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Public debt and demography.
An analysis of the Italian case

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Abstract

This paper focuses on the challenges posed by high public debt and demographic decline in Italy. The interplay between these two factors threatens debt sustainability and hinders economic growth. A large debt stock constrains economic policy choices and limits national sovereignty. Meanwhile, population decline affects public spending and tends to exacerbate public debt, further complicating its sustainability.
Possible policy options to counterbalance this issue include immigration, increasing labor force participation, pension reforms, fiscal consolidation, and investment in education targeted at the young population.

Keywords: public debt, demography, declining population, sustainable debt, growth, immigration

1. Introduction

Italy has long struggled with high public debt, widespread tax evasion, and a declining birth rate. These three critical issues are key to the country's future. This paper focuses on the high public debt and demographic challenges that hinder growth.

In 'Public Debt and Growth in Italy: Analysis and Policy Proposals' (Schilirò, 2019), the author highlighted that high public debt restrains Italy's growth prospects. More recently, in a speech at a convention in Rimini in August 2024, the Governor of the Bank of Italy emphasized that public debt in Italy is too high and must be reduced, as it jeopardizes the future of younger generations. In fact, Italy is the only country in the euro area where public spending on interest payments is almost equivalent to spending on education, a figure that underscores how 'the high debt is weighing on the future of young generations, limiting their opportunities.'

High public debt in Italy has persisted for many years, not only limiting growth but also raising concerns about its sustainability among economists and economic operators. The Italian budget, approximately 1,200 billion euros per year (including loan repayments), weighs on the stock of public debt, which amounts to nearly 3,000 billion in 2024 and has accumulated primarily over the last half-century. In 1970, Italy's debt-to-GDP ratio was actually 44%. Since then, it has steadily increased, eventually reaching 154.9% in 2020, exacerbated by the effects of the Covid pandemic.

The impact of Covid-19 has indeed been significant. The pandemic brought severe economic consequences to the country, including a collapse in output, GDP, and employment, as well as a substantial increase in public debt. Several studies (e.g., Bénassy-Quéré and Weder di Mauro 2020; Codogno and Corsetti 2020) conducted shortly after the Covid crisis suggested that the debt-to-GDP ratio in Italy and other EU countries was on a sustainable and declining trajectory in the medium term. This outlook was partly due to the ECB's monetary policy, which became crucial in addressing the crisis and stabilizing financial markets through asset purchases.

In any case, such a high debt stock strongly influences economic policy choices, creating a bottleneck that reduces the government's room for maneuver, increases the weight of past decisions on future ones, limits sovereignty, and forces policy continuity. This situation has two major consequences. First, there is a reversal of roles: the State no longer controls the economy; instead, the economy controls the State, resulting in a loss of sovereignty. Second, the budget, which is meant to be a forecast for the future, becomes conditioned by the past, ultimately shaping both the present and the future.

A second factor contributing to the high public debt is demography. Demographic changes are a long-term variable. The Italian population is aging faster than that of other countries, which will inevitably affect public spending in the coming years, leading to a gradual increase primarily in pension and healthcare costs. This will negatively impact the risk parameters of national accounts. Additionally, population aging will inevitably affect economic growth and, consequently, the sustainability of public debt.

Therefore, public debt and demography are deeply intertwined, influencing each other in various ways, especially as population dynamics—such as aging, fertility rates, and migration patterns—shape a country's fiscal policy and the sustainability of its debt.

The following section provides a brief historical summary of Italian debt. Section 3 will examine the relationship between Italian public debt, its sustainability, and GDP growth. Section 4 analyzes the demographic situation in Italy. The paper will conclude with a discussion and conclusions.

2. Brief Historical Summary of the Italian Debt

The most significant increase in Italian public debt occurred after the Second World War. The dynamics of Italian public debt during this period can be ideally broken down into different phases.
The first phase, from 1950 to 1968, was marked by high economic growth, low inflation and interest rates, and balanced fiscal policy. During this time, public debt decreased from 41% in 1961 to 33% in 1964 before rising again to 41% in 1968.

The period from 1968 to the early 1980s was characterized by continued economic growth but also by very high inflation, driven by devaluations and oil crises. Real interest rates were negative due to a very permissive monetary policy in the United States, which extended to Europe. Despite a significant increase in public spending (equivalent to 10 percentage points of GDP, with 4 points attributed to interest payments) and a substantial stagnation in revenues, resulting in a very high deficit (an average of 10% of GDP), public debt increased only moderately, from 55% in 1973 to 60% in 1981. This was largely due to high inflation, which exceeded the cost of debt, leading to negative real rates and eroding household savings.

Since the 1980s, primarily due to the reversal of American monetary policy under Reagan, real interest rates began to rise significantly, and the 'beneficial' effects of inflation on debt disappeared in a context of high interest rates. Despite solid economic growth and a sharp increase in public spending, the rise in public debt

(which went from 60% in 1981 to 124% in 1994) was also driven by a significant increase in interest expenditures, as interest rates averaged 5 percentage points higher than inflation. During this period, the political authorities took little action to prevent or contain the explosion of public debt, partly because the market was still able to absorb the supply of government bonds.

The most significant increase in public debt began in the 1980s, with three notable periods:

1. From 1980 to 1994, when the debt-to-GDP ratio more than doubled, rising from 56.1% to 117.9%;
2. From 1994 to 2007, when the debt-to-GDP ratio decreased from 117.9% to 104%;
3. From 2007 to 2013, when the debt-to-GDP ratio increased from 104% to 133%, a level not far from the pre-Covid-19 figure.

Since 2007, the primary factor driving the increase in debt has been reduced growth during two major financial crises (Schilirò, 2019; Schilirò, 2022). First, the subprime mortgage crisis of 2008 led to a 5.2% decline in Italy's GDP in 2009. Then, the sovereign debt crisis of 2011 caused GDP to fall by 2.4% in 2012 and 1.7% in 2013. It's no coincidence that the most significant increases in debt were recorded in 2009 (nearly 10 percentage points, from 106.2% to 116.6% of GDP) and in 2012-2013 (from 119.7% in 2011 to 132.5% in 2013).

3. Italian Public Debt, its Sustainability and GDP Growth

Debt sustainability involves balancing the level of public debt with the country's capacity to repay it, usually measured by economic growth, revenue generation, and the cost of borrowing, such as interest rates. When debt is sustainable, a country can meet its debt obligations without significantly impacting its economy or financial stability. If real interest rates are higher than growth rates, the risk of high public debt becoming unsustainable is much greater.

The reform of the Stability and Growth Pact (SGP), originally introduced in 1997, came into force on April 30, 2024,[1] following a legislative initiative by the European Commission on November 9, 2022, after its suspension in 2020 due to the COVID-19 pandemic. This reform has rekindled interest and concerns about Italy's high public debt and its sustainability. The Stability and Growth Pact is considered one of the fundamental pillars of the European Union's (EU) economic governance.

Several empirical studies confirmed that the high public debt has a negative impact on growth (e.g. Chudik, Mohaddes, Pesaran and Raissi, 2017; Gómez-Puig and Sosvilla-Rivero, 2017; Pescatori, Sandri and Simon, 2014). Some of these studies also highlight a 'composition effect of spending,' primarily related to interest payments on debt. Such payments reduce the fiscal margin available to combat unemployment and improve the economy.

In Schilirò (2019), I showed that from 2014, when the debt-to-GDP ratio was 131.8%, to 2017, when it was 131.4%, the debt remained relatively stable. Let's analyze the public debt situation in Italy. In Schilirò (2019), I showed that from 2014, when the debt-to-GDP ratio was 131.8%, to 2017, when it was 131.4%, the debt remained relatively stable. This stability persisted through 2018. Table 1 highlights Italy's debt situation from 2017 to 2022, including the Covid crisis.

[1] The reform consists of three different pieces of legislation: the regulation establishing the new preventive arm of the SGP, the regulation amending the corrective arm of the SGP, and the directive amending the requirements for the budgetary frameworks of the Member States.

While the debt remained stable in 2018 compared to the previous year, the situation began to worsen in 2019. In 2020, due to the COVID-19 pandemic, the public debt-to-GDP ratio surged to 154.9%. In the following years, 2021 and 2022, the ratio improved, decreasing to 150.8% and 147.0%, respectively. However, both the ratio and the absolute level of Italian public debt remain excessively high.

Table 1

Years	2017	2018	2019	2020	2021	2022
Public Debt-to-GDP	131.4	132.2	134.2	154.9	150.8	147.0
Levels of Primary Balance	23,4	26,2	33,3	-103,1	-97,5	-68,7
(Billions of Euros)						
Primary Balance	1,4	1,5	1,9	-6,2	-5,5	3,6
as a percentage of GDP						
Levels of Net debt	42,0	38,4	27,1	160,4	161,2	151,9
(Billions of Euros)						
Net debt as a percentage of GDP	2,4	2,2	1,5	9,7	9,0	8,0
Total Public Expenditure						
as a percentage of GDP	48,8	48,4	48,5	57,0	57,3	56,7

Source: Bank of Italy, 2022.

Furthermore, at the end of December 2023, according to the Bank of Italy, public debt had risen to approximately 2,863 billion euros, marking an increase of over 105 billion euros compared to the figure at the beginning of the year. Nevertheless, public debt in relation to GDP was 137.3% in 2023, marking a significant decrease compared to 2022. This decrease was partly due to the effect of inflation, which eroded the stock of public debt in 2023, as the implicit interest rate on public debt was lower than the inflation rate. In fact, inflation in Italy was 5.7% in 2023, compared to 8.1% in 2022. At the same time, the ECB interest rate in 2023 was 3% (as of February 2023), rising to 3.75% by May of the same year. In 2022, this interest rate had increased from 0.50% in July 2022 to 2.50%, in response to much higher inflation. Consequently, the real interest rate remained negative throughout 2022 and 2023, during which the Stability and Growth Pact was also suspended. A very favorable condition for the Italian public debt.

However, in 2024, the ECB interest rate reached 4.25% (as of July 2024), while the inflation rate, according to ISTAT (2024), has dropped to around 2%. Thus, the inflation effect is expected to halve, and the effect of real interest rates will be positive. Additionally, the low real growth of the Italian economy, combined with a negligible primary surplus, will likely be insufficient to offset interest expenditures, leading to a slight increase in debt. Consequently, public debt in relation to GDP is expected to rise in 2024; the IMF (2024) forecasts a figure of 139.1%. Regarding the spread of BTP, its value during 2024 has reached a maximum of 171 basis points.

The sustainability of public debt is naturally a crucial issue. Tamborini and Tomaselli (2020), like previously Panizza and Presbitero (2014), argue that no meaningful assessment of debt and its effect on growth is possible

without considering the specific characteristics, contingencies, and events of each country. This set of specific factors plays a leading role and significantly influences the debt-growth relationship, thereby affecting the entire debt trajectory and the specific state of the economy along that trajectory. Consequently, they contend that it is impossible to establish a single general law that explains the debt-growth relationship or identifies a critical threshold, thereby disproving Reinhart and Rogoff's (2010) thesis on the existence of such a threshold. At the same time, various proposals from both the academic community and the financial sector have been put forward, especially after the COVID-19 pandemic crisis, aimed at restoring fiscal sustainability.

A first approach focuses on debt reduction through sustained primary surpluses over time, achieved by either increasing taxes or cutting spending. This strategy, adopted by the European Union, is, in fact, one of the cornerstones of the Fiscal Compact. However, this approach contradicts the thesis of Tamborini and Tomaselli (2020), which emphasizes the specific factors that characterize each country facing a high public debt situation. Another approach is proposed by Giavazzi, Alesina, and Favero, who advocate for a focus on managing the primary balance. They argue, based on their empirical evidence, that austerity focused on reducing public expenditure is less costly in terms of growth and more effective in stabilizing the debt-to-GDP ratio than austerity based on increasing public sector revenues. The rationale behind this proposal is that spending cuts boost business and consumer confidence by signaling a reduction in the size of the public sector and, consequently, a reduced need for future tax increases. In contrast, revenue increases that do not address spending growth are insufficient to stabilize debt in a lasting manner and may even increase uncertainty.
A further approach to achieving sustainability is the reduction of the debt stock through the sale of state assets and privatizations. However, major privatizations have already taken place, and even if companies like Enel or Eni were privatized, the loss of control over two strategic sectors would yield profits that are negligible compared to the scale of the debt.

The proposal by Tabellini and Giavazzi (2020) aims to reduce the average interest rate on public debt. They suggest issuing perpetual bonds, also known as 'Consols' or consolidated public debt securities. These are fixed-coupon securities with no maturity date, issued by the member states of the European Monetary Union and guaranteed by their collective fiscal capacity. The common guarantee, derived from the joint fiscal capacity of the participating states, would result in a high common rating and a single, very low interest rate, supported by the ECB, with the risk of default limited to the unlikely scenario where countries choose not to adhere to the initial agreement.

The sustainability of public debt can also be supported by a redistribution of state creditors towards entities less influenced by market dynamics, such as domestic private investors. The larger the share of debt held by domestic private investors—who are typically stable in their portfolio choices—the less vulnerable the debt should be to market fluctuations.
As highlighted by Schilirò (2020), debt management plays an important role in debt sustainability, as it involves choosing a sustainable future path for expenditures and taxation.

However, the debate on the sustainability of Italy's public debt must now be viewed from a new perspective, as the reform of EU budget rules, outlined in the new 2024 SGP, aims to make them clearer, more investment-friendly, and more adaptable to the specific situation of each country.

In any case, the primary solution to the sustainability of Italy's public debt is economic growth. Unfortunately, after strong growth in Italy in 2022, with a growth rate of 3.7% (ISTAT, 2023), the growth rate in 2023 was less than 1%. This modest growth is expected to continue in 2024.

At the same time, international institutions, such as the International Monetary Fund (2024), suggest implementing long-term actions and structural reforms that will positively impact potential growth. Therefore,

it is essential to establish an efficient bureaucracy, streamline and make processes reliable, align taxation with economic development, eliminate unnecessary and clientelistic expenditures, implement a fiscal policy that includes public investments for growth[2], invest more in education and research, and engage in a genuine fight against organized crime—particularly targeting its economic and financial interests. Additionally, for the current government and any future ones, there is a fundamental question: it involves making choices and setting priorities, rather than envisioning a future filled with indiscriminate subsidies and perks. Additionally, we could appeal to Brussels to eliminate the disparities in treatment that have turned some Union countries into attractive tax havens for our companies.

Unfortunately, in addition to its high debt, Italy faces an equally serious and complex challenge with its demographic situation. This will be the focus of the next section.

4. Demographic Situation in Italy

According to Italian National Institute of Statistics (ISTAT, 2022), as of January 1, 2022, Italy had 58.9 million residents, with 30.2 million women and 28.7 million men. For the fifth consecutive year, Italy's population remained below 60 million, a level it had maintained for six years between 2012 and 2017. Between 2021 and 2022, Italy lost approximately 253,000 inhabitants (equivalent to the entire population of Venice), a smaller decline than the previous year's reduction of 405,000 inhabitants. The natural balance has been negative for thirty years, with only two exceptions, 2003 and 2006. Since 1993, more people have died than were born in Italy. For example, in 2021, there were 399,000 births compared to 709,000 deaths.

All of this confirms that Italy's population is declining.

Another aspect of the population decline is the steadily decreasing number of births.
2021 was the first year in Italian history with fewer than 400,000 births and the seventh consecutive year below the 500,000 threshold. The decline in births has been ongoing for a long time, although it partially slowed between the mid-1980s and the 1990s, and even began to rise between 1995 and 2009. However, since 2009, births have declined more rapidly.
The total fertility rate, which represents the average number of children per woman of childbearing age (between 15 and 49), is 1.25—well below the threshold of 2 needed to maintain a stable population. The country has been below this level since 1977.
Furthermore, the decreasing number of births is contributing to the progressive aging of the Italian population. In 2020, the average age was 46.2 years, and in 2021, it was 45.9 years. Less than twenty years ago, the average age was 41.9 years.

In addition, according to the latest Eurostat data, Italy is the oldest country in the European Union, with half of its population having an average age of over 48. Along with Portugal, Italy has the highest percentage of residents aged over 65, at 24 percent, or about one in four people.
This increase reflects a Europe-wide trend, with the general median age rising to 44.5 years. The number of older people now represents more than a fifth of the Union's population.

However, even more significant is the aging trend within the Italian population. The percentage of individuals aged 80 and over has risen to 7.7 percent of the total population, a substantial increase from the 3.3 percent recorded in 1991. The reason for this aging population is straightforward: the number of deaths, largely due to the aging population, far exceeds the number of births.

[2] The Next Generation EU (NGEU) Investment Plan can play a strategic role in boosting growth. It is important not to waste this opportunity, as already emphasized by Schilirò (2020).

If we consider the so-called 'age pyramid,' the Italian one does not resemble a pyramid. A pyramid shape indicates a growing population, a square shape suggests no growth, while a trapezoid shape, as seen in Italy's case, signals a declining population.

In this context, migrants can play a significant role, particularly in the labor market. Some studies predict that Italy will see a reduction of 1.5 million people of working age by 2030, creating the need to add 700,000 new workers to support projected economic growth. A significant portion of these 700,000 workers could come from regulated immigration.

Migratory flows have only marginally slowed this aging process. For a time, the negative population balance was offset by a higher rate of positive migration, but this is no longer the case. As a result, Italy's demographic decline has become more pronounced. Certainly, the issue of regulating migratory flows is a complex problem that poses significant challenges to the states involved (Schilirò, 2013; Schilirò, 2017). However, part of Italy's demographic problem, the needs of the labor market, and the growth and sustainability of the debt are connected to finding a solution to this long-standing issue.

Furthermore, population aging has a direct effect on public debt. In fact, it leads to greater demand for expenditure rather than income taxes, which causes the government to issue more debt. This is because the increase in expenditure taxes can hardly offset the negative consequences of the decline in income taxes. Population aging and fiscal policy also affect economic growth (Luo, 2023).

Another aspect of the demographic issue, relates to the effects of technical progress on the economy. Technological progress impacts long-term growth, altering the nature of work and influencing its future, but it does not necessarily benefit everyone (Schilirò, 2021; Schilirò, 2023). Although the disruption caused by digital technologies can put many jobs at risk, a study by Gravina and Lanzafame (2024) highlights that automation mitigates the negative impacts of demographic changes, particularly aging, by stimulating labor productivity growth. This analysis suggests a more favorable view of advanced technologies, such as robots and automation, in both industrial production processes and services, as they improve productivity while also promoting economic growth. Sustained growth driven by technological progress, leading to positive changes in the labor market, can only benefit the sustainability of public debt.

5. Discussion and Conclusion

Italy is experiencing high public debt and a declining population. This paper has emphasized that public debt and demography are deeply interconnected, influencing each other in various ways.

On one side, the high public debt that has characterized the Italian economy for the past three decades has negatively impacted growth. In addition, the sustainability of public debt is a crucial issue, especially in 2024, as the Stability and Growth Pact, in its new form following the recent reform, has been reactivated after being suspended in 2020 due to COVID. Regarding sustainability, an important consequence of public spending is the composition effect of spending, primarily due to interest payments on the debt. To maintain sustainable debt, real interest rates must be lower than growth rates; otherwise, the risk of high public debt becoming unsustainable increases significantly. Finally, a large debt stock affects economic policy choices also limiting sovereignty.

On the other side, population dynamics—such as aging, fertility rates, and migration patterns—shape the country's fiscal policy and debt sustainability. As the population ages, Italian government faces rising costs for healthcare, pensions, and social services. An older population puts pressure on public finances because retirees generally pay less in taxes while requiring more government spending. A consequence of an aging population is that the number of individuals not in the labor force increases compared to those in the labor force. Fewer working-age individuals support the elderly population, reducing the tax base while increasing government spending and public debt. In addition, demographic decline slows economic growth, leading to lower tax

revenues. With fewer workers, productivity tends to decline unless counterbalanced by innovation, which reduces the government's ability to service existing debt.

The declining population impacts long-term fiscal sustainability due to pressures on the pension system, since fewer workers are available to support each retiree, requiring governments to borrow or raise taxes to maintain benefits, and increasing healthcare costs. These costs can rise faster than GDP growth, forcing governments to increase public debt.

Immigration can help offset the challenges of an aging population by increasing the working-age population, potentially leading to higher tax revenues and reducing the need for public borrowing. However, managing migration flows, creating pathways for regulated immigration from countries of origin, integrating immigrants into the labor market, and providing public services to new arrivals is a complex challenge. Italy is still lagging in managing migration flows, and such management, at least in the short term, tends to increase public spending.

To conclude, demographic changes are one of the key long-term factors affecting public debt. Managing these demographic shifts through policy measures becomes essential. Possible policy responses to high public debt and population decline include encouraging labor force participation, such as through immigration and increasing female labor force participation; fiscal consolidation by cutting spending or raising taxes; and pension reform by raising the retirement age and/or reducing benefits. Finally, as a last resort, debt restructuring may be necessary if the country faces unsustainable debt burdens due to demographic pressures.

However, investment in education targeted at the young population is also necessary to foster productivity and growth, while simultaneously improving public finances and long-term debt sustainability.

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