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ITALY'S SUPERBONUS 110%: MESSING UP WITH DEMAND STIMULUS AND THE NEED TO REINVENT FISCAL POLICY

Lorenzo Codogno[1]

ABSTRACT

Since the Global Financial Crisis in 2008-2009, there has been flourishing literature on the role of fiscal policy in stimulating demand when the economy is in a deep recession. Past studies suggest the stimulus may make sense if it is temporary, targeted, and withdrawn quickly. However, since the pandemic, there has been a case for going big, when necessary, to prop up expectation, confidence and demand. This was exemplified by Italy's Superbonus 110%, a generous subsidy scheme to allow the energy-efficient renovation of residential buildings, which emerged as a significant policy response to the economic challenges posed by the pandemic. I argue that the Superbonus, while having a respectable economic aim, ended up impinging on the same sectors supported by the EU-funded investment plan, resulting in significant capacity constraints and misallocation of resources. Its excessive generosity brought a massive deterioration in public finances, while its returns in terms of economic growth were short of expectations. I conclude by drawing some policy lessons from Italy's experience, on what should be preserved and avoided, and on a possible reinvented role for fiscal policy in deep economic crisis.[2]

1 London School of Economics and Political Science, College of Europe, and LUISS LEAP, email l.codogno@lse.ac.uk

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Italy's Superbonus 110%: Messing up with demand stimulus and the need to reinvent fiscal policy*

Version: 16 June 2024

Lorenzo Codogno
London School of Economics and Political Science, College of Europe, and LUISS LEAP

Abstract

Since the Global Financial Crisis in 2008-2009, there has been flourishing literature on the role of fiscal policy in stimulating demand when the economy is in a deep recession. Past studies suggest the stimulus may make sense if it is temporary, targeted, and withdrawn quickly. However, since the pandemic, there has been a case for going big, when necessary, to prop up expectation, confidence and demand. This was exemplified by Italy's Superbonus 110%, a generous subsidy scheme to allow the energy-efficient renovation of residential buildings, which emerged as a significant policy response to the economic challenges posed by the pandemic. I argue that the Superbonus, while having a respectable economic aim, ended up impinging on the same sectors supported by the EU-funded investment plan, resulting in significant capacity constraints and misallocation of resources. Its excessive generosity brought a massive deterioration in public finances, while its returns in terms of economic growth were short of expectations. I conclude by drawing some policy lessons from Italy's experience, on what should be preserved and avoided, and on a possible reinvented role for fiscal policy in deep economic crisis.

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E-mail addresses: l.codogno@lse.ac.uk

1. Introduction

This paper is structured as follows. It begins by delving into the academic literature on fiscal stimulus and demand support to achieve societal policy goals. It then examines the rationale for Italy's Superbonus, a generous subsidy scheme to promote energy-efficient renovation of residential buildings, its outcomes, and its implications for public finances. The paper situates policy initiatives undertaken in Italy within the broader discussion about the appropriateness of tax incentives to achieve societal goals, how the legislation has been applied in Italy, and how it has evolved. Importantly, it draws significant policy lessons from the Superbonus 110%, shedding light on the appropriateness of tax incentive schemes as countercyclical fiscal tools or last-resort expedient in deep crises, thereby enriching the discourse on fiscal policy in deep economic crises.

The first section describes how fiscal policy has gained a role in managing short-term fluctuations in aggregate demand since the 2008-2009 crisis and its drawbacks. The second section examines whether the Superbonus could be considered an effective unconventional fiscal policy tool. The third describes the most significant administrative/regulatory/fiscal steps for Italy's tax incentives for residential buildings. The fourth deals with the objectives of the policy initiative. The sixth briefly presents similar schemes in other European countries. The seventh presents evidence of the estimated impact of the Superbonus on GDP growth. The eighth section looks at the effect on Italy's public finances. Finally, the ninth section draws some tentative policy conclusions.

2. The new countercyclical role for fiscal policy

Since the 2008-2009 Global Financial Crisis, the thinking on the role of fiscal policy in stabilising cyclical fluctuations has profoundly shifted.

Twenty or thirty years ago, it was believed fiscal policy should focus only on long-term structural issues and enhancing potential growth. The purpose of stabilising the economy was seen with great suspicion due to the risk it would end up being pro-cyclical and very much intertwined with political cycles. In other words, it was perceived as ill-suited to address fluctuations in aggregate demand. According to the prevailing opinion, supporting income should have been left to automatic stabilisers only, and discretionary policies should have avoided intervening, even in deep economic crises.

Undertaking new public investment projects during a recession would have produced outcomes only in a much more advanced cyclical phase when the economy was already recovering, if not overheating. Moreover, the risk to public finances was perceived to be high. It was easy to increase public spending during a recession, but it was usually challenging to rein in the extra expenditure when the cycle turned expansionary.

By contrast, monetary policy was perceived as extremely powerful in stabilising the economy. Monetary policy was generally considered a more flexible and effective tool for stabilisation purposes. Thus, it was exclusively up to monetary policy to do that job despite

its well-known long and variable legs. Indeed, one of the main problems of fiscal policy was related to its even longer time lags in implementation.

It was also the time when Rudi Dornbusch (1998) famously declared the end of the business cycle, as central banks had supposedly become so powerful that they were expected to be able to stabilise the economy in all situations. "No postwar recovery has died in bed of old age—the Federal Reserve has murdered every one of them." So sure of the benefits and effectiveness of monetary policy was Dornbusch that he declared, "This expansion will run forever." Unfortunately, he was wrong. The Global Financial Crisis drove policy rates down to the Effective Lower Bound (ELB), requiring some help from fiscal policy.

As Jason Furman (2016), the chairman of the Council of Economic Advisors under President Obama, argued, the Global Financial Crisis forced policymakers and economists to reconsider these ideas. In fact, at that time, most central banks had already brought interest rates to or even below zero and injected an unprecedented amount of highly powered money into the economy. There was little policy ammunition left in the armoury of central banks.

In 2008-2009, policymakers were forced to act almost everywhere to rescue banks, companies and people. Following the collapse in aggregate demand, the appropriateness of generous fiscal stimulus packages was no longer questioned, even in academia. Instead, in the years that followed, the timing and extent to which budgetary consolidation should have been introduced in the recovery phase was very much debated and became controversial. Several new theories or pieces of empirical evidence on old theories were put forward to establish a new paradigm or provide the theoretical underpinning for a more activist and often expansionary fiscal stance. Some went as far as suggesting that so-called austerity would contribute to making the debt less, rather than more, sustainable, even in countries where it was already very high, and that any fiscal consolidation would have become self-defeating[1].

If supply-side effects are brought into the picture and meaningfully captured by models, the fiscal stimulus could be beneficial, at least in principle. This was indeed what DeLong and Summers (2012) tried to argue, i.e., there may be circumstances in which short-term fiscal support does affect the supply side of the economy and, therefore, its potential growth in the long run. In a depressed economy, with short-term nominal interest rates at their effective zero lower bound, ample cyclical unemployment, and excess capacity, "increased government purchases would be neither offset by the monetary authority raising interest rates nor neutralised by supply-side bottlenecks. Then even a small amount of hysteresis—even a small shadow cast on future potential output by the cyclical downturn—means, by simple arithmetic, that expansionary fiscal policy is likely to be self-financing."

After the 2008-2009 shock, there was a debate about the possibility of using highly productive public investments that significantly raise growth in potential output in a recession, at least in principle. They would link the demand and the supply side of the economy. Before, the prevailing view was that such supply-side effects, though non-negligible, were not strong enough to offset the arithmetical impact of a larger deficit on

[1] For references and opposing arguments see Codogno and Galli (2017).

the stock of debt and that they would have distorted the allocation of resources, eventually becoming counterproductive.

The sudden stop in the economy triggered by the 2020 pandemic pushed for policy action again, even ahead of any academic thinking. Since monetary policy was already close to the effective lower bound, there was no choice but to use fiscal policy to re-activate the economy. Major fiscal plans were announced in the US, Europe, and elsewhere with the deliberate intention of propping up expectations, supporting demand, and changing the outlook for the economies simultaneously. In the EU, on top of national fiscal stimulus, an extra dimension was introduced, i.e. the one-off use of centralised fiscal capacity to help fiscally constrained countries.

The economic literature developed after the 2008-2009 crisis brought together two separate strands of research that have been motivated by the crisis: (1) the size of the multipliers—which were estimated to be considerably larger in times of recession—and (2) the so-called 'hysteresis', i.e. permanent effects of a long and deep recession on future potential output. The core argument of this literature motivated the use of fiscal policy to stabilise the economy in times of deep recessions. It also laid the analytical underpinning for policy intervention in 2020.

It was called 'unconventional fiscal policy', which typically refers to a government's non-standard or non-traditional fiscal measures to manage its economy, stabilise financial markets, or address specific economic challenges. These measures go beyond the usual tools of fiscal policy, such as changes in government spending and taxation. Unconventional fiscal policies are employed in exceptional circumstances, such as during deep economic crises or when more conventional approaches prove insufficient. They can include a range of strategies and tools and allow income redistribution.

Many of these unconventional tools have been widely used since 2020. The government may provide direct financial support to specific industries, sectors, or individuals to stimulate economic activity through grants, subsidies, or low-interest loans. It can provide guarantees or insurance to backstop specific financial transactions or investments, reducing perceived risks and encouraging private-sector investment and lending. It may enter into public-private partnerships (PPPs) to fund infrastructure projects or provide public services involving private sector participation in traditionally public sector activities that otherwise would not be accessible. Unconventional fiscal measures can include restructuring private debt, extending maturity dates, lowering interest rates, or even partial debt forgiveness. The government may establish special-purpose funds to address specific economic challenges. These funds are designed to channel resources to targeted initiatives, such as technology development, disaster recovery, or industry revitalisation. Unconventional fiscal policy can extend to macroprudential measures that aim to regulate and stabilise the financial system. These measures can include capital controls, loan-to-value ratios, and other regulatory tools. Many of these initiatives have been undertaken in several countries since the Global Financial Crisis. Finally, these policies could include tax incentives for energy-efficient renovation of residential buildings, as in Italy's Superbonus 110%.

Unconventional fiscal policy should be used during extraordinary circumstances, such as financial crises, deep economic recessions, or when traditional fiscal policies prove insufficient to address the challenges at hand. The effectiveness of unconventional fiscal

policies varies, and their success depends on the specific context in which they are applied. They are typically considered when more conventional tools have a limited impact. Yet, they can carry risks and unintended consequences that policymakers must carefully assess. If not withdrawn in a timely manner, these measures can impinge on the proper functioning of a market economy.

Moreover, they may lead to public finance problems, as these measures may prove expensive. Cutting theory short, naïve supporters of expansionary fiscal policies and some politicians suggested that the interest rate cost legacy and the debt accumulated during a recession would be entirely covered by the higher taxes generated by the effects of the policy stimulus on short-term economic growth and possibly long-run potential output. In my view, it is instead hard to argue against the need for fiscal consolidation following the use of such unconventional policy tools. A policy-induced higher income today has to be followed by a policy-induced lower income sometime in the future, whose intensity depends on the current and future state of the economic cycle.

A simple restatement of Paul Samuleson's forgotten theorem (1940) should suggest that fiscal multipliers cannot be so high as to cause an increase in tax revenue that brings the budget back to balance after an initial fiscal stimulus. The multiplier-accelerator effects on private investment, i.e. the supposed 'tax miracle' by which a large multiplier brings about a substantial increase in tax revenue to balance the budget, was indeed not fully understood in some policy quarters at that time as it is not today. Some consider the adverse effect on the debt smaller than the positive one on national income, so fiscal expansion reduces the debt ratio. Indeed, the proposition may be accurate, but only in the short run and in specific circumstances. Over time, even highly-powered investments are bound to worsen the debt outlook if they do not generate a sizeable supply-side effect. The situation in which borrowing rates are close to zero, as in 2020, does not change the picture, although it makes the financing cost smaller.

Along the lines of DeLong and Summers, the use of massive fiscal stimulus as a countercyclical tool should apply to rare situations, such as the deep recession of 2008-2009 or the sudden stop of 2020. Moreover, this view justifies only temporary and targeted fiscal stimulus. A higher deficit is warranted for a year or more, but once the recession ends, it should be reined in. The initial stimulus should be withdrawn once the economy is back on track, i.e. exceptional policy tools must be used only during extraordinary times and removed quickly.

The decision of various Italian governments (and Parliament) to introduce and then not withdraw the extremely generous fiscal incentives for the energy-efficient renovation of residential buildings in a timely manner could be seen as a massive and unprecedented policy experiment. The appropriateness of introducing lavish tax incentives to encourage specific economic activities or investments to promote socially desirable aims, such as energy-efficient renovations of dwellings, has become very much part of the public debate but has not yet found a clear theoretical underpinning in academia.

3. Can the Superbonus be considered unconventional fiscal policy?

Italy's Superbonus 110% scheme is not typically considered an unconventional fiscal policy tool in the same sense as some of the abovementioned measures. Instead, the Superbonus is more in line with conventional budgetary and tax policies targeted to specific policy aims, and specifically, it is a 'tax expenditure'. Here are a few reasons why the Superbonus would not typically be classified as an unconventional fiscal policy tool:

1. Nature of the incentive: The Superbonus primarily involves offering tax credits to homeowners for eligible expenses related to energy efficiency and seismic safety improvements. It is a tax policy that encourages specific behaviours, such as investing in home renovations to enhance energy efficiency and safety. While the tax credits can be generous, the nature of the incentive is fiscal and tax-related rather than unconventional. It reduces tax revenues.

2. Policy objectives: The Superbonus is designed to achieve specific policy objectives related to energy efficiency, environmental sustainability, and seismic safety. It is more directly aligned with these policy goals than broader economic stabilisation or financial market management, often associated with unconventional fiscal policies.

3. Widespread application: The Superbonus scheme is intended to benefit a broad range of homeowners and residential property owners. Unconventional fiscal policies tend to be more targeted and often introduced during exceptional circumstances to address specific economic challenges or crises.

Unconventional fiscal policies are typically used in situations that require extraordinary measures, such as economic recessions, financial crises, or severe market disruptions. These measures often involve direct financial interventions, asset purchases, guarantees, and other non-standard approaches to stabilise the economy or financial markets, but not broad-based tax incentives.

Yet, the classification of policies can vary depending on the perspective and context in which they are implemented. The Superbonus 110% may indeed be considered an unconventional or innovative approach because the amendments made in 2020 changed the nature and policy objectives of housing renovation incentives, primarily due to their generosity, alignment of interests, and transferability. At the very least, the circumstances when these initiatives were decided were indeed exceptional.

4. History of tax incentives for residential buildings in Italy

Subsidies for house renovations to achieve the policy goals of reducing energy consumption and other socially and politically desirable objectives are not new in Italy and the European Union. In Italy, these incentives pre-dated the Covid shock and, with more or less generosity, have been a constant feature of policymaking for a number of years. In fact, there is a long history of various incentives and programmes aimed at promoting

housing renovations and improving the energy efficiency and seismic safety of residential buildings. The incentives and programmes have evolved in response to changing economic, environmental, and societal needs. Here are some of the major legislative acts and regulations that have significantly shaped housing incentives, including the Superbonus and previous initiatives related to housing renovations and energy efficiency.

1. In the 1970s and 1980s, Italy introduced tax incentives and subsidies to encourage homeowners to renovate their properties. These incentives were primarily aimed at promoting general building improvements and maintenance.

2. In the 1990s, Italy began to address the issue of seismic safety more seriously, given the country's susceptibility to earthquakes. The government introduced programmes to support seismic retrofitting and the strengthening of buildings. These initiatives were designed to make older structures more resilient to seismic activity.

3. In 1997, Article 1 of the Budget Law (No.449/1997, Prodi I government) introduced a deduction from personal income relative to the costs incurred to renovate dwellings, now called 'house bonus'. The main objective was to reduce tax evasion for works performed on private residential buildings. Eventually, the tax provision was introduced in the Tax Code in 2013 (Article No.16-bis) to become a permanent feature.

4. In the early 2000s, Italy implemented incentives to promote energy efficiency improvements in residential buildings. These incentives often included tax credits and financial support for projects like insulation, window and door replacements, and the installation of energy-efficient heating and cooling systems.

5. In 2004, a Law (No. 311/2004, Berlusconi II government) established financial incentives for seismic safety improvements, known as 'Sismabonus.' It aimed to promote the seismic retrofitting of buildings in Italy.

6. In 2006, the Budget Law (No. 296/2006, Article 1/344-349, Prodi II government) introduced various fiscal measures, including tax credits, for energy efficiency improvements in residential buildings, so-called 'Ecobonus'. It provided an early framework for energy-related incentives, which were also extended to companies as the focus shifted from fighting tax evasion to promoting energy-efficient renovation of buildings.

7. In 2007, a Legislative Decree (No. 146/2007, Prodi II government) established rules for energy certification of buildings and energy performance certificates. It was a crucial step in promoting energy efficiency in the Italian housing sector.

8. In 2011, a Legislative Decree (No. 28/2011, Berlusconi IV government) introduced measures to incentivise energy efficiency and renewable energy in buildings. It laid the groundwork for some of the policies related to the Superbonus programme.

9. In 2013, a Legislative Decree (No. 63/2013, Letta government) introduced incentives for energy efficiency improvements in residential and non-residential buildings. It laid the foundation for seismic safety programmes in Italy ('Sismabonus').

10. In 2016, a limited transferability of tax credits was introduced to allow the inclusion of those who did not have enough taxes to pay to benefit in full from the tax credits(so-called 'incapienti').

11. In 2017, a five-year Law (No. 232/2016, Renzi government) was introduced to strengthen incentive programmes for apartment buildings or condominiums.

12. In 2019, the Budget Law for 2020 introduced the so-called 'Façade bonus,' which included allowances for external redecorations ('Bonus facciate'. No. 160/2019 Article 1/219-223, Conte II government).

13. In 2020, the Superbonus 110% programme was introduced by Articles No. 119 and 121 as part of the 'Relaunch Decree' (Decreto Rilancio No.34/2020, 19 May 2020, Conte II government), a legislative decree in response to the economic challenges posed by the COVID-19 pandemic. This Decree provided the legal framework for its implementation. It offered tax credits of up to 110% of eligible expenses for qualifying renovation projects (previously, it reached up to 85% for the Ecobonus and Sismabonus and 90% for the Façade bonus or external redecoration scheme). It was a significant development for Italy's housing renovation incentives, as it offered a financial incentive that exceeded the actual renovation costs, effectively moving out of the logic of 'contrast of interests.' Moreover, the Decree made tax credits transferrable, with a direct rebate in the invoice for the owner and the tax credit that could be discounted via a bank by the builder, de facto changing the nature of the provision (applied to all the bonuses, including almost all of the previous ones). It was a breakthrough as the owner no longer had to frontload expenditures with the related tax offset spread over 5 to 10 years, assuming there were sufficient taxes to offset. Instead, the benefit could be cashed immediately with an offset in the builder's invoice to whom the tax credit was transferred. Even the possibility of using the tax credits to offset tax payments by banks and companies was shortened to 4-5 years. The transferability made the tax credit a sort of fiscal money (net of banking charges). Eventually, banks would offset tax credits against their tax liabilities over the set timeframe, and the cycle would be closed. The measure was also aimed at responding to EU directive requirements to achieve energy savings targets. The Tax Authority spotted a number of frauds, which triggered some changes in the legislation in December 2021.

14. In 2021, the National Recovery and Resilience Plan (Piano Nazionale di Ripresa e Resilienza, PNRR) outlined Italy's recovery and resilience priorities, including investments in energy efficiency and housing renovations. It was funded by grants and loans from the EU's Recovery and Resilience Facility (RRF) as part of the Next Generation EU (NGEU) programme. While the Superbonus itself pre-dated these specific European initiatives, it received some funding and support.

15. In 2021 and 2022, the Draghi government tried to adjust the programme's scale and scope to align it with fiscal objectives and sharply reduce its budgetary costs, but without much success. Parliament watered down several legislative initiatives aimed at lowering the cost of the Superbonus by limiting its applicability. However, the 'Sostegni ter Decree' (No. 3/2022) managed to restrict the transferability of tax credits and introduced stricter controls. In 2022, the worsening in public accounts was so severe

that the government decided by a Law Decree to reduce the benefit from 110% to 90% effective 1 January 2023, also introducing additional limitations.

16. In February 2023, the new Centre-Right government led by Prime Minister Giorgia Meloni decided to scale down the generosity and scope of the programme significantly. After many regulatory changes, transferability was limited to financial intermediaries, which could only transfer to their clients. Effective 17 February (the day after the approval of the Decree Law No. 11/2023 by the government and its publication in the official gazette), tax credits were no longer transferrable, meaning that they could only be claimed on the tax return by the person commissioning the works. However, there were many exceptions to protect building companies that could no longer cash their tax credits when works were already advanced, especially on condominiums. Due to many protests by building companies and private citizens and dysfunctionality with ongoing work, the government was eventually forced to allow the transferability of almost all tax credits throughout 2023. Only tax credits accrued in 2024 will no longer be transferrable (with some minor exceptions when works were already approved in 2023).

17. Finally, in May 2024, the government made further changes to reduce the impact on cash borrowing needs from ongoing schemes by means of Law Decree No. 39/2024, then converted into Law 39/2024. According to this law, the tax credits for all renovation works (with few exceptions) performed since the beginning of 2024 must be spread over 10 years instead of the previous 4-5 years. The change was partly retroactive, and thus, it was very controversial even within the governing coalition—slightly different but equally penalising provisions applied to banks and financial intermediaries. Eventually, the law was approved in Parliament. In net present value, it resulted in a gain for the government and a loss for the private sector. It also produced some cash savings for the government in terms of reduced revenue losses between 1.6 and 2.5 billion per year over the next five years (compensated by higher cash borrowing needs in the following five years), which is a significant impact but still tiny compared to the overall amounts involved.

These legislative initiatives have shaped Italy's housing renovation and energy efficiency incentives over the years, becoming a fragmented and complex body of legislation over time. In the tax year 2019, before the Superbonus, deductions for the various tax incentives in the Tax Return, i.e. the annual tax credit offset of expenditures, amounted to €9.2 billion (approaching €10 billion by including non-personal tax deductions, i.e. almost 0.6% of Italy's GDP). It had to be spread over ten years (except Sismabonus) at that time.

With the Superbonus programme in 2020, the use of building incentives started to mushroom, and they indeed became a countercyclical fiscal instrument. Instead, its predecessors and related initiatives were designed to address various other policy objectives. The specific regulations and legislation evolved, sometimes completely changing the incentive structure and original goals. However, it was only with the Superbonus that the aim of supporting the economy became dominant.

Unfortunately, the amounts of fraud increased as well, especially for the Façade bonus and, to a lesser extent, the Ecobonus. On the Superbonus, a set of stringent controls were introduced, i.e. technical asseveration with insurance coverage and visa of conformity certifying the presence of the documentation required to benefit from the deduction.

Despite the controls being sufficiently rigorous, it was not exempt from fraud. The number of building companies that were ad hoc opened to take advantage of the tax benefits and then closed down reached almost 11,000 by the end of 2023, giving rise to a strong suspicion of fraud and thus triggering investigations by the tax police.

5. Key features, policy objectives, and politics

The history of tax incentives for building renovations in Italy dates back to the 1970s, as indicated above. Like many other government initiatives, various political factors and considerations influenced building renovation incentives. Politics played a significant role in shaping the design, implementation, and evolution of such policies.

Political considerations evolved, and different administrations had varying stances on housing renovation incentives. The programmes' effectiveness, popularity, and alignment with broader political objectives all influenced their continuation, expansion, or modification. Ultimately, the justification for these plans relied on how the benefits of energy efficiency, seismic safety, economic stimulus, housing quality, and urban renewal were weighted against the challenges and costs associated with their implementation.

Here are some key political aspects related to these tax incentives before the changes introduced by the Superbonus in 2020:

1. Government priorities: The decisions to introduce and support the tax incentives were often influenced by the preferences of the government in office. Different political parties and administrations placed varying degrees of importance on issues like energy efficiency, seismic safety, economic growth, housing quality, or countercyclical considerations.

2. Tax evasion: Since the first initiatives in the 1998 Budget Law, one of the main objectives has been to reduce tax evasion in residential building works by introducing a conflict of interest between the property owner (who wanted to take advantage of tax benefits) and the builder (who tried to avoid business taxation and VAT invoicing). Therefore, tax credits were a way to reduce tax evasion in construction works.

3. Coalition agreements: Italy often experienced changes in government. The design and continuation of incentive schemes were part of the negotiations and agreements among political parties forming a coalition.

4. Electoral promises: Political parties used housing and energy-related policies in their electoral campaigns. They promised incentives for homeowners to improve their properties or address energy and seismic concerns to garner voters' support.

5. Economic and social considerations: The economic health of the country, social well-being, and the state of the housing market also influenced political decisions. During periods of economic downturn, greater emphasis was placed on economic stimulus through construction and renovation projects.

6. Environmental and climate goals: Policies related to energy efficiency were often tied to broader environmental and climate goals. Political leaders used tax incentives as a means of meeting international climate commitments and reducing greenhouse gas emissions.

7. Regional disparities: Italy's regional disparities and the distribution of incentives played an essential role in the political decisions. Governments used these programmes to address economic and infrastructure gaps among regions.

8. Interest group influence: Industry groups, environmental organisations, and other interest groups influenced the development and continuation of programmes. Their lobbying and advocacy swayed political decisions, although this is not easy to prove.

9. Public opinion: Public opinion and sentiment also played a significant role. Despite their costs, initiatives that enhanced energy efficiency and safety received strong public support, and politicians often advocated for expanding such programmes. Parliament has generally been very supportive, although budgetary considerations have frequently constrained political decisions.

10. Time mismatch. There was also a not-very-noble political attempt to bring forward the benefits while postponing the costs. Incentives would have accrued paybacks in the near term for the beneficiaries and the government in terms of economic growth and fiscal revenues. At the same time, the costs would have been postponed to the time tax credits were offsetting tax payments, i.e. probably to future governments. The political economy of tax credits was overwhelmingly favourable; thus, this practice has grown over the years.

Housing renovation schemes were often split into multiple phases. The first phase usually covered the design and planning of the renovation, while subsequent steps dealt with the execution of the project. Tax credits were typically claimed on tax returns over several years. It was essential to keep detailed documentation of all expenses and work carried out, as well as invoices and receipts to support tax credit claims. The energy efficiency renovations had to improve the building's energy class, although the specific requirements varied depending on the type of renovation.

The take-up of these schemes grew only slowly over time. That was puzzling as, although not as generous as the Superbonus 110%, previous schemes still provided plenty of benefits. The lack of success of prior schemes was attributed to their complexities and compliance requirements. Many homeowners and professionals involved in the renovation found the administrative requirements and documentation complex and time-consuming. Eligibility was often subject to income and property size limits. Some homeowners reported difficulties in understanding the eligibility criteria and requirements. Moreover, the use of these programmes was severely constrained for taxpayers with limited tax capacity to offset their tax payments with tax credits ('incapienti'). Finally, many taxpayers were cash-constrained, i.e. unable to pay for the upfront costs to undertake building works and thus access tax credits. There might have also been other reasons. As a matter of fact, the various schemes introduced up to 2020 had only limited success.

Then, with the modifications introduced in 2020, the Superbonus suddenly became hugely successful beyond any expectations. What happened? Mainly two factors:

1. The increase of the tax benefit to 110%, i.e., exceeding the actual expenses incurred in undertaking the works.
2. The possibility of transferring the tax credits, which allowed taxpayers with limited tax capacity to benefit from it.

The 2020 changes in the housing renovation schemes, i.e. the Superbonus and the extension of the Superbonus benefits to existing bonuses, were designed to address several key goals:

1. A demand boost: In 2020, when demand was in free fall, introducing an ultra-generous scheme to prop up building activity was perceived as an appropriate and proportionate action. By providing financial incentives for homeowners to undertake renovations, the Superbonus aimed to stimulate activity in the construction and renovation sectors, which have high multipliers and sizeable spillovers into the rest of the economy. It became the dominant goal in 2020.

2. Energy efficiency: One of the primary goals of the Superbonus 110% was to promote energy efficiency in residential buildings. This was seen as a way to reduce energy consumption, lower greenhouse gas emissions, and ultimately contribute to environmental sustainability. The justification for this aspect lies in the need to combat climate change and enhance energy conservation. The Superbonus objectives were pretty much aligned with the EU's Green Transition.

3. Seismic safety: Italy is prone to earthquakes, and many older buildings were not adequately prepared to withstand seismic activity. The Superbonus aimed to incentivise existing seismic safety improvement schemes to enhance the resilience of buildings. Justification for this aspect can be found in the need to protect lives and property in earthquake-prone regions.

4. Housing quality: Housing quality and comfort can significantly impact the well-being of residents. The Superbonus could be justified on the grounds of improving living conditions, reducing utility costs through energy-efficient upgrades, and enhancing the overall quality of residential properties.

5. Urban renewal: Encouraging renovation projects may contribute to urban renewal and revitalisation. It could lead to aesthetically pleasing neighbourhoods and more attractive urban environments. The justification here is tied to urban planning and the desire to create better living spaces.

The Superbonus was primarily intended for residential properties like single-family homes and apartment buildings. It was also applicable to rental properties. Eligibility criteria were generous, although not all property owners were eligible. To claim the Superbonus, property owners typically needed to hire certified professionals to design and oversee the renovation projects, and the work had to comply with technical requirements and the guidelines established by the government. However, after the initial phase, there was a genuine attempt to simplify. Despite the still-existing difficulties, the two mentioned factors

were overwhelmingly favourable and triggered a surge in activity. Activity was probably only limited by the supply-side capacity in the construction sector. Moreover, companies doing such work were, in general, micro or small companies. Thus, there was limited overlap with major construction companies involved in works linked to the Next Generation EU/Recovery and Resilience Facility. Yet, the pool of workers was definitely overlapping, resulting in severe capacity constraints.

6. Other similar European schemes

It is not the purpose of this paper to make a comparative analysis with other similar European schemes. However, some references are helpful to set Italy's scheme into context. European housing renovation incentive schemes include the following:

1. Germany has several initiatives aimed at energy-efficient renovations, such as the KfW (Kreditanstalt für Wiederaufbau) programmes. These offer low-interest loans and grants to homeowners for energy-efficient upgrades. While they do not typically offer benefits as generous as 110% tax credits, they provide favourable financing terms and are well-established.

2. France had programmes like Eco-PTZ (Eco-Prêt à Taux Zéro) and the CITE (Crédit d'Impôt pour la Transition Énergétique), which provided low-interest loans and tax credits for energy-efficient renovations, respectively. The CITE was similar to Italy's Superbonus in providing direct tax incentives but not as generous.

3. The UK introduced the Green Homes Grant programme, providing homeowner vouchers for energy-efficient improvements. This scheme aimed to stimulate energy efficiency and job creation.

4. Austria has various schemes at the federal and provincial levels to support housing renovations. These include grants and low-interest loans for energy efficiency upgrades, but the terms and offerings vary by region.

5. The Netherlands has subsidies and grants for homeowners who make energy-efficient home improvements. These include incentives for insulation, energy-efficient heating systems, and renewable energy installations.

6. Sweden offers tax deductions for homeowners who undertake renovations to improve energy efficiency. While not as comprehensive as the Superbonus, these deductions encourage energy-saving measures.

7. Denmark offers homeowners low-interest 'green loans' to finance energy-efficiency renovations. These loans, provided in cooperation with banks, can be used for a variety of improvements.

While there were various housing renovation and energy efficiency incentive programmes in different European countries, the Superbonus stood out as (1) the tax credits exceeded the actual expenses incurred, making it extremely generous compared to many other

European schemes, and (2) the transferability of tax credits. These are indeed the two features introduced in 2020, during the pandemic crisis, which boosted its use relative to previous Italian schemes and those in other countries.

7. Estimates of the impact on GDP growth

This section looks at Italy's broader economic performance since the pandemic to highlight the role of the Superbonus. It also reviews the existing studies on the impact of the Superbonus on GDP growth, examines their assumptions, briefly touches on their methodologies, and critically evaluates their outcomes.

The complexity of the Superbonus legislation and the many changes introduced over time make it difficult to estimate the impact on economic growth. In 2023, the benefit was reduced to 90% from 110% (although there were many exceptions for works already completed or ongoing, which de facto maintained the 110% benefit until the end of 2023). At the beginning of 2024, the tax benefit was further reduced to 70% (it will be 65% in 2025). However, the tax benefit of 110% was maintained for the part of the work completed by the end of 2023. The phasing out of the scheme had to preserve the accrued rights and avoid disruptions; thus, legislation became even more complex and fragmented.

ENEA, the National Agency for new technologies, energy and sustainable economic development, started collecting monthly data on the Superbonus in August 2021. Complete information from official ministerial sources is still missing (it is produced ad hoc for parliamentary hearings or official documents, but not regularly and with details). ENEA records the number of buildings that benefitted from the Superbonus, the total investment (i.e. including the works not eligible for subsidies), the authorised investment for which a tax credit was issued, and finally, the total amount of completed works and the percentage of completion (Table 1).

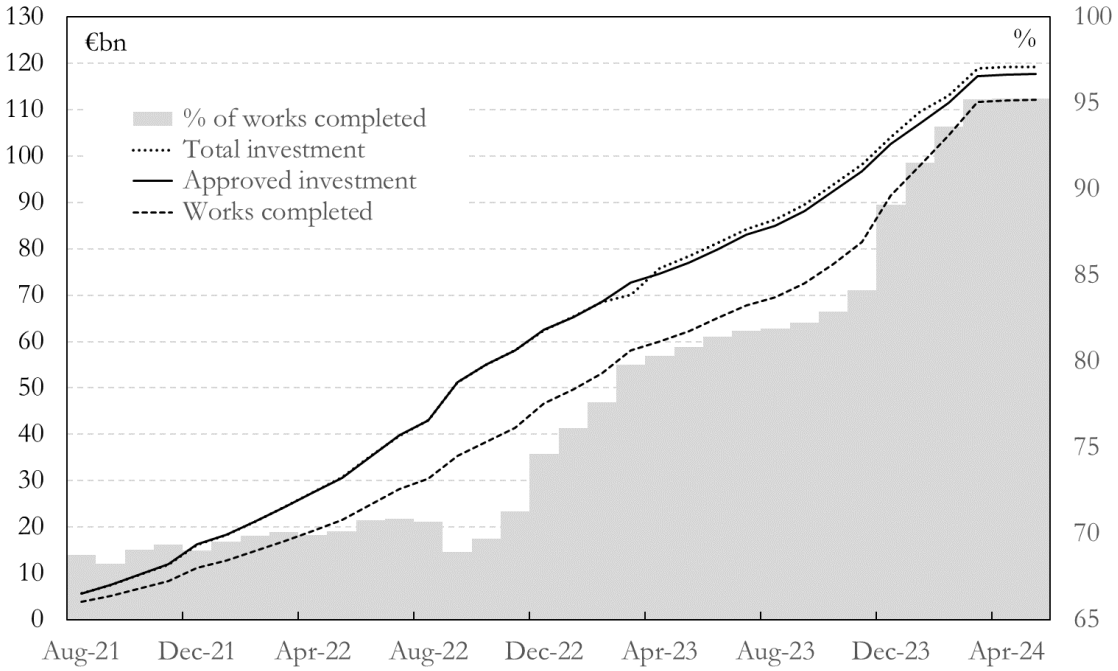
Table 1. Summary statistics on the Superbonus

Date	No. buildings, cum.	Total investment, cum. (€bn)	Approved investment, cum. (€bn)	Works completed, cum. (€bn)	Works completed (€bn)	Works completed Δ (€bn)	Estimated GDP impulse (pp)	% of works completed
3Q21	46,195	7.5	7.5	5.1				
4Q21	95,718	16.2	16.2	11.2	6.1	6.1	0.3	69.0
1Q22	139,029	24.2	24.2	17.0	5.8	-0.3	0.2	70.1
2Q22	199,124	35.2	35.2	24.9	7.9	2.1	0.5	70.8
3Q22	307,191	51.2	51.2	35.3	13.6	5.7	0.3	68.9
4Q22	359,440	62.5	62.5	46.6	11.3	-2.3	0.1	74.6
1Q23	403,809	70.0	72.8	58.1	11.4	0.1	-0.4	79.8
2Q23	417,187	81.3	79.9	65.1	7.0	-4.4	-0.4	81.4
3Q23	430,661	89.5	88.2	72.5	7.4	0.4	1.2	82.2
4Q23	461,433	104.2	102.7	91.5	19.0	11.6	1.2	89.1
1Q24	494,406	118.8	117.2	111.6	20.1	1.1	-1.2	95.2
May-24	495,717	119.3	117.7	112.1	0.5	-19.7	-1.9	95.3

Source: ENEA, and author's estimates.

However, these data include only the so-called 'Eco-Superbonus' and no other types such as the 'Sisma-bonus', thus representing only about 60-65% of the total. Finally, the building company has 90 days to register the works online and get approval for the tax credit (so-called 'asseveration'). Therefore, there is some delay between the time when the actual work took place and the recorded data presented in Table 1.

Figure 1. Superbonus, total amount of the works and % of completion



Source: ENEA and author's calculations.

According to data up to May 2024, total investment reached €119.3 billion, of which €117.7 billion was allowed as tax credits and €112.1 billion (95.3%) of works were completed. Adding all other bonuses, the total amount approached €200 billion, i.e. almost 10% of Italy's GDP (updated details on the other schemes are unavailable). The total of buildings that benefitted from the Superbonus reached 495,717 (estimated to be about 4-5% of the total residential housing stock), of which 133,401 were apartment buildings, for a total of €73.6 billion of completed works, with an average investment of €592,789. Works completed for single-family buildings amounted to 244,952 for €27.4 billion, with an average investment of €117,174. Functionally independent real estate units amounted to 117,356, for €11.1 billion and an average investment of €98,274. Finally, eight building units were classified as private 'castles', and they attracted a total benefit of €1.0 million in completed works (€1.9 million in total investment), with €242,212 of total investment each. This latter category is not meaningful as a share of the total, but it can tell a story of who also benefitted from the policy measure.

Figures 2 and 3 show the level and quarterly contribution to nominal GDP growth by 'completed Superbonus works', value added of construction activity (supply side in national accounts, which also includes non-dwellings activity), and investment in dwellings (demand side in national accounts, also including non-Superbonus investments). The builder had 90 days to record completed works related to the Superbonus online and get tax credits. Thus, the Superbonus registration figures are tentatively allocated 1/2 to activity in the previous

quarter and 1/2 to the current quarter (allocation is probably also time-varying depending on the deadlines of the legislation). The impression is that (1) the stimulus to GDP linked to the Superbonus was sizeable (see Figure 4 showing how vigorous construction activity was relative to other major Eurozone countries, even compared to Spain, which equally benefitted from NGEU/RRF spending), and (2) it was substantially lower than what would have been expected given the size of public money allocated to housing incentives.

Figure 3 shows that, if taken at face value, Superbonus spending would have accounted for a substantial part of Italy's recorded nominal GDP growth since the pandemic crisis. In the second half of 2023, it would have been a multiple of nominal GDP growth.

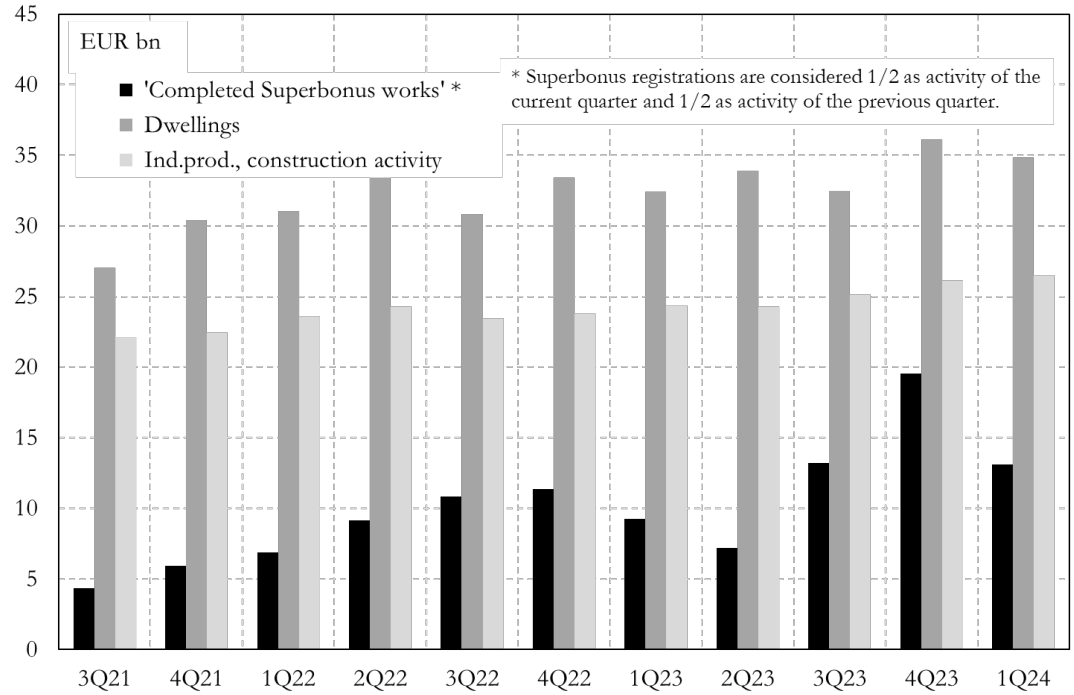
The estimated GDP impulse in Table 1 is calculated as the contribution to the quarterly change in GDP, assuming the Superbonus investments would not have happened without the benefits and that there was no crowding out of other types of investment activity, which is a very strong and unrealistic assumption. In fact, plenty of anecdotal evidence suggests that building companies have postponed many other works to take up the incentivised ones. On the supply side, the surge in activity was constrained by the availability of workers and building companies to do the work and other factors. Moreover, there is no precise match between ENEA's recording of Superbonus 'completed works' and national accounts. As mentioned, figures underestimate the impact as they relate only to the Eco-Superbonus, i.e. 60-65% of the total. Therefore, estimates need to be taken with a pinch of salt.

If we perceive 2019 as a 'neutral year' for real 'investment in dwellings' (construction gross fixed capital investment in national accounts is split between 'dwellings' and 'other buildings and structure') and assume that without the Superbonus real investment growth in dwellings would have been flat, as it was in the 4 years before 2019, then all the extra boost would be attributed to the Superbonus. Investment in dwellings contracted in 2020 amid the pandemic crisis (-7.3% vs real GDP growth of -9.0%, contributing by 0.3 to the recorded contraction in GDP). In 2021, real growth of 'investment in dwellings' was a whopping 50.1%, contributing 2.0 percentage points to the recorded 8.3% rise in real GDP. In 2022, the annual increase moderated to 7.7%, and the contribution to the recorded real GDP growth of 4.0% was 0.8 percentage points. Finally, real GDP growth slowed to 0.9% in 2023, of which 0.3 percentage points was due to the rise in investment in dwellings, according to national accounts.

Assuming all the growth in investment activity in dwellings from 2019 to 2023 was exclusively related to the Superbonus, the contribution to real GDP growth would be substantial. In fact, without considering the spillovers to the rest of the economy, investment in dwellings would have contributed by 2.6 percentage points to the recorded 3.5% rise in real GDP between 2019 and 2023 (moving from 69.3 billion in 2019 to 114.0 billion in 2023, calendar adjusted).

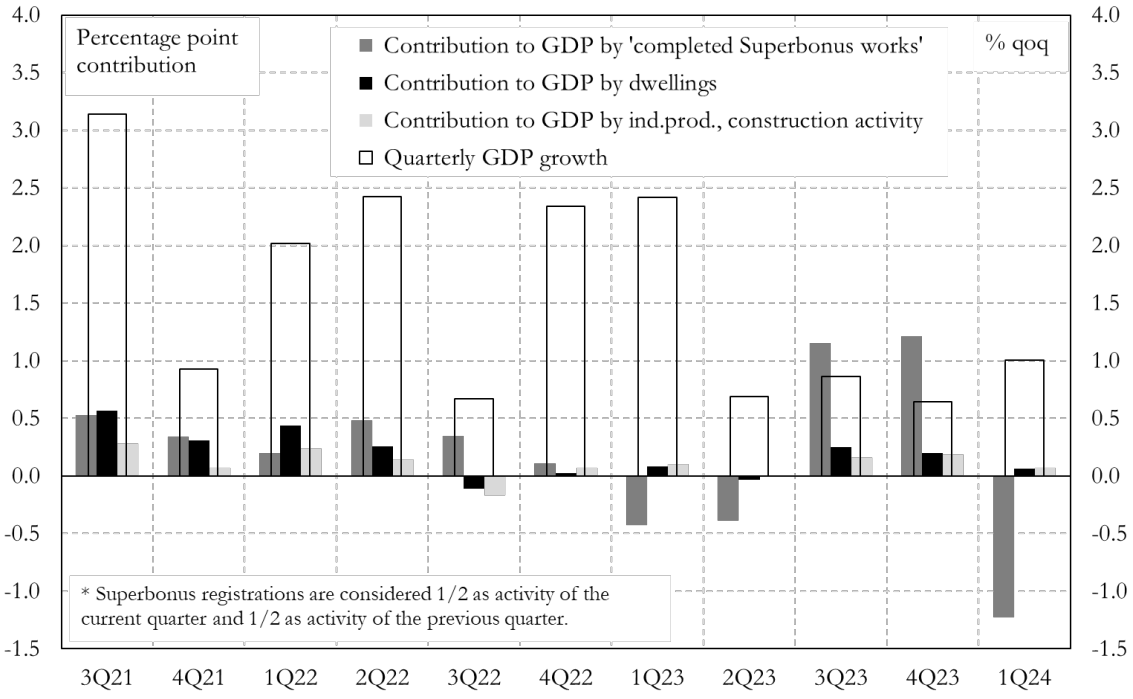
The above estimates assume there would have been no growth in investment in dwellings without the Superbonus (not an unrealistic assumption given the flat performance of the previous years). Moreover, Superbonus activity since 2019 is assumed to be entirely additive, i.e., it would not have happened without the incentives, and there would have been no crowding out of other construction investment activities.

Figure 2. Registrations, investment in dwellings, construction activity



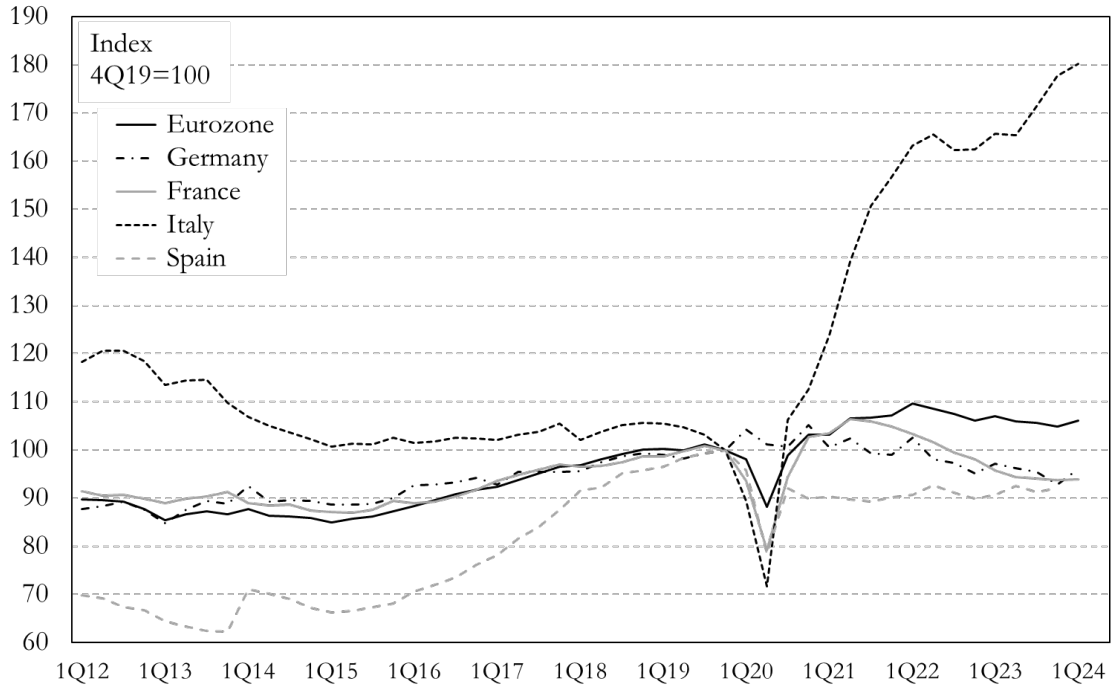
Source: Refinitiv (Datastream), ISTAT, ENEA, author's calculations.

Figure 3. Contribution of the Superbonus to Italy's quarterly nominal GDP growth



Source: Refinitiv (Datastream), ISTAT, ENEA, author's calculations.

Figure 4. Investment in dwellings, national accounts (data in real terms)



Source: Refinitiv (Datastream), Eurostat, author's calculations.

Moreover, the construction sector has significant spillovers into the rest of the economy (high multiplier), and thus, the impact would have been even bigger. If correct, this estimate would shed a poor light on the genuine underlying performance of the economy net of the incentives. However, even if it is accurate, in nominal terms (at current prices), the cumulative increase in investment activity on dwellings from 2019 to 2023 (€62.9 billion) would still be substantially below the €91.5 billion in completed Superbonus works at the end of 2023 (which is only about 60-65% of total renovations, meaning that there was substantial crowding out of other construction activities in dwellings, or that recording in GDP was not appropriate or the amount of fraud massive. In any case, the impact on GDP was substantially smaller than expected by the scheme proponents and a significant disappointment relative to the public money spent.

Before the introduction of the scheme, some estimates of the potential impact on GDP considered spillovers into other sectors besides construction. Back in 2015, the National Association of Builders published a study indicating that suppliers to the construction industry came from 31 out of the 36 sectors in the economy, i.e. there were massive spillovers, confirming the French say *quand le bâtiment va, tout va*. Moreover, there was limited offset from the import drag from the domestic fiscal stimulus as only 4.2% of the inputs purchased were imported. At least, this was the situation in 2015, although it has probably not changed much since then, i.e. the construction sector activates positive spillovers into the domestic economy (contrary to other tax expenditure schemes such as vehicle scrappage programmes).

In the same study, the multiplier was said to be extremely high. Each additional one billion spending on construction generates an overall impact of €3.513 billion on the economy in

direct, indirect and induced effects (a whopping multiplier of 3.51) and produces an increase of 15,555 work units, of which 9,942 in the construction sector and 5,613 in related sectors. This study was widely quoted and produced the analytical underpinning for political decisions on house renovation incentives. Indeed, the links to the rest of the economy are undoubtedly robust and reliable, as the input-output matrix suggests, but the estimates of the multiplier appear substantially overstated.

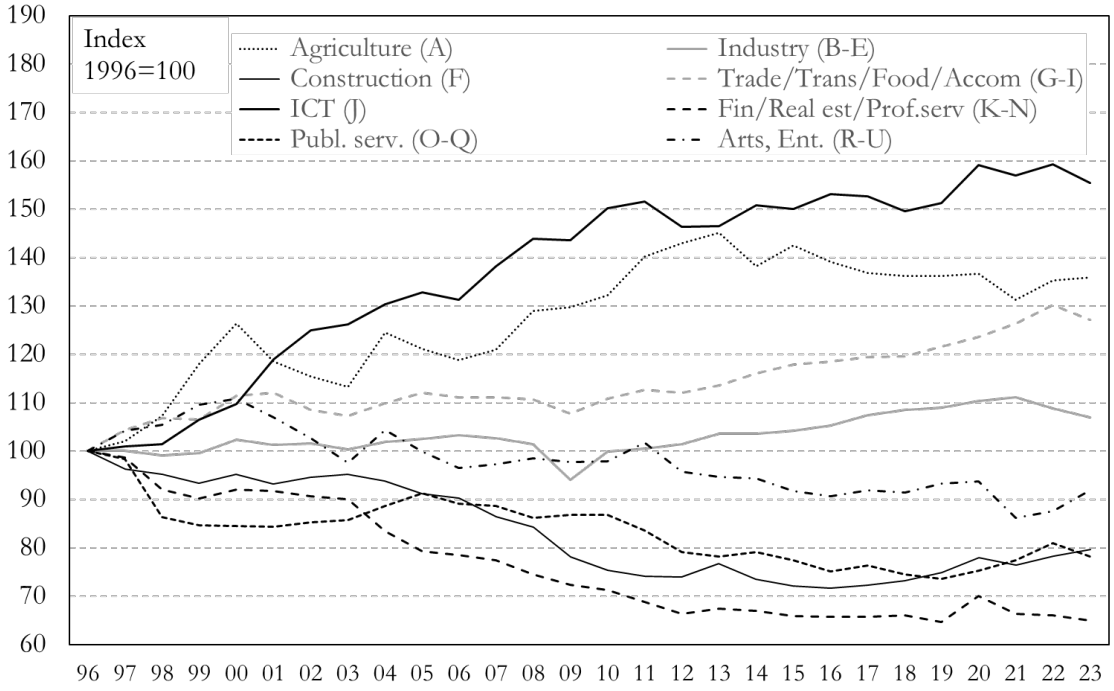
In Di Nardo et al. (2022), the direct effect is defined as production activated by the construction sector and in those sectors directly connected with construction (semi-finished products, intermediate products and services) and accounts for about half of the multiplier (1.64). Indirect effects are those activated by the sectors that receive the mentioned direct stimulus and, in turn, by other direct effects until the multiplicative stimulus is exhausted (0.66). Finally, the induced effect is the production activated by final consumption generated by income from work paid in producing the goods and services of the direct and indirect effect, i.e. the multiplier related to household spending (1.22).

A report published in October 2021 and then updated in mid-2022 by the National Association of Engineers found a similar outcome, with roughly the same multipliers. Moreover, a study presented on 13 July 2022 and produced by ANCE, Emilia, and Nomisma unveiled significant energy savings (about €500 annually for each installation) and substantial returns in terms of GDP growth from the Superbonus (estimated at €124 billion, i.e. 7.5% of GDP) and employment (634k additional employed). These estimates need to be taken with great caution. The key word is 'additional', as investments that would have happened anyway would not produce any extra economic growth. Incentives would translate into a simple financial transfer from the public to the private sector, with no additional activity generated. Moreover, it is striking that none of these assessment studies considered the public financing cost of the subsidy or the related cost of reining back the net increase in public debt.

According to a similar study promoted by the National Associations of Builders, the sizeable spillovers of the construction sector should guarantee that 47% of the gross cost of tax credits is recovered via higher tax revenues, VAT and social contributions. It is calculated only on the part of activity that is considered to be added to the baseline courtesy of the Superbonus, i.e. the extra activity that would not have happened without the tax benefit. Other studies point to a still sizeable 42%. According to Di Nardo et al. (2022), the Ministry of Economy and Finance systematically underestimated the size of spillovers on tax revenues in the 'Relazione tecnica' (the technical assessment accompanying the Decree Law or Law), which was based on a much more cautious approach indicating only 25% additionality of the expenditure triggered by bonuses.

To summarise, available studies only focus on short-term multipliers. They come primarily from lobbies, builders' associations, or think tank finances by builders (Nomisma). They disregard any assessment of the economic costs of returning public finances to their initial position. In the case of the Ministry of Economy and Finance, these effects are taken care of in the context of the Budget process, but the assessments ignore the financing side. Nor do they consider long-term supply-side effects, leaving aside a positive effect related to energy-saving technologies. Figure 5 shows that the construction sector is the second least productive sector in the economy, raising the issue of whether subsidising a low-productivity industry makes sense for the economy's long-term health.

Figure 5. Italy's labour productivity by sector



Source: ISTAT, author's calculations. Value added at basic prices, chain linked volume, ref. year 2015, per hour worked.

8. Estimates of the impact on public accounts

Past estimates of the impact on public finances of tax schemes for building renovations relied on various assumptions, including the scale of the programme, the extent of its adoption, and the specific fiscal mechanisms in place. In any tax incentive scheme that uses tax credits, there is a budgetary cost as the government foregoes tax revenue equal to the value of the credits claimed by taxpayers. Moreover, programme administration incurs costs for the government, including personnel, technology, and resources, and the efficiency and cost of programme administrators could affect the net fiscal impact.

But there are also benefits. The Superbonus programme was designed to stimulate economic activity in the construction and renovation sectors with significant spillovers to the rest of the economy. Increased construction and renovation projects lead to job creation, which results in increased tax revenue from income and corporate taxes. Thus, the programme could positively impact public finances by boosting economic growth. Energy efficiency upgrades promoted by the Superbonus can lead to long-term savings in energy consumption, thereby favouring income and, eventually, tax revenue. These effects could mitigate the initial fiscal cost over time. As discussed in the previous section, these effects are challenging to estimate and very sensitive to the underlying assumptions.

In addition, the part of the scheme focused on seismic safety improvements could help reduce the long-term fiscal burden associated with disaster recovery and reconstruction after earthquakes. By enhancing the resilience of buildings, the government may ultimately save on disaster response and recovery costs. As property values increase due to renovations, local property taxes (IMU and TASI) and transaction taxes may also increase, providing additional revenue to local municipalities and the government.

Finally, a healthier and safer housing stock can lead to improved living conditions, which can have positive social and economic consequences, including reduced healthcare costs and increased productivity. These long-term impacts may indirectly benefit public finances as well. However, the effects are very uncertain.

Moreover, the Superbonus 110% programme, like many fiscal incentives and tax credit programmes, can introduce certain accounting distortions for public accounts. These distortions typically refer to discrepancies or misalignments between the economic effects and how they are recorded in public accounts and presented in public finance reports. There is also a time mismatch between costs and benefits.

In particular, the original bonus programme (before transferability) allowed homeowners to claim tax credits for eligible expenses related to renovations, producing a reduction in government revenue because they reduced the taxes homeowners owe. However, the impact on government finances was not immediately recognised because the tax credits were claimed over time as homeowners filed their tax returns. This created a timing mismatch in fiscal accounts. Government accounts reflected the full extent of the revenue impact when the programme was implemented, shifting the effect on the deficit to future years. The programme grew bigger over the years, and the period in which expenses could be recovered was shortened.

The timing of tax credits under the Superbonus programme could influence government cash flows. The government might face cash flow challenges due to the delayed recognition of reduced tax revenue. These accounting and cash flow distortions are not unique to the Superbonus programme but are common issues associated with tax credits and incentive programmes in general. Distortions could also vary in significance depending on the scale and duration of the programme.

According to Italy's annual report on tax expenditures (Commission for Tax Expenditure, 2023), the number of tax expenditures has continued to increase over the years, reaching 739 in 2023, including local tax expenditures, for a total amount of €125.6 billion, i.e. 6.1% of 2023 GDP. Tax expenditures were slightly higher in 2022 when they reached a record high in the number and amount involved relative to other OECD countries.

As indicated above, in May 2020, desperate times called for desperate measures. The government (1) introduced the Superbonus 110%, (2) the tax credit became transferrable, (3) the amortisation period was shortened to four years (with change introduced later on), and (4) no limit was set on the use of the benefit (which is unusual for subsidy schemes). The take-up of the programme skyrocketed. The initial estimate was for a total take-up of only €36.6 billion for the Superbonus, which would have been added to the €5.9 billion related to the Façade bonus and the €29.9 billion for all other bonuses, for a total of €72.3 billion. But then it almost reached €200 billion, according to the most recent estimates, i.e. almost three times as much. In cash terms, capital transfers to households (mostly related to the Superbonus) are projected to reach 1.8% of GDP in 2024 and 2025, versus 1.0% in 2023, and then decline to 1.1% in 2027. According to the Bank of Italy, half of the works that benefitted from tax incentives were 'additive', i.e. they would not have happened without the tax incentives. Still, even considering increased taxes and social security contributions paid, the negative impact on public accounts remains "huge" (Bank of Italy).

On 14 February, in a parliamentary hearing before the Finance Commission of the Senate[2], the Eurostat's representative stated that tax credits linked to the so-called Superbonus would be considered deficit. He said there had been a discussion between Eurostat, Istat and other statistical offices on this subject since 2020. The decision was collegial in committees where representatives from statistical offices and those from central banks and finance ministries participate. Reaching a decision could take years, but it just so happened that the regular 4-year revision was scheduled for February 2023. On 14 February 2023, Eurostat published the revised Statistical Manual[3] (the next one is planned for 2027), including the statistical treatment of the new tax credits, i.e. when the tax credit is considered 'payable' or 'not payable' under the new rulebook. Under 'payable', the statistical event is recorded when the tax credit is recognised instead of when taxes are offset. This changes the timing of the recording but not the overall amount. How can a tax credit be judged 'payable'? If it meets the following criteria (which aim to assess the probability the tax credit is effectively used):

1. It is transferrable (and the Superbonus was).
2. It can be used to offset various tax liabilities (idem).
3. It can be deferred for several years (idem).

Eurostat's representative said it would not impact debt as a tax credit has no 'immediate' effect on debt, but when the cash effect is earned. The deficit is recorded on an accrual basis, while the debt is on a cash basis. Thus, when the tax credit translates into reduced cash revenues, it will also impact the debt. But this was already included in official projections and was not due to change. Suppose the government had done nothing, following the position taken by Eurostat, and the effect on the deficit would have been entirely frontloaded. At any rate, this caused a massive deterioration of the Maastricht-definition net borrowing requirement in 2020-2023, with the ratio to GDP reaching 7.2% in 2023 (then revised up to 7.4%).

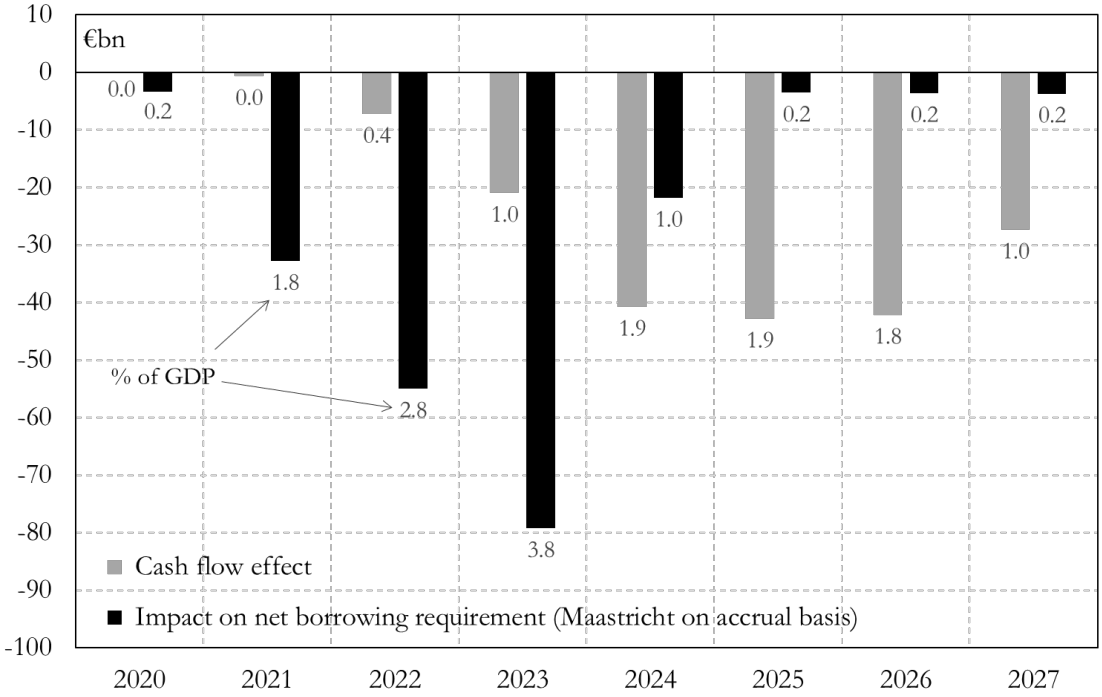
The past few years have been very turbulent for the legislation on the Superbonus. Transferring the tax credit to the banks had become difficult in 2022, but this did not slow the activity. Banks had already filled all the available possibilities to offset their tax liabilities with purchased tax credits. Thus, they stopped accepting them, producing liquidity problems for construction companies long before recent events. Furthermore, banks started to deny the possibility of purchasing tax credits on fears of fraud and regulatory uncertainty[4].

Finance Minister Giorgetti hoped that the February 2023 decree's clarity and certainty on the legal responsibility of the transferee of credits could re-activate the discount window with financial institutions and avoid liquidity problems for companies, which appeared to be a significant issue. This partly happened, but many concessions were allowed to prevent a liquidity crunch for building companies, and thus, transferability remained for most of the schemes approved in 2023, resulting in a ballooning Maastricht-definition accrual deficit in 2023.

[2] See the recording here (in Italian): https://webtv.senato.it/4621?video_evento=241855
[3] https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/w/KS-GQ-23-005
[4] See press conference (in Italian): https://www.governo.it/it/media/conferenza-stampa-al-termine-del-consiglio-dei-ministri-n-21/21832

The take-up of the Superbonus has been systematically underestimated. The cash net borrowing and debt costs are backloaded, i.e. spread over a number of years when tax credits offset tax payments. Yet, the tax benefits of the economic impact are almost immediate (VAT) or with a maximum of one-year delay (personal and company taxes). This could be a positive feature for countercyclical policies. However, the cost will certainly come, i.e. there is no way that the policy initiative could be self-financing. Absent effects on the supply side (energy savings, economies of scale, etc.), the demand effect fades once incentives are withdrawn, while the higher debt and its cost of financing remain.

Figure 6. The tentative accrual and cash impact on public accounts



Source: Author's estimates based on various official sources, with a high degree of uncertainty.

On 22 September 2023, ISTAT, the Italian statistical office, revised the cost of the two incentives for 2022 upwards from 2.6% to 2.8% of GDP for 2022. In the same month, the new Update to the Document of Economy and Finance led to a further upward revision of tax credits. The estimate for the Superbonus take-up was revised to €61.2 billion, the Façade bonus to €19.0 billion and all other bonuses remained at €29.9 billion, for a total of €110.1 billion. The Document of Economy and Finance released in April 2024 further revised estimates upwards. Estimates in Figure 6 take stock of available information and project the accrual and cash impact for each year.

According to ENEA data[5], at the end of December 2023, the total of house renovation investments admitted to receive a tax credit amounted to €102.7 billion, of which completed works (i.e. admitted to receiving 110% tax credit) represented € 91.1 billion. The number of interventions (asseverations) was 641,433, with 88.7% of works completed and the remaining part to be completed. Works performed on condominiums were the ones for which an extension of transferability was inevitable to avoid massive dysfunctionalities and

[5] National Agency for new technologies, energy and sustainable economic development.

legal issues, and they were the ones that registered a spike in the final quarter of 2023 and in the first quarter of 2024 (Table 1). Only since April 2024 Superbonus-related activity started to decline sharply.

8. Policy conclusions

In 2020, amid one of the most dramatic crises in living memory, the Italian government decided in favour of an unprecedented move by introducing the so-called Superbonus 110%, effectively allowing for a free lunch. Since then, the take-up of the programme has skyrocketed from the initial estimate of only €36.6 billion to something close to €200 billion, including other schemes.

The use of tax expenditure to support residential construction had increased over the years, even before 2020. The debate was not about an emergency countercyclical tool but instead a tool consistent with the energy-transition goals, based on expectations that the plan would have, by and large, been self-financing. However, the costs for public finances have sharply increased, and due to the ruling by statistical offices, the impact on the Maastricht-definition accrual deficit was frontloaded. In contrast, the cash impact on net borrowing and debt is delayed.

There are different views on the effectiveness of the Superbonus programme. Yet, significant risks for public finances, uncertain economic growth outcomes, and the likely deadweight losses cannot be denied. The whole initiative can be considered a risky endeavour and a textbook example of how policymakers can mess up the incentive structure entirely and, thus, the smooth functioning of a market economy despite some near-term countercyclical benefits.

Past estimates of the Superbonus impact on GDP and public finances assume all investment or a substantial part is 'additive', i.e. it would not have happened without the fiscal benefit, although this does not appear to be supported by Superbonus figures and economic data. Moreover, they assume limited capacity constraints on the supply side. Instead, subsidised activity has squeezed out other types of building activity, given the severe limitations on companies' capacity to deliver. In other words, messing up with demand may have produced undesirable and unexpected distortions on the supply side of the economy and deadweight losses.

The effect on demand mostly vanishes after one year following the completion of works, with some limited spillovers in future years. While it is adequate to stimulate demand following a big collapse such as the pandemic-induced recession, housing incentives have little impact over time on the productive capacity of the economy. In an economy with limited resources and financing, a massive subsidy scheme like the Superbonus 110% has de facto crowded out investment in more productive and technologically advanced sectors, determining a reallocation of resources within the economy that is not productivity and growth-enhancing.

The scheme has produced substantial bureaucratic and red tape costs for projects' administration, application, monitoring, etc., which would not have happened for works

exclusively delivered by the private sector. Moreover, many frauds (especially for the Façade bonus) have emerged. They are hard to estimate but might become significant as tax police investigations proceed.

Subsidies have produced tensions in construction prices. However, they are difficult to access as they have happened almost simultaneously with the spike in energy inflation induced by the Russian invasion of Ukraine and the additional demand due to NGEU investments.

The Superbonus 110% has substantially stressed Italy's public finances, with a sharp increase in the accrual-basis net borrowing requirement. Most of the effects on the cash borrowing requirement are yet to come. Moreover, coping with the excess public debt generated has reduced economic growth for several years.

Fiscal countercyclical tools to counteract a substantial drop in GDP growth have become an important area of investigation for economic research. The so-called Superbonus may be perceived as a massive experiment in this regard. More time-limited and better-targeted measures should be designed in the future when needing non-conventional fiscal support. This would allow for reduced economic distortions, contained costs for public finances, and a fairer allocation of taxpayers' money.

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