% decline in their consumption. With fixed incomes eroding under inflationary pressures and low-interest rates, these households primarily reduced spending on non-essential and luxury items. This group's spending cuts were less severe compared to younger households, but still significant in terms of their lifestyle adjustments.

Historically, Italy boasted a high saving rate compared to other industrialized countries, leading in international comparisons until the 1990s. By 2014, however, Italy's saving rate had aligned closer to the European average of 10 percent, still higher than rates in the U.S. and Japan. Shifts in labor market policies and economic conditions since the early 1990s, including changes in indexation clauses and labor relations, have contributed to greater income disparities and wage instability, potentially reducing the incentive to save despite increased job insecurity.

Recent years have seen Italian households increasingly relying on debt to fund consumption and purchase durable goods. Although the consumer credit and mortgage markets remain relatively small compared to other developed countries, they have experienced rapid growth since the early 1990s. Over-indebtedness—where households accumulate more debt than they can afford—remains a concern, though difficult to measure. Factors contributing to over-indebtedness include poor financial decisions, unforeseen economic shocks, and the complexity of loan agreements.

According to D'Alessio and Iezzi (2013)[53], while about 8 percent of households were over-indebted by at least one indicator in 2010, only up to 2 percent were deemed over-indebted by two indicators simultaneously.

The 2008-2012 financial crisis had profound effects on Italian households, particularly affecting young households under 35[54], who saw consumption drop by about 25 percent due to high unemployment. Middle-aged households experienced a 15 percent reduction in consumption, particularly in durable goods, while those over 55 saw a modest 10 percent decline, mostly in non-essential and luxury items. The financial assets of Italian households were also significantly impacted, with the FTSE MIB index plummeting over 60 percent between 2007 and 2009. Real estate values decreased by approximately 20 percent, reducing household wealth and borrowing capacity. As the crisis deepened, Italian households initially increased borrowing to sustain their

[53] Giovanni D'Alessio and Stefano Iezzi "Household over-indebtedness: definition and measurement with Italian data". 2016. Www.Bancaditalia.It. https://www.bancaditalia.it/pubblicazioni/qef/2013-0149/QEF_149.pdf.

[54] " Silvia Magri and Raffaella Pico". 2012. Www.Bancaditalia.It. https://www.bancaditalia.it/pubblicazioni/qef/2012-0134/QEF_134_EN.pdf?language_id=1.

living standards, but soon a deleveraging phase ensued, particularly among younger demographics who faced stricter borrowing constraints.

The socioeconomic impacts of the crisis varied regionally, with Northern Italy experiencing less severe declines in consumption and asset values compared to the economically weaker southern regions, which faced sharper downturns exacerbated by higher unemployment rates and fragile economic infrastructures.

The dual decline in consumption and savings during the sovereign debt crisis underscores the severe financial strain experienced by Italian households. The crisis not only reduced their capacity to spend but also diminished their financial safety net, leaving them more exposed to ongoing economic adversities.

Chapter 3) Central banks responses to the crisis.

3.1) Monetary policies

3.1.1) Fed's monetary policy

In response to the profound disruptions of the 2008 financial crisis, the Federal Reserve (Fed) employed a combination of conventional and unconventional monetary tools to stabilize the economy and soothe financial market turmoil.

As traditional approaches proved inadequate under the extreme conditions, the Fed innovated several groundbreaking programs aimed at infusing liquidity, supporting credit markets, and encouraging economic activity.

Initially, in August 2007[55], the Fed began injecting large quantities of liquidity into the financial system, allowing banks to maintain lending operations amidst a severe liquidity shortfall. This intervention was vital to ensure that banks could continue their lending practices and access funds at the prevailing interest rates set by the Fed.

Over the course of the crisis, the Federal Reserve also pursued a policy of consistently lowering interest rates to shield the economy from financial market disruptions. On September 18, 2007, the Fed enacted a significant reduction of 0.5 percentage points, bringing the rate down to 4.75% in response to the economic strain caused by market turmoil. The Fed proceeded to reduce rates several more times following this adjustment as we talked about in the previous chapter.

Before this point, the Federal Reserve had begun implementing a strategy known as "quantitative easing"[56] to significantly boost bank reserves in the federal funds market. The main goal was to meet the federal funds rate target. However, as the Fed attempted to address multiple issues simultaneously, maintaining the federal funds rate within the desired range proved challenging. When the focus shifted in September to meet the liquidity needs of the financial sector more directly, the federal funds rate often fell below the intended target.

By December 2008, so much liquidity had been added to the system that the interest rate was frequently close to zero. Consequently, the Fed established a new target range for the federal funds rate at 0% to 0.25%, marking a shift in priorities from strict rate targets to ensuring ample liquidity.

Initially, quantitative easing involved direct loans to financial institutions, but as these entities began to rely less on Federal Reserve liquidity, the Fed changed its approach: it continued with quantitative easing by purchasing a large volume of Treasury securities, agency securities, and agency mortgage-backed securities to further economic stimulus efforts. It is estimated that the Fed acquired about 22% of the total available stock of these assets.

The Term Auction Facility (TAF)[57] became a crucial tool for the Federal Reserve during the financial crisis, especially as traditional monetary policy tools were insufficient for stabilizing the interbank funding market. By mid-2007, it was clear that previous adjustments to discount lending policies, initiated in August, had not been effective in encouraging banks to borrow from the Federal Reserve, leading to significant liquidity shortages as indicated by the widening spread between the three-month LIBOR and the anticipated federal funds rate during the autumn of that year.

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[55] "Board of Governors of the Federal Reserve System". 2021. Www.Federalreserve.Gov. https://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm.

[56] "Fed Strategies in the Great Depression and the Great Recession". 2024. Www.Nber.Org. https://www.nber.org/digest/nov16/fed-strategies-great-depression-and-great-recession.

[57]"Daniel L. Thornton, "The Effectiveness of Unconventional Monetary Policy: The Term Auction Facility, " Federal Reserve Bank of St. Louis *Review*, 2011, https://doi.org/10.20955/r.93.439-454

The TAF was designed as an innovative solution to these liquidity challenges, revisiting ideas from the early 2000s when concerns about diminishing Treasury securities supplies due to federal budget surpluses arose. The primary goal of the TAF was to change the negative stigma associated with borrowing from the discount window by allowing banks to obtain reserves discreetly through an auction format. This method enabled multiple banks to request funds while stating the interest rates they were prepared to pay, and the confidentiality of the auction process prevented any single bank from monopolizing the funds, thus helping avoid labeling banks as financially weak.

The TAF significantly impacted the Federal Reserve's balance sheet, which maintained its overall size despite the shift from holding securities to offering loans. The loans under TAF were secured by over-collateralized assets, ensuring that the Federal Reserve received collateral valued at least twice the amount of the loans, though the actual market value of the collateral was likely higher, effectively providing a capital subsidy to borrowing banks.

The immediate effects of the TAF were evident in the reduction of. However, this effect was short-lived as the spread began to widen again by February 2008, reaching over 70 basis points by March 2008; despite efforts to expand the size of the TAF, the spread remained elevated until spring 2009. The TAF facilitated more efficient money distribution where it was most needed and afforded banks additional time to assess the value of their assets. While the TAF was innovative and initially successful, its transient impact underscores the complexities of resolving systemic liquidity issues in an interbank funding market dominated by uncertainty and risk aversion.

During the winter of 2008, the financial markets experienced a notable scarcity of U.S. Treasury securities, leading to a drop in repurchase agreement interest rates. This shortage highlighted the strong investor preference for high-quality investments during the economic downturn. Faced with a lack of available Treasuries, primary dealers found themselves unable to conduct typical securities transactions. In response, the Federal Reserve revamped its securities lending program, enhancing it significantly to tackle these transactional challenges.

The revamped program, known as the Term Securities Lending Facility (TSLF)[58], differed from previous measures in several key ways: it extended the lending term to 28 days, accepted a broader array of collateral, and increased the lending capacity dramatically to $200 billion. The TSLF utilized an auction system where primary dealers could bid for Treasury securities by offering a competitive fee.

The first auction under the TSLF, held on March 27, 2008, made $75 billion in Treasury securities available and drew bids totaling $86.1 billion, with the winning fee set at 33 basis points.

This mechanism allowed dealers to exchange lower-valued mortgage-backed securities for the now higher-demand Treasuries. This swap was crucial in increasing liquidity and easing pressures in the repo market, where Treasury rates had fallen sharply. Subsequent auctions in the weeks following were often undersubscribed, signaling a stabilization in the demand for Treasuries and suggesting that the Federal Reserve's interventions were effectively alleviating market pressures.

Overall, the impact of the TSLF on the financial markets was significant. Its primary aim was to bridge the valuation gap between Treasury securities and mortgage-backed securities. Once implemented, the TSLF played a vital role in aligning the Treasury repo rate more closely with the federal funds rate, thereby helping to recalibrate how risk and liquidity were assessed in the securities market.

Importantly, while the TSLF altered the composition of the Federal Reserve's assets, it did not affect the overall size of its balance sheet. The facility effectively shifted the Fed's holdings from Treasuries to mortgage-backed securities, addressing the disparities in asset prices and restoring stability to the repo markets.

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[58] "Board of Governors of the Federal Reserve System". 2010. Www.Federalreserve.Gov. https://www.federalreserve.gov/regreform/reform-tslf.htm.

In November 2008, the Federal Reserve established the Term Asset-Backed Securities Loan Facility (TALF)[59] in response to the severe downturn in the asset-backed securities (ABS) market. The Fed's analysis indicated a dramatic decline in new ABS issuances, with interest rate spreads on AAA-rated ABS tranches reaching unprecedented heights, signaling excessively high-risk premiums.

This situation was highlighted by the drop in non-mortgage ABS issuance from over $175 billion per quarter to just $5 billion in the fourth quarter of 2008, as reported by the Securities Industry and Financial Markets Association (SIFMA). This steep decline suggested that diminished securitization could restrict access to credit, potentially reducing consumer spending and exacerbating the economic downturn.

TALF was designed to revitalize the practice of creating securities backed by various consumer and business loans, including SBA-guaranteed small business loans, credit cards, vehicle loans, and student loans. By May 2009, the Fed also started incorporating older commercial mortgage-backed securities (CMBSs) into the program and hinted at the potential inclusion of additional asset types in the future.

The facility enabled private U.S. firms to obtain non-recourse loans to purchase high-quality, newly issued ABS, using these securities as collateral (see figure 9). These firms could secure a minimum of $10 million[60] with the assurance that if the ABS's value declined, the losses would be absorbed by the Troubled Asset Relief Program (TARP), administered by the Fed and the Treasury. The Treasury initially supported TALF with a commitment to cover the first $20 billion in collateral losses, with the Fed responsible for any subsequent losses.

The strategy behind TALF mirrored the original intent of TARP, one of the fiscal policies enacted by the Fed, rather than purchasing troubled assets directly, the Fed facilitated their acquisition through loans, focusing on assets that were newly or recently issued rather than those that were considered troubled at the outset of TARP. Despite TALF reaching a peak funding of $48 billion in March 2010, its moderate growth likely reflected subdued activity in private securitization markets rather than disinterest in the program. Post-implementation, ABS issuance recovered to $52 billion per quarter but remained below the levels seen before the crisis.

TALF significantly impacted the financial markets by narrowing the spreads between ABS and Treasury bonds and by boosting ABS issuance. These effects suggest that TALF played a crucial role in stabilizing the ABS market, though it did not fully return it to its pre-crisis state. The program wrapped up its operations for loans against newly issued CMBS at the end of June 2010 and for other assets in March 2010, marking the end of a significant chapter in the Federal Reserve's crisis intervention efforts.

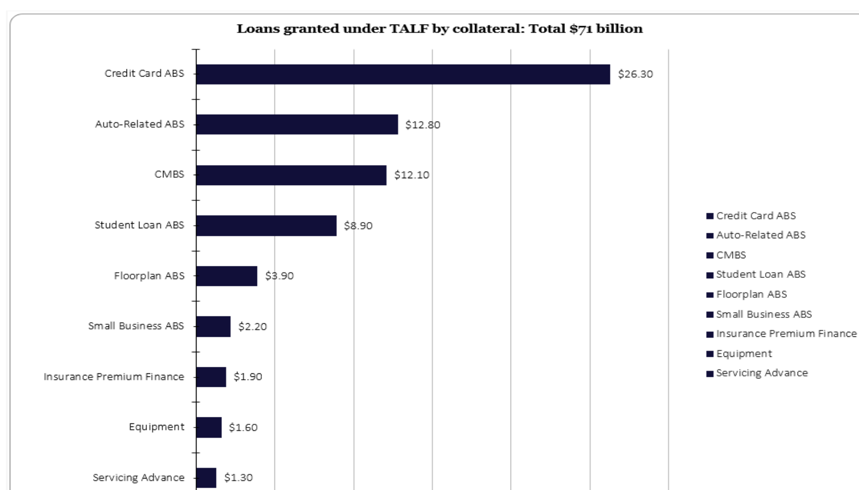

Figure 9: Loans granted under TALF by collateral. Source: JPMorgan, Bloomberg, Federal reserve bank. https://structuredfinance.org/resources/talf-resurrected/

[59] "Board of Governors of the Federal Reserve System". 2024. Www.Federalreserve.Gov. https://www.federalreserve.gov/regreform/reform-talf.htm.

[60] "Federal Reserve Establishes Term Asset-Backed Securities Loan Facility (TALF)". 2021. Www.Dechert.Com. https://www.dechert.com/knowledge/onpoint/2020/3/federal-reserve-establishes-term-asset-backed-securities-loan-fa.html.

3.1.2) ECB's monetary policy

As Italy is part of the European union, its monetary policy is mostly determined by the European Central Bank (ECB) and applies uniformly across the Eurozone.

In the 13 months leading up to the outbreak of the global financial crisis in September 2008, the European Central Bank (ECB) was already proactively adjusting its approach to monetary policy due to rising financial instability.

Banks began to question the financial stability of their peers in the interbank market, causing an increase in money market rates and endangering the effective dissemination of the ECB's interest rate policies. Starting from the initial signs of market stress on August 9, 2007, the ECB began to meet banks' increased demand for liquidity, as these institutions sought to augment their daily liquidity reserves to mitigate uncertainty about their financial positions.

Specifically, the ECB effectively provided unlimited overnight liquidity to banks, distributing €95 billion on the first day, subsequently, it carried out additional refinancing operations with terms extending up to six months, beyond the usual maximum of three months.

To lessen liquidity uncertainties at year-end, it fully allocated all bids exceeding the rate of the previous operation in its last major refinancing activity of the year. Additionally, the ECB set up temporary currency swap lines with other central banks, mainly to counteract escalating pressures in the short-term U.S. dollar funding markets. Consequently, these actions significantly eased the tensions within the short-term segment of the euro area money market.

Following Lehman Brothers' bankruptcy on September 15, 2008, the uncertainty surrounding the financial health of major global banks triggered a near collapse in many segments of the financial markets. Banks responded by amassing substantial liquidity reserves, reducing risky assets from their balance sheets, and imposing stricter lending conditions. This was particularly concerning for the European Central Bank (ECB), given the essential role of banks in financing the euro area economy and in the execution of the ECB's monetary policy.

The fear of a credit crunch and the potential inability of the central bank to manage monetary conditions prompted immediate action. Like its global counterparts, the ECB quickly lowered its key interest rates to unprecedented levels to maintain its influence over monetary conditions. These reductions included a significant policy move on October 8, 2008, when the ECB, in coordination with other major central banks, cut the main refinancing rate by 50 basis points[61].

Over the next seven months, the ECB continued to reduce its key interest rates by a total of 325 basis points, bringing the main refinancing rate down to a historical low of 1%, a rate not seen in decades across euro area countries. These measures were part of a broader strategy aimed at preserving price stability, stabilizing the financial system, and mitigating the economic impact of the crisis.

Simultaneously, the ECB implemented several non-standard measures to bolster financing conditions and ensure the flow of credit within the euro area economy, extending beyond the effects achievable solely through reductions in key interest rates.

Termed 'enhanced credit support'[62], these measures, initiated from October 2008, were specifically designed to suit the bank-centric financial structure of the euro area, focusing on supporting bank liquidity and funding. These measures included several innovative actions based on past experiences during financial instabilities,

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[61] Mongelli, F.P., Camba-Mendez, G. "The Financial Crisis and Policy Responses in Europe". 2018. https://doi.org/10.1057/s41294-018-0074-4

[62] "The Monetary Policy of the European Central Bank (2002-2015)". 2015. Www.Coleurope.Eu. https://www.coleurope.eu/sites/default/files/research-paper/beep35_0.pdf.

namely fixed-rate full allotment, extended liquidity provision at longer maturities, and currency swap agreements.

One notable measure was the fixed-rate full allotment tender procedure: uniquely adopted for all refinancing operations during the crisis; this procedure diverged from typical practices, granting eligible euro area financial institutions unrestricted access to central bank liquidity at the prevailing main refinancing rate, provided they met the necessary collateral requirements. This approach ensured that banks had adequate liquidity to continue their operations during the financial upheaval.

The ECB also took significant steps to extend the maturity of liquidity provisions; specifically, the duration of the longer-term refinancing operations (LTROs) was temporarily increased to up to 12 months by June 2009.

This extension, in conjunction with the fixed-rate full allotment policy, played a crucial role in maintaining low money market interest rates and enhanced the Eurosystem's role in mediating financial transactions, thereby addressing refinancing issues within the euro area's banking sector, particularly for longer-term maturities.

The expected outcomes included reduced liquidity costs and uncertainties and an expanded timeframe for liquidity planning, which were anticipated to motivate banks to maintain or increase their credit offerings to the economy.

Additionally, the ECB expanded the range of collateral eligible for use in Eurosystem refinancing operations. This expansion enabled banks to refinance a greater portion of their balance sheets with the Eurosystem, effectively allowing them to use less liquid assets as collateral.

Such a measure provided a critical solution to the liquidity shortages that emerged from abrupt disruptions in interbank lending, thus supporting ongoing liquidity and stabilizing the banking sector amidst financial turbulence.

The ECB also implemented currency swap agreements through the Eurosystem, providing liquidity in foreign currencies with various maturities against euro-denominated collateral. These agreements, particularly notable with the US Federal Reserve, were crucial in averting a significant shortfall in US dollar funding.

Euro area banks and their associated off-balance-sheet entities, which had substantial liabilities in US dollars due to extensive financing activities in various US market segments including real estate and subprime sectors, greatly benefited from this measure.

Furthermore, the ECB launched the Covered Bond Purchase Programme (CBPP)[63] to support the financial markets. This initiative involved the purchase of €60 billion worth of euro-denominated covered bonds issued within the euro area from June 2009 to June 2010.

The objective was to rejuvenate the covered bond market, a vital funding source for banks across much of the euro area and a significant part of the fixed income market.

Covered bonds are long-term debt securities used by banks to finance loans to both public and private sectors, often linked with real estate deals. These securities offer "double protection," meaning they provide recourse to the issuer and additional security through the legal pledge of the financed assets.

The scale of the CBPP, representing about 2.5% of the total outstanding covered bonds, played a key role in revitalizing market activities in this sector.

In early 2010, the euro area was hit by the onset of a sovereign debt crisis, triggered by mounting concerns over a potential Greek default, with possible repercussions for Ireland, Portugal, Spain, and Italy.

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[63] "The European Central Bank's Covered Bond Purchase Program". 2020. Elischolar.Library.Yale.Edu. https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=1116&context=journal-of-financial-crises.

By May 2010, the situation had escalated to the point where some secondary markets for government bonds effectively ceased functioning; massive offers to sell bonds were met with virtually no buyers, and bond yields soared to levels that threatened the financial viability of affected sovereign states.

Given the pivotal role of government bonds in setting benchmarks for private-sector lending rates and their significance in maintaining the stability of bank balance sheets and liquidity operations, this crisis severely disrupted the effective transmission of the European Central Bank's (ECB) monetary policy decisions to the broader economy.

To stabilize these critical market segments and restore the proper functioning of the monetary policy transmission mechanism, the ECB launched the Securities Markets Program (SMP)[64]. This initiative was designed to restore depth and liquidity to the dysfunctional market segments, thereby supporting more stable market conditions and helping to maintain the flow of credit to the real economy.

Under the Securities Markets Program (SMP), the Euro system was authorized to engage in interventions in both public and private debt securities markets across the euro area, with operations strictly confined to secondary markets in accordance with European treaties. Furthermore, these interventions were fully sterilized to ensure they did not alter the overall liquidity conditions of the central bank, maintaining the effectiveness of the ECB's monetary policy.

The Securities Markets Program (SMP) proved effective from the start, playing a significant role in stabilizing the markets and resulted in an immediate and substantial decline in government bond yields. This success not only calmed the markets but also restored some degree of normalcy in the transmission of monetary policy, helping to stabilize economic conditions across the euro area during a period of significant uncertainty and financial stress.

Other non-standard measures by the European Central Bank (ECB) also played a significant role in mitigating the effects of disruptions in the sovereign bond markets.

The ECB extended the maturity of its liquidity provisions and modified its collateral framework. As a result, government bonds constituted less than 20% of the assets used as collateral in Euro system operations, a decrease from about 30% in 2006. The majority of the collateral now comprised covered bonds, asset-backed securities, and other financial instruments.

As the sovereign debt crisis escalated in Italy and Spain during the summer of 2011, leading to the risk of dysfunctional government bond markets, the ECB reactivated its Securities Markets Program (SMP), which had been inactive for several months. This led to significant and sustained interventions that temporarily alleviated the pressure on government bond markets.

However, by autumn, the European banking system faced increasing strain due to the negative interactions between sovereign debt issues and the banking sectors, including exposure to foreign sovereigns. This stress was exacerbated as bank equity prices plummeted by up to 70%, credit default swap spreads surpassed levels seen during the Lehman crisis, and the interbank market ceased functioning properly. The situation worsened as bank funding dried up, issuance of covered bonds was severely restricted, and uncovered bond issuances virtually stopped. This created a liquidity crisis and led to a differentiated banking situation across euro area countries, with some experiencing accelerated net payment outflows and others receiving net inflows.

In response to these challenges, the European Banking Authority implemented an additional capital buffer, raising the Core Tier 1 capital ratio to 9%, and identified a need for the banking sector to raise over €100 billion within a year to stabilize the system.

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[64] "Euro area money growth and the "Securities Markets Programme". 2010. Www.Ecb.Europa.Eu. https://www.ecb.europa.eu/pub/pdf/other/mb201006_focus01.en.pdf.

Observers estimated a potential deleveraging risk of about €1 trillion as banks looked to improve their capital ratios by reducing risk-weighted assets. Indicators suggested a severe upcoming credit crunch across the euro area.

To address these issues, the ECB announced a comprehensive policy response on December 8, 2011. This included the launch of two Long-Term Refinancing Operations (LTROs)[65] with a three-year maturity, a reduction in the reserve ratio from 2% to 1%, an increase in the availability of collateral including the expansion of eligible asset-backed securities, and the encouragement of developing alternative credit assessment sources.

These LTROs provided banks with the assurance of medium-term liquidity, helping them maintain credit lines and manage liabilities from maturing bank bonds. This approach introduced a novel rollover insurance mechanism to the existing fixed-rate full allotment procedure and allowed banks to repay borrowed amounts after the first year. The operations saw significant participation, with around €1 trillion allotted in total, demonstrating substantial liquidity support reaching even small banks focused on financing small and medium-sized enterprises.

In conclusion, while the ECB's response to the financial crisis showcased its capacity to stabilize markets and maintain liquidity under extreme stress, it also highlighted the ongoing need for structural reforms and tighter fiscal coordination to ensure the resilience and stability of the Eurozone's financial system. The path forward requires not only sustained monetary support from the ECB but also significant policy efforts from individual member states to address economic imbalances and foster a more robust economic union.

The necessity for comprehensive structural reforms and fiscal consolidation became apparent, aiming to enhance competitiveness and fiscal sustainability across the Eurozone. Additionally, the crisis underscored the importance of completing the banking union with a robust framework for bank resolution and a unified deposit insurance scheme, which are crucial for breaking the negative feedback loop between sovereigns and banks.

3.2) Fiscal policies

3.2.1) U.S. Fiscal policy

In early 2008, as the signs of economic distress began to surface more prominently, the U.S. government responded with the Economic Stimulus Act of 2008[66], a preliminary measure designed to avert a looming recession by boosting consumer spending and providing tax relief to businesses.

This Act provided tax rebates to millions of Americans; single filers received up to $600 and joint filers up to $1200, with additional payments for families with children. The rationale was straightforward: by putting money directly into the hands of consumers, the government hoped to stimulate spending and thus production, keeping the economy afloat. Additionally, the Act offered tax incentives for businesses, encouraging them to invest in new equipment by increasing the limits on immediate tax write-offs. This was an attempt to spur capital expenditures in the hopes of bolstering economic activity.

However, as the financial crisis deepened towards the end of 2008, culminating in significant disruptions in the financial markets and a steep downturn in economic activity, it became clear that more comprehensive measures were necessary. This realization led to the passage of the Emergency Economic Stabilization Act of 2008 in October.

[65] Angela Roman, Irina Bilan. "The Euro Area Sovereign Debt Crisis and the Role of ECB's Monetary Policy". 2012. https://www.sciencedirect.com/science/article/pii/S2212567112002274

[66] "H.R.5140 - 110th Congress (2007-2008): Economic Stimulus Act of 2008 | Congress.gov | Library of Congress". 2008. Www.Congress.Gov. https://www.congress.gov/bill/110th-congress/house-bill/5140.

The Emergency Economic Stabilization Act of 2008 (EESA)[67] was signed into law on October 3, 2008, under the Bush administration, marking a significant governmental intervention aimed at stabilizing the economy and preventing a further economic downturn.

EESA authorized the U.S. Department of the Treasury to spend up to $700 billion to purchase distressed assets, especially mortgage-backed securities, from financial institutions facing collapse due to their inability to offload these toxic assets. Initially, the cap was set at $700 billion but was later adjusted to $475 billion following the implementation of subsequent legislation, including the Dodd-Frank Wall Street Reform and Consumer Protection Act. The primary mechanism for this intervention was the Troubled Asset Relief Program (TARP)[68], which also included a series of targeted efforts to bolster various sectors of the economy.

The primary goal of TARP was to address the immediate crisis in the banking system by increasing bank capitalization, restoring confidence in the financial markets, and reviving bank lending to consumers and businesses. Initially, TARP funds were mostly directed toward buying toxic assets from banks. However, as the program evolved and the needs of the economy changed, TARP's strategy shifted from purchasing assets to injecting capital directly into banks.

One of the first and most significant measures under TARP was the Capital Purchase Program (CPP), through which the Treasury purchased equity stakes in hundreds of banks. This not only bolstered the banks' balance sheets but also incentivized them to resume lending, a critical component for economic recovery. The CPP was notable for its rapid implementation and its role in restoring confidence in the financial system. TARP also addressed troubles beyond the banking sector, including efforts to stabilize key American industries. For example, the Automotive Industry Financing Program (AIFP) provided crucial funding to major U.S. automakers like General Motors and Chrysler, which faced potential bankruptcy due to a collapse in sales and credit availability. This intervention helped prevent massive job losses and was pivotal in stabilizing the broader manufacturing sector.

Additionally, TARP encompassed measures to help struggling homeowners through programs like the Home Affordable Modification Program (HAMP), which aimed to prevent foreclosures by facilitating mortgage modifications for homeowners at risk of defaulting on their loans.

As the program evolved, further initiatives were launched under TARP, including the Public-Private Investment Program (PPIP) to address the toxic assets on banks' balance sheets by attracting private capital investment into the market for these assets.

Financially, TARP was initially projected to be a significant cost to taxpayers; however, it turned out to be far less expensive than expected[69]. Many of the loans made under TARP were repaid with interest, and dividends from the equity stakes also contributed to the overall recovery of funds. By the time the program officially ended, the Treasury had recovered the majority of the funds disbursed under TARP, demonstrating a significant return on many of the investments made during the crisis.

While the act was initially controversial due to its enormous cost and the implications of using taxpayer money to bail out private corporations, it ultimately played a pivotal role in restoring stability and confidence in the financial markets. The funds expended under EESA and TARP were largely paid back over the following years, with interest and profits returning to the Treasury, illustrating a significant recovery of the initial outlays and showcasing the program's effectiveness in averting a deeper economic crisis.

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[67] "Subprime mortgage | Credit Risk, Default Rates & Foreclosure". 2008. Www.Britannica.Com. https://www.britannica.com/money/Emergency-Economic-Stabilization-Act-of-2008.

[68] "U.S. DEPARTMENT OF THE TREASURY". 2008. Home.Treasury.Gov. https://home.treasury.gov/data/troubled-asset-relief-program.

[69] "Measuring the True Cost of Government Bailout ". 2010. Openscholarship.Wustl.Edu. https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1027&context=law_lawreview.

As 2009 began, with the economy continuing to falter and unemployment rates rising sharply, the newly inaugurated Obama administration took swift action by signing the American Recovery and Reinvestment Act (ARRA) into law in February.

The American Recovery and Reinvestment Act of 2009 (ARRA)[70], commonly referred to as the stimulus package, was signed into law by President Obama on February 17, 2009; with an allocation of approximately $787 billion, the act was a monumental effort by the federal government to jumpstart the U.S. economy, which had suffered massive job losses, a banking sector in turmoil, and a significant slowdown in economic activities.

ARRA was crafted to address various sectors of the economy through a broad range of measures aimed at providing immediate relief and laying the foundation for long-term growth. One of the primary objectives of the act was to save and create millions of jobs. This was to be achieved through substantial investments in infrastructure, which included the construction and repair of roads, bridges, and public transportation systems. These projects were not only intended to employ thousands of workers directly but also to stimulate the economy by increasing demand for materials and services related to construction.

Beyond infrastructure, ARRA targeted the struggling energy sector with significant investments intended to promote energy efficiency and renewable energy. The funding aimed to modernize the United States' energy grid, thereby reducing dependence on fossil fuels and fostering a new industry around green technologies. This sector's growth was anticipated to create jobs and lead to innovations that could position the U.S. as a leader in sustainable energy technologies.

Education and healthcare were also focal points of the stimulus package. In education, ARRA provided funds to support teachers' salaries, prevent layoffs, and improve educational facilities and technology, which would enhance learning environments across the country. In healthcare, the act funded the expansion of electronic health records and investments in health research and infrastructure, intending to improve healthcare delivery and reduce long-term costs.

To ensure that the benefits of economic recovery were felt more broadly, ARRA included significant tax cuts and benefits for middle-class families. These measures were designed to increase disposable income, boost consumer spending, and stimulate economic activities.

Tax relief was another major component of ARRA, totaling about $288 billion. The tax cuts included reductions for individuals to increase their disposable income, such as the Making Work Pay Credit, which provided up to $400 per individual and $800 for married couples filing jointly. There were also incentives for businesses, including significant write-offs for capital expenditures and targeted tax incentives designed to stimulate investment in specific high-growth industries such as renewable energy.

The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010[71], enacted on December 17, 2010, aimed at extending much-needed tax relief, reauthorizing unemployment insurance, and stimulating job creation. This act was a bipartisan compromise, extending tax benefits and credits that were initially passed during the Bush administration and were set to expire by the end of 2010.

The act's comprehensive measures included a two-year extension of the Bush-era tax cuts for all income levels, despite initial resistance regarding extending these benefits to the wealthiest Americans. This extension applied to individual income tax rates, capital gains, and dividends, preventing what many feared would be a significant tax increase for the middle class and potentially dampening economic recovery.

One of the central features of the act was the one-year reduction in payroll taxes, which decreased the Social Security tax rate from 6.2 percent to 4.2 percent for workers. This reduction was designed to increase

[70] "American Recovery and Reinvestment Act of 2009: External Program Plan". 2010. U.S. Department of State https://2009-2017.state.gov/documents/organization/126110.pdf

[71] "Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010" United States Congress. 2010. https://www.congress.gov/111/plaws/publ312/PLAW-111publ312.pdf.

disposable income, thereby boosting consumer spending and providing immediate relief to millions of American workers.

Additionally, the legislation included crucial provisions for businesses to encourage investment and support job growth. It offered 100 percent expensing of certain business assets purchased during the fiscal year and extended several other business tax credits that were on the brink of expiration. These measures were intended to alleviate some financial burdens on businesses, thereby spurring economic activity and job creation.

The act also addressed the ongoing unemployment crisis by extending unemployment insurance benefits for an additional 13 months. This extension was critical in providing financial assistance to the long-term unemployed, many of whom were victims of the economic downturn and were struggling to find work in a slow job market. Furthermore, the legislation reinstated the estate tax with a generous $5 million exemption per individual and a top tax rate of 35 percent, significantly lower than previous levels. This was a relief to many, particularly small business owners and farmers concerned about the potential impact of higher estate taxes on their ability to pass on assets to the next generation.

The Tax Relief also included a variety of smaller tax provisions, such as tax breaks for college and extended credits and incentives for renewable energy, including biodiesel and renewable diesel, further promoting environmentally friendly energy solutions. In addition to these measures, in 2011, the government implemented a temporary payroll tax cut, which reduced the Social Security tax rate from 6.2% to 4.2% for workers. This policy was aimed at boosting consumer spending by increasing workers' take-home pay.

Over two years, this tax cut put additional income into the pockets of millions of Americans, supporting consumer spending and contributing to economic recovery. This tax cut was particularly important as it directly targeted middle- and lower-income Americans, who were more likely to spend the additional income, thereby providing a direct stimulus to the economy.

Together, these fiscal measures formed the cornerstone of the government's response to the Great Recession. They were designed to stabilize the financial sector, stimulate economic growth, and provide relief to those most affected by the downturn. By injecting liquidity through TARP, encouraging consumer spending and business investment through tax rebates and cuts, and making significant investments in infrastructure and state and local governments through ARRA, the government sought to counteract the effects of the recession and set the stage for recovery. While the effectiveness of some of these measures has been debated, their combined impact helped to mitigate the severity of the recession and supported the gradual recovery that followed.

3.2.2) Italy's fiscal policy.

As Italy does not control its monetary policy, its government focuses more on fiscal measures to influence its economic performance within the constraints and opportunities presented by the broader Eurozone monetary policy framework governed by the ECB.

Italy's response to the economic crises it faced over the last decade has been characterized by a complex blend of fiscal measures aimed at both stabilizing the public finances and stimulating economic growth. The fiscal strategies employed by the Italian government during this period reflect a nuanced understanding of the economic challenges that stemmed from the global financial crisis of 2008, followed by the sovereign debt crisis that began in 2011.

Initially, Italy was hit hard by the global financial downturn, which precipitated a significant decline in GDP and a sharp increase in public debt. The country's fiscal response to this downturn was initially cautious, focusing primarily on fiscal consolidation to stabilize public finances that were deeply impacted by years of high debt levels and economic mismanagement. This fiscal tightening included measures aimed at reducing the budget deficit, which was critical to exit the excessive deficit procedure initiated by the European Commission.

As the sovereign debt crisis unfolded across Europe, Italy found itself particularly vulnerable due to its high debt-to-GDP ratio. In response, the government, under technocratic leadership appointed in late 2011, introduced a range of more dramatic fiscal measures. These measures were significantly tougher and aimed at rapidly reducing the fiscal deficit. The government implemented new tax increases and budget cuts that were both broad and deep, affecting various sectors of public spending (see figure 10).

One of the key aspects of Italy's fiscal policy during this period was the implementation of stringent austerity measures[72]. These included cuts in public sector wages and pensions, which were seen as necessary to reduce the government's expenditure. However, these measures were not without controversy, as they led to significant reductions in household income and consumer spending, further deepening the recession in the short term.

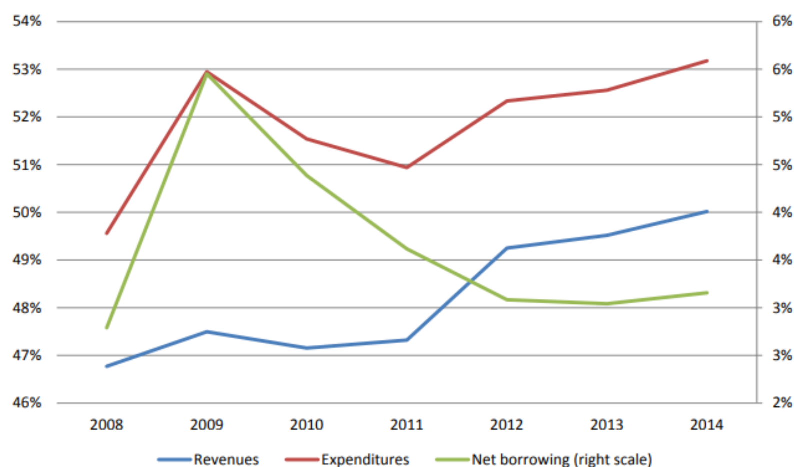

Figure 10: Taxation, spending and borrowing with policy responses, as %GDP 2007-2014. Source: Institute for Social and Economic Research (ISER). https://www.iser.essex.ac.uk/wp-content/uploads/files/working-papers/euromod/em7-15.pdf

Despite the focus on austerity, the Italian government also recognized the need to stimulate the economy and support a return to growth. This dual approach led to the introduction of several growth-stimulating initiatives. For instance, tax relief measures were introduced to ease the burden on businesses and consumers alike. The government sought to encourage investment and spending by reducing some of the tax pressures, particularly on the middle class and small businesses, which are often the engines of economic growth in Italy.

Additionally, the government took steps to support employment through various labor market reforms. These reforms aimed at making the labor market more flexible and were intended to encourage hiring, particularly in sectors that had been hardest hit by the economic downturn. The government also extended unemployment benefits, providing a crucial safety net for those who lost their jobs during the recession.

Infrastructure spending was another critical component of Italy's fiscal measures. By investing in infrastructure, the government aimed to create jobs and stimulate economic activity. These projects not only provided immediate employment opportunities but were also seen as investments in the country's long-term economic health.

However, the path to economic recovery and fiscal stability was fraught with challenges. While the austerity measures helped to stabilize the public finances to some extent, they also stunted economic growth in the short term. The balance between fiscal consolidation and economic stimulation has been a delicate one for Italy. The government has had to navigate the trade-offs between reducing debt and supporting growth, which has often required adjustments to fiscal policies based on changing economic conditions.

[72] George Erber. "Italy's Fiscal Crisis". 2011. Www.Intereconomics.Eu. https://www.intereconomics.eu/contents/year/2011/number/6/article/italys-fiscal-crisis.html.

3.3) Regulatory measures

3.3.1) U.S. regulatory measures

In the U.S. the main regulatory measure enacted is the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010[73], its primary objectives were to prevent another financial crisis, end "too big to fail" bailouts, create comprehensive consumer protections, and establish a sound economic foundation for sustainable growth.

Dodd-Frank was signed into law by President Barack Obama on July 21, 2010, following widespread demand for sweeping changes to financial supervision. The public and political pressures for reform were intense, largely because the financial crisis resulted in significant losses for millions of Americans, including jobs, homes, and life savings, and the government had to provide unprecedented bailouts to prevent the entire financial system from collapsing.

One of the central aims of Dodd-Frank was to end the era of "too big to fail" financial institutions, whose risky behaviors and complex interdependencies were seen as central catalysts of the financial crisis. The act established several new agencies with mandates to oversee various components of the sprawling financial sector[74], with the Financial Stability Oversight Council (FSOC) tasked with identifying and mitigating systemic risks. The FSOC's ability to oversee the stability of the entire financial system marked a pivotal shift towards a more holistic regulatory approach.

Another cornerstone feature of the legislation was the creation of the Consumer Financial Protection Bureau (CFPB). The CFPB was designed as an independent agency with the authority to enforce consumer protection laws and ensure that consumers receive fair and clear information when buying financial products like mortgages and credit cards. The Bureau was empowered to crack down on abusive and deceptive financial practices and was given authority to write and enforce new rules for banks and other financial institutions.

Dodd-Frank also addressed the problematic lack of oversight and transparency in the derivatives market, which had exacerbated the financial crisis. It introduced measures requiring more stringent reporting and central clearing for derivatives to reduce systemic risk. These provisions aimed to bring much of the previously unregulated "shadow banking" activities into the regulatory light, making it harder for risky practices to go unnoticed.

In terms of enforcement, Dodd-Frank enhanced the government's ability to manage the orderly liquidation of failing major financial institutions to prevent a repeat of chaotic bailouts. It established a protocol that allowed financial companies to be dismantled in a way that would minimize the impact on the broader economy, with provisions designed to ensure that taxpayers would not bear the cost of failures.

The act also brought significant changes to corporate governance and executive compensation practices. Shareholders were given a non-binding vote on executive pay packages and golden parachutes, providing a mechanism for investor input into the governance of the companies in which they held shares. These "say on pay" votes were intended to address public outrage over high compensation for executives at firms that received taxpayer-funded bailouts during the financial crisis.

Despite its broad scope and intentions to create a safer financial system and restore public confidence in U.S. financial markets, Dodd-Frank has faced criticism and calls for rollback from various quarters. Critics argue that the regulatory burdens it imposes could stifle innovation and reduce the competitiveness of U.S. financial institutions. Others contend that it does not go far enough in curtailing the activities that led to the crisis.

Since its enactment, Dodd-Frank has remained a focal point of debate on how best to regulate the complex and ever-evolving financial markets. Its long-term effectiveness and the scope of its regulations continue to be key

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[73] "Wall Street Reform: The Dodd-Frank Act". 2010. Obamawhitehouse.Archives.Gov. https://obamawhitehouse.archives.gov/economy/middle-class/dodd-frank-wall-street-reform.

[74] "Brief summary of The Dodd-Frank Wall Street Act". 2010. Www.Dpc.Senate.Gov. https://www.dpc.senate.gov/pdf/wall_street_reform_summary.pdf.

issues in discussions about the stability and health of the global financial system. As the act has been implemented, various adjustments and modifications have been proposed and enacted to refine the regulatory framework it established, ensuring that it better serves its purpose of protecting the economy and the consumers who depend on it. Moreover, Dodd-Frank sought to enhance the integrity and oversight of the entire financial system by including provisions for more stringent audits of the Federal Reserve's emergency lending practices, a move towards more transparency in the central banking system.

Despite its comprehensive approach and broad scope, Dodd-Frank has been a subject of considerable debate. Critics argue it imposes too many regulations, potentially stifling economic growth and placing undue burdens on smaller banks and financial institutions. Proponents, however, see it as a necessary step towards safeguarding the financial system and protecting consumers from the types of abuses that contributed to the 2008 financial crisis. The implementation and effects of Dodd-Frank continue to be key points in discussions on financial regulation and economic policy in the United States.

3.3.2) ECB's regulatory measures

Following the global financial crisis (GFC) of 2008, a severe economic disruption that prompted unprecedented government bailouts of distressed banks and financial institutions, a comprehensive reevaluation of the regulatory landscape governing the financial sector was deemed necessary.

Evolution of regulatory measures addressing the banking sector in the EU (2010–2017).

Year	Regulatory measure
2010	Establishment of the European System of Financial Supervision (EFSF) including: European Supervisory Authority, European Systemic Risk Board and Member States' Supervisory Authorities
2012	Introduction of European Market Infrastructure Regulation (EMIR) concerning derivate trading, especially so-called Over-the-Counter (OTC)
2012	Establishment of the European Stability Mechanism (ESM) which replaces the European Financial Stability Facility
2013	Introduction of the Capital Requirements Regulation (CRR) and Capital Requirements Directive (CRD) IV in order to transpose the Basel III Accord into EU law
2013	Implementation of the Single Supervisory Mechanism (SSM)
2014	Release of the Bank Recovery and Resolution Directive (BRRD), which has to be implemented in national legislations by 2015
2014	Implementation of the Single Resolution Mechanism
2014	Introduction of the Markets in Financial Instruments Directive II (MiFID II), which became effective in 2017
2015	Specializations of the Minimum Requirement for Own Funds and Eligible Liabilities (MREL) are published

Figure 11: Evolution of regulatory measures addressing the banking sector in the EU (2010-2015). Source ECB. https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op305~f9d43bd762.en.pdf

This reevaluation led to the implementation of several significant reforms aimed at enhancing the resilience of the financial system and preventing the occurrence of similar crises in the future. These reforms spanned various aspects of financial regulation, targeting systemic risks and addressing the weaknesses that the crisis had starkly exposed (see figure 11).

A key aspect of the post-crisis reforms was the introduction of stricter capital and liquidity standards under the new Basel III framework[75], which replaced the previous Basel II standards that were criticized for their inadequacy during the crisis. Basel III was designed to fortify the banking sector against future economic shocks by increasing the quality and quantity of capital banks were required to hold. This included more stringent leverage ratios and higher requirements for liquid assets, ensuring that banks could better withstand periods of financial stress without resorting to government bailouts.

[75] Pär Torstensson. "Basel III finalization in the EU: the key elements and how they make the EU banking system more resilient". 2023. Www.Ecb.Europa.Eu. https://www.ecb.europa.eu/press/financial-stability-publications/macroprudential-bulletin/focus/2023/html/ecb.mpbu202312_focus01.en.html..

Concurrently, the global push to address the problem of institutions deemed "too big to fail" arousing from the observation that the failure of particularly large or interconnected banks could threaten the stability of the global financial system, a risk that had become painfully apparent during the GFC, prompted a response, with new resolution regimes established to provide a structured process for winding down failing banks in an orderly manner.

These included frameworks like the Total Loss-Absorbing Capacity (TLAC) and the Minimum Requirement for Own Funds and Eligible Liabilities (MREL)[76], which were specifically designed for systemically important banks. These tools were intended to ensure that banks could be dismantled without causing broader financial or economic harm and without needing taxpayer-funded rescues.

The derivatives market, particularly over-the-counter (OTC) derivatives, was another area of focus. The crisis had highlighted how derivatives could create significant systemic risks, notably due to their complexity and lack of transparency. Reforms mandated that certain types of derivatives be cleared through central counterparties to mitigate counterparty risks and enhance market transparency. This shift aimed to reduce the systemic risk inherent in the derivatives markets, making them safer and more resilient to shocks.

Attention was also directed towards the shadow banking system, which had contributed significantly to the credit expansion that precipitated the housing market collapse. New regulatory measures were introduced to oversee hedge funds and other non-bank financial entities that had previously operated with minimal regulatory oversight. These measures were intended to curtail the riskier activities of these entities, integrating them more fully into the regulatory framework and reducing their potential to contribute to systemic instability.

Moreover, the reforms addressed compensation practices within financial institutions. There was a consensus that previous compensation structures had incentivized excessive risk-taking by linking bonuses and incentives to short-term financial performance without adequate consideration of long-term risks. The new standards sought to align compensation with long-term value creation and financial stability, thereby discouraging the reckless behaviors that had exacerbated the financial crisis.

Additionally, the adoption of high-quality, global accounting standards was promoted to improve the transparency and comparability of financial statements across countries. This move was intended to make it easier for investors and regulators to assess the financial health of institutions and foster a more stable financial environment globally.

Despite the scale of these reforms, their efficacy within the new regulatory framework remains debated. Although the changes have undoubtedly strengthened the financial system, making it more resilient to the kinds of issues that precipitated the Global Financial Crisis, persistent concerns such as the inherent cyclicality of finance and the risks associated with the shadow banking sector linger. Questions about the long-term viability of these reforms, their capacity to restrain speculative and risky practices without hampering economic innovation, and their ultimate effectiveness in forestalling future crises continue to challenge regulators and policymakers.

[76] Samira Meier, Miguel Rodriguez Gonzalez, Frederik Kunze. "The global financial crisis, the EMU sovereign debt crisis and international financial regulation: lessons from a systematic literature review". International Review of Law and Economics, 2021. https://doi.org/10.1016/j.irle.2020.105945. (https://www.sciencedirect.com/science/article/pii/S0144818820301587)

Chapter 4) Comparative Analysis: Italy vs. the USA

As it is clear from the analysis on macroeconomic indicators made in the second chapter, the Great Recession in US and the sovereign debt crisis in Europe had different effects on GDP, unemployment, and household consumption if we consider both the intensity of this changes and their timing.

As the Great Recession was originated due to lingering problems in the United States' financial system, the initial phase of the crisis saw a severe contraction in household consumption. American families, who had previously spent a significant portion of their disposable income (over 95% in 2005) saw this drop to below 92% by the second quarter of 2009. This reduction in spending was driven by a sharp decline in household wealth, largely due to falling home values and the stock market crash, along with tightening credit conditions. The financial turmoil severely restricted access to credit, which had been a key support for high consumption levels. As a result, household debt growth stagnated, and Americans shifted toward saving more, with the savings rate more than doubling from 2.2% before the crisis to 5.3% by 2009.

In contrast, European economies, while also hit hard, generally experienced somewhat less severe immediate impacts. For instance, the overall contraction in GDP in Europe was significant but varied widely among member states. The Eurozone's GDP declined by approximately 4.5% during the same period, a figure that masks significant national variations. Unemployment rates in Europe also rose, but the increase was more gradual compared to the sharp spike in the United States, where unemployment reached a peak of 10% in October 2009. In comparison, countries like Germany saw relatively stable employment figures due to robust labor market policies, while Spain faced unemployment rates surging above 20%.

Conversely, Italian households initially maintained relatively stable consumption levels during the early stages of the global financial crisis, largely sustained by historically high savings rates (one of the highest among industrialized nations), and partly because its banking system was less exposed to mortgage-backed securities and households were not as heavily indebted. This financial prudence allowed Italian families to absorb the initial economic shock without making drastic cuts to their daily expenditures, however the situation shifted as the crisis progressed: by 2009, consumption expenditures had decreased only by 1.5% from 2007 levels, despite a GDP drop of 5%.

The sovereign debt crisis, which intensified after 2010, further exacerbated the situation, leading to more significant reductions in household spending, particularly on non-essential items. Despite an initial modest growth in 2010 (with GDP growing by 1.8%), The crisis led to a loss of economic momentum in 2011, with GDP growth slowing to just 0.4% and in 2012 The country's GDP contracted by 2.4%. By 2012, average monthly consumption expenditures had fallen by 2.4%, reflecting growing economic pressures and reduced disposable income.

During this period of increasing distress in Italy and other parts of Europe, the United States was already on the path to recovery. By 2010, the U.S. economy had begun to show signs of improvement: job growth had resumed, with monthly job growth averaging near 75,000 in 2010 and increasing to 175,000 in 2011 while GDP growth returned to a positive value driven by a combination of factors including government stimulus measures and a recovery in consumer confidence.

Both countries experienced demographic nuances in how different age groups were affected. In the USA, younger families, particularly those under 55, faced steeper declines in income and net worth, largely due to their greater exposure to the burst housing bubble and high mortgage debts. Conversely, in Italy, young households under 35 witnessed the most significant reductions in consumption, approximately 25%, largely due to soaring unemployment rates during the crisis. Middle-aged Americans and Italians alike saw significant consumption decreases, but for different reasons: Americans due to a decrease in net worth and Italians because of increasing economic pressures on durable goods spending.

The impact of these changes was also felt in the asset composition and savings behaviors of households in both nations. American households saw a dramatic shift in financial asset holdings, with a decline in the value of stocks and an increase in the share of bonds and transaction accounts, reflecting a flight to safety amidst market

volatility. Italian households, on the other hand, initially leveraged their savings to sustain consumption but gradually faced a deleveraging phase, particularly among the younger demographic. The crisis eventually led to a reduction in the Italian savings rate to align more closely with the European average by 2014, compounded by increased household indebtedness, which nearly tripled as a ratio of GDP from the 1980s to 2014.

In summary, the initial impacts of the global financial crisis were more severe in the United States than in Europe, with sharper declines in consumption, higher unemployment rates, and a deeper contraction in GDP. However, the speed and effectiveness of the recovery in the U.S. outpaced that of Europe, particularly in countries like Italy that were later hit by the sovereign debt crisis.

The speed of the recovery in the United States compared to Europe was striking (see figure 12). The rapid and coordinated response by the Federal Reserve and the U.S. government played a crucial role in this. The Fed's aggressive monetary policies, including lowering interest rates and implementing quantitative easing, along with substantial fiscal stimulus packages, helped stabilize the financial system and support economic growth. By 2012, household wealth in the United States had rebounded above pre-recession levels[77]. Unemployment began to decrease steadily from its peak, and policies such as tax cuts and extended unemployment benefits provided additional support to struggling households, helping to pull up household incomes and restore consumer spending.

In contrast, Europe's recovery was hampered by slower, more burdensome debt relief processes and stringent austerity measures. Countries like Italy, Spain, and Greece faced prolonged economic challenges, with high levels of public and private debt acting as significant drags on recovery. Bankruptcy proceedings in these countries could extend for years, and debt discharge often required long periods during which most of a debtor's income was devoted to repayment. This slow process of debt resolution prevented a swift rebound in consumer confidence and spending.

The structural differences in financial and legal systems between the United States and Europe contributed significantly to the disparity in recovery speeds.

In the U.S., "no recourse" mortgages and expedited bankruptcy procedures allowed households to clear their debts more quickly and return to financial stability. Millions of Americans filed for personal bankruptcy, which often resulted in a relatively quick resolution of their financial liabilities. This enabled them to rebuild their credit and start participating in the economy again much sooner than their European counterparts, who faced more stringent and prolonged debt repayment requirements.

Moreover, the policy response in the United States was more aggressive and comprehensive. The rapid implementation of fiscal stimulus measures, along with coordinated monetary policy actions, provided a significant boost to the economy. In Europe, the inability of the Central bank to impose fiscal policies that could complement the monetary policies also reduced the possibility of a swift recovery.

As we transition to the next subchapter, it's crucial to delve deeper into the factors influencing resilience and recovery. What were the key elements that allowed the U.S. to bounce back more swiftly and robustly than Europe? How did policy frameworks, labor market flexibility, and financial systems play a role in shaping these outcomes?

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[77] "HOUSEHOLD WEALTH TRENDS IN THE UNITED STATES, 1962 TO 2019". 2021. Www.Nber.Org. https://www.nber.org/system/files/working_papers/w28383/w28383.pdf.

By examining these factors, we can gain a better understanding of the mechanisms that underpin economic resilience and the lessons that can be learned to enhance recovery efforts in future crises.

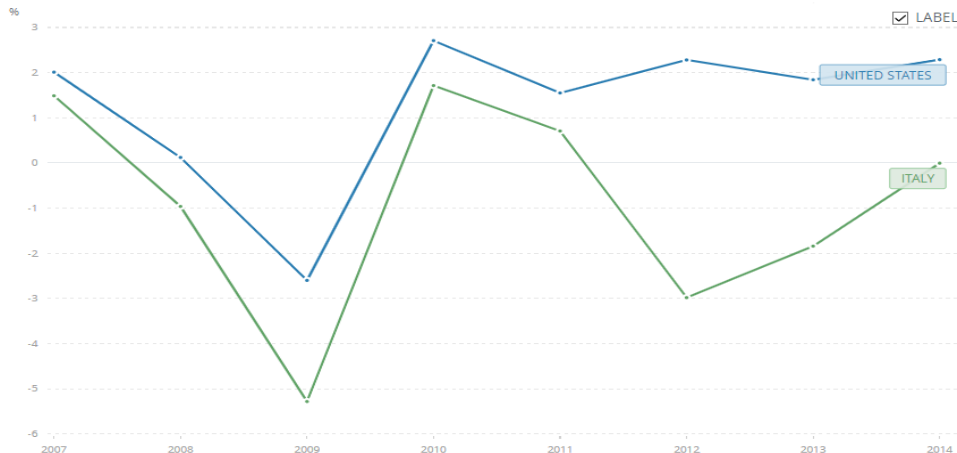

Figure 12: Comparison between economic growth in the USA and Italy, 2007-2014. Source: World Bank Open Data.https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=IT-XU

4.2) Factors influencing resilience and recovery

4.2.1) The American Case.

The United States' recovery from the 2008 financial crisis was marked by a swiftness and robustness that distinguished it from Europe's more protracted rebound. Several key elements contributed to this resilience: proactive policy frameworks, labor market flexibility, and the strength of the financial system.

In the wake of the crisis, the U.S. government responded with aggressive fiscal and monetary policies. The American Recovery and Reinvestment Act of 2009 played a pivotal role, injecting approximately $831 billion into the economy. This comprehensive stimulus package included a mix of tax cuts, expanded unemployment benefits, and significant increases in federal spending on education, healthcare, and infrastructure projects. The timely and substantial nature of these measures provided a critical boost to economic activity and consumer confidence. Additionally, the Federal Reserve adopted an unprecedented monetary policy stance, lowering interest rates to near zero and implementing multiple rounds of quantitative easing. These actions increased liquidity in the financial system, reduced borrowing costs, and supported asset prices, all of which helped to stabilize the economy.

The speed and decisiveness with which these policies were implemented were crucial. Quick action by policymakers helped to stem the panic that had gripped financial markets and ensured that the economy received the necessary support to begin its recovery. This contrasts sharply with Europe, where the policy response was often slower and more fragmented. The U.S. approach underscored the importance of swift intervention in the face of economic downturns.

Labor market flexibility in the United States also played a significant role in the recovery. The U.S. labor market is characterized by a high degree of flexibility[78] due to the prevalence of at-will employment, which allows employers to hire and fire workers relatively easily based on economic conditions. This flexibility

[78] "Labor market flexibility: a changing international perspective". 1994. Www.Bls.Gov. https://www.bls.gov/opub/mlr/1994/11/art5full.pdf.

enabled businesses to adjust more rapidly to the changing economic environment. When the crisis hit, companies were able to reduce their workforce quickly, and as conditions improved, they could just as swiftly hire new workers.

This dynamic adaptability helped to mitigate the prolonged unemployment that plagued many European countries, where strong employment protections made it more difficult for businesses to adjust their labor force in response to economic fluctuations.

Moreover, the mobility and dynamism of the U.S. workforce contributed to the recovery. Americans are generally more willing to relocate for job opportunities, and the culture encourages job switching and entrepreneurial activities. This mobility allowed the labor market to reallocate resources efficiently, with workers moving to sectors that were growing post-crisis, such as technology and healthcare.

The strength and resilience of the U.S. financial system were also critical in shaping the recovery. American financial institutions were well-capitalized and diversified, allowing them to absorb the shocks of the crisis more effectively. The Troubled Asset Relief Program (TARP) was instrumental in stabilizing the banking sector, providing necessary capital to banks, and restoring confidence in the financial system. This program not only helped prevent a complete collapse of the financial sector but also ensured that credit remained available to businesses and consumers, supporting investment and consumption.

Regulatory reforms enacted after the crisis further bolstered the financial system. The Dodd-Frank Wall Street Reform and Consumer Protection Act introduced significant changes aimed at reducing systemic risk and preventing future crises. These reforms included increased capital requirements for banks, the establishment of the Consumer Financial Protection Bureau, and the introduction of the Volcker Rule[79], which restricted proprietary trading by commercial banks. These measures enhanced the stability and transparency of the financial system, contributing to a more robust recovery.

4.2.2) The Italian case

In contrast, Europe’s recovery was hampered by several factors. Many European countries adopted austerity measures in response to the crisis, focusing on reducing public spending and increasing taxes to manage public debt. These measures often dampened economic growth and delayed recovery. Structural issues, such as rigid labor markets with strong employment protections, also hindered Europe’s ability to adjust quickly to the changing economic environment. Additionally, the Eurozone sovereign debt crisis further complicated the recovery, with countries like Greece, Spain, and Italy facing severe debt issues that led to bailouts and stringent economic reforms.

Italy’s recovery from the financial crisis was impeded by a myriad of structural issues deeply embedded in its economic and political landscape. These issues, rooted in historical economic policies and persistent inefficiencies, include low productivity, high public debt, inefficient bureaucracy, and rampant tax evasion. Each of these factors contributed significantly to the sluggish recovery and continued economic challenges facing the country.

Italy’s productivity growth has been persistently low, which has severely undermined its economic competitiveness and overall recovery from the financial crisis[80]. This problem, often referred to as the ‘Italian disease,’ can be traced back to the 1970s. During this period, Total Factor Productivity (TFP) ceased to grow, and the country relied heavily on continuous currency depreciation, public investment, subsidies, and increased

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[79] "Board of Governors of the Federal Reserve System". 2019. Www.Federalreserve.Gov. https://www.federalreserve.gov/supervisionreg/volcker-rule.htm.

[80] Matteo Bugamelli, Francesca Lotti (eds.), Monica Amici, Emanuela Ciapanna, Fabrizio Colonna, Francesco D’Amuri, Silvia Giacomelli, Andrea Linarello, Francesco Manaresi, Giuliana Palumbo, Filippo Scoccianti and Enrico Sette."Productivity growth in Italy: a tale of a slow-motion change". 2018. Www.Bancaditalia.It. https://www.bancaditalia.it/pubblicazioni/qef/2018-0422/QEF_422_18.pdf?language_id=1.

consumption to prop up economic growth. While these measures provided short-term relief, they led to long-term problems such as high inflation, price-wage spirals, and substantial fiscal and current-account deficits.

The corporate sector during this time saw a creeping nationalization, and zombie firms began to emerge, draining resources without contributing to productivity gains. Since the mid-1990s, Italy's low productivity has become increasingly evident. Economic growth stalled as rent-seeking behavior dominated the economy, merit was poorly rewarded, and the labor market remained rigid.

The 2008-2009 Global Financial Crisis particularly damaged Italy, with global trade collapsing and hitting Italian exporters hard, an expansionary fiscal policy was adopted to support economic activity, but Italy's weak fiscal position led to a deep immersion in the European sovereign debt crisis by 2011.

Without a strong and resilient production sector and with exports strongly reduced by the financial crisis, Italy found itself in a very awkward position, not able to stimulate the economy through production and not able to stimulate production through an increase in government spending due to the high public debt.

Italy's high public debt has been a significant and persistent issue, profoundly affecting its financial system, especially during the sovereign debt crisis[81]. To fully understand the impact of Italy's public debt on its financial system, it is essential to explore its historical context, the factors leading to its accumulation, and its specific role during the crisis.

Historically, Italy's public debt began to spiral out of control in the 1980s and 1990s, a period marked by high levels of government spending, inefficient public administration, and relatively weak economic growth. By 1992, Italy's debt-to-GDP ratio had crossed the 100% threshold, a critical point that underscored the country's fiscal vulnerabilities. Despite joining the Eurozone in 1999, which initially brought down interest rates and reduced borrowing costs, Italy's public debt continued to grow. The Maastricht Treaty set a debt-to-GDP ceiling of 60%, which Italy consistently failed to meet, yet political maneuvering and financial engineering enabled it to join the Eurozone. The benefits Italy reaped from Eurozone membership, particularly lower interest rates, masked underlying fiscal issues: lower refinancing costs provided a temporary respite, allowing Italy to manage its debt more cheaply.

However, the government did not take advantage of this period to implement substantial economic reforms or reduce the actual debt burden. Instead, Italy continued to expand its debt, utilizing the savings from lower interest rates to fund further borrowing rather than structural economic improvements.

The sovereign debt crisis exposed these vulnerabilities starkly, the crisis was triggered by the realization that several Eurozone countries, including Italy, had unsustainable levels of public debt; investors began to demand higher yields for holding Italian bonds due to perceived increased risks, leading to a sharp rise in borrowing costs. This divergence in interest rates between Italian bonds and those of more stable Eurozone countries, like Germany, highlighted the market's lack of confidence in Italy's fiscal sustainability.

Italy's low productivity, labor market's rigidity and the inability to reach a consensus on necessary fiscal reforms by the government, made it difficult for the country to outgrow its debt and, due to the rise in public debt caused by the sovereign debt crisis, the government found its ability to respond effectively even more constrained.

The government's attempts to implement austerity measures to restore confidence and stabilize the fiscal position led to public backlash and social unrest, similar to what was seen in Greece. These austerity measures, while aimed at reducing the deficit, further stifled economic growth and exacerbated the recession, creating a vicious cycle of low growth and high debt.[82]

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[81]Céline Antonin, Mattia Guerini, Mauro Napoletano, Francesco Vona " Italy : escaping the high debt and low-growth trap". 2019. Sciencespo.Hal.Science. https://sciencespo.hal.science/hal-03403181/file/wp2019-07-italy-escaping-the-high-debt-cantonin.pdf.

[82] "On the Risk of a Sovereign Debt Crisis in Italy". 2018. Www.Intereconomics.Eu. https://www.intereconomics.eu/contents/year/2018/number/6/article/on-the-risk-of-a-sovereign-debt-crisis-in-italy.html.

Furthermore, the crisis highlighted the systemic risks posed by Italy's debt. Italian banks, which held large amounts of government bonds, were particularly vulnerable: as bond prices fell and yields rose, the balance sheets of these banks deteriorated, leading to a credit crunch. The weakened banking sector was less able to support the economy through lending, exacerbating the economic downturn. This interplay between sovereign debt and the banking system, often referred to as the "doom loop," underscored the critical need for comprehensive financial and structural reforms.

In response to the crisis, several measures were eventually implemented at the Eurozone level, including the establishment of the European Stability Mechanism (ESM) and the ECB's Outright Monetary Transactions (OMT) program. These measures provided some stability, but the fundamental issues of high public debt and low growth in Italy remained largely unaddressed.[83]

Italy's bureaucracy is often seen as inefficient and overly complex, creating significant obstacles for business operations and economic growth: the slow and cumbersome administrative processes deter foreign investment and complicate the functioning of domestic businesses. This inefficiency also affects public administration, leading to poor service delivery and ineffective governance; efforts to reform the public sector have often been met with resistance and have failed to produce substantial improvements.

The inefficiency of Italy's bureaucracy can be traced back to historical administrative practices and a lack of modernization. The system is characterized by excessive paperwork, lengthy approval processes, and a lack of transparency. These factors create a challenging environment for businesses, particularly for small and medium-sized enterprises (SMEs), which are the backbone of the Italian economy.

Foreign investors are often deterred by the bureaucratic hurdles they face in Italy. The complexity of obtaining permits, licenses, and other necessary documentation can lead to significant delays and increased costs. This lack of a streamlined administrative process places Italy at a disadvantage compared to other countries with more business-friendly environments. The inefficiency of the public sector also affects governance and public service delivery as citizens often face delays and frustrations in accessing essential services, leading to a lack of trust in public institutions.

This inefficiency is further compounded by corruption and rent-seeking behavior, which divert resources away from productive uses.

Tax evasion is another major problem in Italy, significantly reducing government revenues and exacerbating fiscal deficits.

[83] Philipp Hartmann, Frank Smets " The first twenty years of the European Central Bank: monetary policy". 2018. Www.Ecb.Europa.Eu. https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2219.en.pdf.

Figure 13: Estimated level of evaded taxes in EU countries, Source: University of London for Socialist and Democrats groups in the European Parliament. https://www.socialistsanddemocrats.eu/sites/default/files/2019-01/the_european_tax_gap_en_190123.pdf

The country has one of the highest levels of VAT avoidance in Europe (see figure 13), and the existence of a large black economy further compounds this issue. This widespread tax evasion undermines the fairness of the tax system and places a heavier burden on compliant taxpayers, reducing overall trust in public institutions and the government's ability to manage public finances effectively.

The prevalence of tax evasion in Italy is rooted in cultural and historical factors, including a lack of trust in government institutions and the perception that tax compliance is not enforced effectively[84]. This has led to a culture of non-compliance where many businesses and individuals engage in tax evasion as a norm rather than an exception.

The impact of tax evasion on Italy's economy is profound. It significantly reduces government revenues, limiting the ability of the state to invest in public services and infrastructure. This lack of investment further hampers economic growth and development, creating a vicious cycle of low revenues and underfunded public services.

In summary, Italy's recovery from the financial crisis has been stymied by a combination of low productivity, high public debt, inefficient bureaucracy, and widespread tax evasion; these factors have collectively led to a sluggish and prolonged recovery, making Italy particularly vulnerable to external shocks and ongoing economic challenges.

[84] Adele Bianco. "Why it is not a shame to evade tax in Italy". 2022. Journals.Openedition.Org. https://journals.openedition.org/qds/4971.

By 2014, while the UK and US economies had surpassed their 2007 real GDP levels by 5.4 and 8.2 percentage points respectively, the Eurozone economy remained 0.2 percentage points below its 2007 levels. Within the Eurozone, Germany and France saw growth, but Spain and Italy experienced declines.

Addressing these issues requires comprehensive and sustained reforms aimed at enhancing productivity, managing public debt effectively, streamlining bureaucratic processes, and combating tax evasion. Only through such measures can Italy achieve a more robust and resilient economic recovery.

4.3) A decade after the crisis. Did the situation change?

Fast forwarding ten years from the start of the great recession, the economic situations of the United States and Italy kept following the recovery trend started at the end of the financial crisis.

In the United States, the economic recovery was marked by significant improvements across key indicators[85]. By 2019, the U.S. economy had rebounded strongly, characterized by robust GDP growth averaging around 2-3% annually, unemployment rate had fallen dramatically from its peak of 10% during the recession to about 3.5%, marking a near 50-year low.

The stock market reached record highs, with indices like the S&P 500, Dow Jones Industrial Average, and Nasdaq Composite showing substantial gains, indicative of strong investor confidence and corporate profitability.

Inflation remained stable, hovering around 1.5-2%, which helped maintain consumer purchasing power and provided a conducive environment for economic planning.

Wage growth, while initially slow, began to pick up in the latter part of the decade. However, this growth was uneven, with higher-income households experiencing more significant increases compared to lower and middle-income groups.

The housing market also showed a strong recovery, with home prices surpassing pre-recession levels in many areas; nonetheless, affordability issues persisted, particularly in major metropolitan regions where housing costs had surged. Consumer confidence was robust, fueling strong consumer spending, which is a critical driver of the U.S. economy.

The policy environment in the U.S. during this period was marked by a combination of fiscal and monetary measures[86] aimed at sustaining economic growth. The Federal Reserve gradually raised interest rates from near-zero levels to around 2.25-2.5% by the end of 2018; however, in response to global economic uncertainties and signs of slowing growth, the Fed began lowering rates again in 2019. Fiscal policy included significant tax cuts implemented in late 2017 under the Tax Cuts and Jobs Act, which provided a temporary boost to the economy but also contributed to rising federal deficits and debt levels. Regulatory rollbacks in various sectors aimed at reducing the burden on businesses further supported economic activity.

Despite these positive trends, the U.S. faced several underlying challenges: income inequality remained a significant issue, with wealth concentration increasing among the top earners, labor force participation rates, particularly among prime-age workers, had not fully recovered to pre-recession levels. This trend was influenced by factors such as an aging population and structural changes in the economy. Additionally, both public and private debt levels had risen, with household debt (including student loans and auto loans) reaching new highs[87], raising concerns about financial stability for many Americans.

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[85] "The 2019 economy in review: GDP, employment, income, and trade". 2020. Usafacts.Org. https://usafacts.org/articles/2019-economy-review-gdp-employment-income-and-trade/.

[86] "Board of Governors of the Federal Reserve System". 2019. Www.Federalreserve.Gov. https://www.federalreserve.gov/publications/2019-ar-monetary-policy.htm.

[87] "A DECADE AFTER THE GLOBAL FINANCIAL CRISIS: WHAT HAS (AND HASN'T) CHANGED? ". 2018. Www.Mckinsey.Com. https://www.mckinsey.com/~/media/McKinsey/Industries/Financial%20Services/Our%20Insights/A%20decade%20after%20the%20global%20financial%20crisis%20What%20has%20and%20hasnt%20changed/MGI-Briefing-A-decade-after-the-global-financial-crisis-What-has-and-hasnt-changed.ashx.

In contrast, Italy's economic recovery was much slower and fraught with persistent structural challenges. By 2019, Italy's GDP growth was relatively sluggish, averaging around 0.5-1% annually, unemployment while improved from the recession's peak, remained high at about 10%, with youth unemployment particularly concerning, often exceeding 30%.[88]

Italy kept facing significant public debt challenges, with debt levels reaching approximately 135% of GDP by 2019, further constraining fiscal policy options and posing risks to financial stability.

Despite the intervention on labor market stiffness through the Jobs Act law (Renzi, 2015), The labor market kept facing structural issues, including a mismatch between skills and job opportunities, the labor market reforms aimed at increasing flexibility had mixed results, and job security remained a concern for many workers[89].

Industrial production in Italy showed signs of recovery but remained inconsistent. Italy's manufacturing sector, although critical to the economy in areas like machinery, automotive, and fashion, continued to face competition and structural challenges.

Consumer confidence was moderate, reflecting uncertainties about economic prospects, and consumer spending showed modest growth constrained by high unemployment and stagnant wages.

The banking sector, while more stable than during the crisis, continued to deal with non-performing loans (NPLs). Efforts to clean up bank balance sheets were ongoing, but some regional banks still faced significant challenges.

Public administration and bureaucracy inefficiencies hindered economic performance. Reforms aimed at improving efficiency and reducing corruption were implemented, but progress was slow. Fiscal policy in Italy was constrained by high public debt, with the government balancing fiscal discipline with the need to stimulate growth. There were no interventions regarding the issue of tax evasion, which rampantly kept reducing the possibility of lowering public debt; moreover, budgetary policies often led to tensions with the European Union regarding deficit targets.

In summary, ten years after the Great Recession, the United States had largely rebounded with robust economic indicators, although challenges like income inequality and rising debt persisted. Italy, on the other hand, experienced a much slower recovery, hampered by high unemployment, significant public debt, and structural inefficiencies.

While both countries faced distinct challenges, the overall economic landscape in the U.S. was markedly more positive compared to Italy's ongoing struggles, confirming the trend started at the end of the global financial crisis.

[88] Thieß Petersen. "10 Years after the Financial Crisis – Quo vadis, Italy?". 2018. Globaleurope.Eu. https://globaleurope.eu/globalization/italy-post/.

[89] "Emanuela Ciapanna". 2019. Www.Economic-policy.Org. https://www.economic-policy.org/75th-economic-policy-panel/structural-reforms-italy/.

5) Conclusion

The paper has thoroughly examined the contrasting economic impacts of the Great Recession on the United States and Italy, detailing the divergent recovery trajectories of these two economies. Initially, both countries were severely affected, but the speed and depth of these impacts varied significantly. The crisis, which originated in the U.S., led to rapid and profound deterioration of its macroeconomic indicators. In contrast, Italy experienced a slower yet steady decline in its economic performance over the long term.

The analysis revealed that the U.S. benefitted from swift and decisive actions by the Federal Reserve, coupled with structural elements such as a flexible labor market and robust financial systems, which played critical roles in stabilizing and eventually rejuvenating the economy. These measures included aggressive monetary policies, extensive fiscal stimuli, and regulatory reforms that targeted financial system vulnerabilities. By 2010, the U.S. economy had begun to show significant signs of recovery, with improvements in GDP growth, employment rates, and household wealth.

Italy, on the other hand, faced a prolonged recovery characterized by persistent structural challenges. High public debt, rigid labor markets, and inefficient public administration were significant impediments. The Italian government's response was slower and less effective, constrained by high debt levels and the complexities of the Eurozone's fiscal framework. As a result, Italy's recovery was much slower, with GDP growth remaining sluggish and unemployment rates persistently high.

In conclusion, the paper underscores that while the initial impacts of the Great Recession were more severe in the U.S., the country's rapid recovery was facilitated by timely and precise interventions by the Federal Reserve and other structural factors. Italy's experience highlights the long-term difficulties of recovery in the absence of flexible and responsive economic policies. The contrasting recoveries of these two countries provide valuable lessons on the importance of swift policy action and structural flexibility in mitigating the effects of economic crises and fostering robust economic recovery.