How Large Are the State and the Public Sector?

Long-Term Trends and Conceptual Issues, 1800–2025

Master Thesis

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Abstract

This article asks what it means to say that the state is "big," and whether taxation or public spending adequately reflect the size of the public sector. To address these questions, I examine the historical development of the public sector in France, Germany, the United Kingdom, and Sweden. Drawing on national accounts, I highlight the importance of how we define and measure the public and private sector. Tax-to-GDP ratios and overall spending provide a limited picture of the state's size, as they do not tell us how the money is spent or who ultimately controls the production. For this reason, I examine additional indicators such as public value added, public investment, or the public share of national wealth. As part of this, I also compare the European experience with developments in large emerging economies and post-socialist countries. The analysis shows that, while taxation and public spending have reached historically unprecedented high levels, the actual ownership and provision of goods and services has seen a large shift to the private sector. This challenges simple notions of state expansion and calls for a more nuanced and multidimensional understanding of the size of the public sector in the economy.

Keywords: Public Sector, Scope of Government, Public corporations
JEL Codes: H11, H50, E01

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1 Introduction

Is the state withdrawing or expanding? Public debates seem to point in opposite directions. On the one hand, headlines declare that *"Governments are bigger than ever"* (The Economist, 2024), highlighting record tax revenues and rising public spending. In Germany, the term *Rekordsteuereinnahmen* (record-high tax revenues) is routinely used in the media, often accompanied by concerns about overreaching bureaucracy and the erosion of personal responsibility. On the other hand, critics of *neoliberalism*, *turbocapitalism*, or the *propertarian society* argue that state capacity is weakening, public services are increasingly outsourced or privatized, and democratic institutions are losing ground to global market forces.

This apparent contradiction raises a deeper question: What does it actually mean to say that the state is "big"? The amount of taxation or public spending as a share of GDP is the most common measure used to describe the size of the state, both in academia and in the general public. But does the share of taxation or expenditure actually capture the size of the public sector in the economy? In what ways do these definitions and measurement choices shape our understanding of the public sector's size? What exactly do we mean by "the state" or "the government"? In areas such as education, health, or transport, the boundary between private and public actors is often blurred.

To address these questions, this article examines the development and composition of the public sector in four high-income European countries: France, Germany, the United Kingdom, and Sweden. In order to enable meaningful cross-country comparisons, I discuss the criteria used to classify actors as public or private in macroeconomic statistics of. I also highlight the role of public corporations that function at the intersection of public control and market-based enterprise. I make use of a variety of data sources, including national accounts data, detailed public spending data, the IMF's public investment data, and wealth data from WID.

I argue that the total amount of taxation or spending provides only a limited understanding of the relative size of the state. These measures do not show us what the money is spent on or who ultimately controls economic resources. To do so, I analyse the different types of public spending, which show that the largest part of government expenditures are in the form of cash transfers to citizens or buying goods from private market producers. In addition, alternative indicators such as public value added and public investment, which on average show a stable share of the public sector, are examined. Lastly, I analyse the public share of national

wealth, which is declining in most countries around the world, particularly in the wake of large-scale privatisations during the 1980s. As part of this analysis I, it also compares the European experience with developments in large emerging economies such as India, China, and Brazil, as well as in countries transitioning from Soviet communism to market economies.

The article proceeds as follows. The next chapter summarises the literature on the historical rise of public spending. I show that not only the *size* but also the *composition* of public spending has undergone a fundamental transformation during the 20th century. Chapter 3 describes the framework of national accounts and how it defines the scope of the government and the public sector. In the fourth chapter, I will use this framework to compare the size of the public sector in selected European economies. In doing so, I will move beyond the common measure of tax-to-GDP ratios to discuss the size of the public sector. Chapter 5 turns to a broader discussion of the size of the state and collective ownership. Chapter 6 concludes.

2 The rise of Public Spending

This chapter summaries the literature on the historical rise of the fiscal state. While I will argue later that numbers on taxation and public spending offer only a limited perspective on the size of the state in today's economies, they serve as a useful starting point. These measures are most widely used in historical and comparative analyses, and there is a close link between the emergence of nation states and their capacity to tax. Hoffman (2015) sees the ability to "levy substantial permanent taxation" as one of two fundamental characteristics that constitute *a state*. In the literature on the historical rise of the state, taxation is often used as a proxy for state capacity. The two concepts are closely linked but not the same. State capacity refers to the broader ability of a government to enforce rules, provide services, and implement policies (Ogilvie, 2022). Fiscal or extractive capacity is a key part of that. Taxation, a direct measure of fiscal capacity, depends on a range of administrative tools like population or business registers, which are themselves signs of broader state capacity.

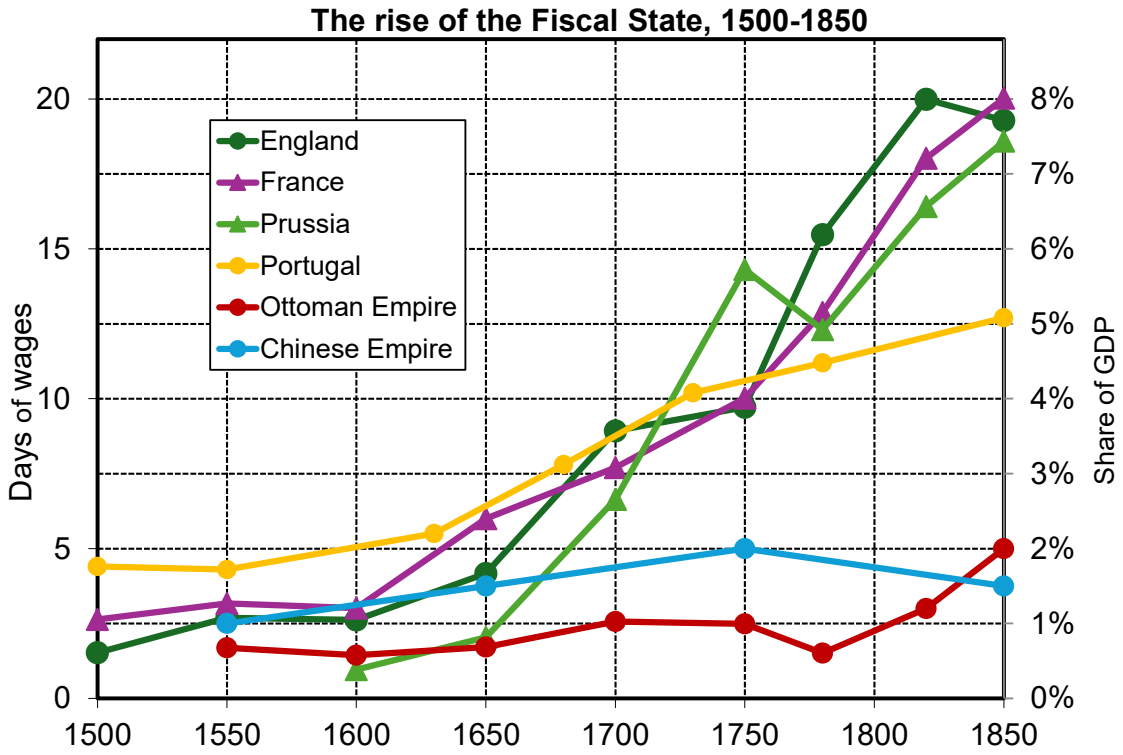
The development of fiscal capacity in rich European countries can be described in a simplified way by "two great leaps forward" (Piketty, 2020). The first occurred between the 16th and 18th centuries, when several European states significantly increased their tax revenues. A second "leap" occurred in the 20th century with the expansion of the welfare state. In Europe, public expenditures as a share of GDP

increased from 10%, at the eve of the first world war, to 40% in the 1980s. With the expansion of the welfare state, not only the *size* but also the *composition* of expenditures changed. I will now discuss these two periods and their drivers in more detail.

2.1 The Rise of the Fiscal State

Fiscal revenue in early-modern states Measuring public spending prior to the 19th century presents significant challenges, particularly due to the lack of standardised data across countries and over time. To enable meaningful international and temporal comparisons, economic historians often use the daily wage of unskilled urban workers as a common reference point. In their seminal work, Karaman & Pamuk (2010) show that in 1500 the per capita tax burdens in both Europe and the Ottoman Empire were roughly equivalent to two days of unskilled urban labour per year. However, while tax pressure rose sharply in many European countries during the seventeenth and eighteenth centuries - reaching up to twenty days by the mid-nineteenth century - it remained relatively stable in the Ottoman Empire (Figure 1). Piketty (2020) finds a similar trend in China, where per capita tax revenues also amounted to about two days of labour in the sixteenth century, with little increase in the centuries that followed. In a recent study, Costa et al. (2024) shows that Portugal followed the pattern of rich European countries and shows an increasing fiscal pressure in the 17th and 18th centuries.

Although historical GDP estimates of this time should be treated with caution, Piketty (2020) suggests that GDP per capita of this time could be approximated to 250 days of unskilled urban wages. This would imply that state revenues in Europe increased from around 1–2 percent of national income in 1500 to approximately 6–8 percent by 1800 for countries like England, France, or Prussia.



Note: Figure adapted from Piketty (2020), data for Portugal from Costa et al. (2024). GDP shares based on the assumption of GDP per capita is equal to 250 days of unskilled urban wages.

Figure 1. The fiscal capacity of States, 1500-1850

Why Europe first Why has this "divergence" in tax revenue occurred in Europe during the 17th and 18th centuries? There is no single agreed answer to this question, but economic historians tend to agree that the rise of the fiscal state in Europe was closely linked to the political fragmentation of the continent and the high frequency of military conflict. Unlike the centralised empires of the Ottomans or China, Europe was divided into numerous medium-sized states, constantly competing for power. This rivalry created sustained pressure on rulers to raise revenue and expand administrative capacity in order to fund war efforts. As Brewer (1989) argued in his study on 18th-century Britain, this resulted in the emergence of the 'fiscal-military state', where the institutions of taxation and public finance were fundamentally shaped by the demands of warfare. Most European states were at war for the vast majority of this period—95% of the time in the sixteenth and seventeenth century, and 80% of the time in the eighteenth century - according to estimates by Tilly et al. (1992). These conditions made it essential for states to develop systems capable of financing

increasingly large and professional armies. By the end of the 18th century, European powers had far surpassed other empires in fiscal capacity and military organisation. While the Ottomans maintained roughly the same army size as in 1550, countries like France and England had tripled theirs (Karaman & Pamuk, 2010). This transformation not only strengthened state and fiscal institutions but also gave Europe the technological and organizational superiority that, among other drivers, underpinned its global expansion (Hoffman, 2012).

The near-permanent state of war in early modern Europe played a central role in shaping the modern fiscal state. However, warfare alone is not the only factor to explain the divergence of tax revenues during the 18th century. Several authors have pointed to the role of elites in shaping the fiscal system. Hoffman (2015) emphasises that while warfare contributes to the rise of states, it is not enough on its own. The creation of states with the capacity for permanent taxation depends critically on political processes and path-dependencies. One other relevant factor to explain the rise of the fiscal state is the role of political representation. Dincecco (2009, 2015) argues that increasing fiscal revenues in Europe were closely linked to the establishment of parliamentary control over public spending and the centralisation of tax administration. Karaman & Pamuk (2013) highlight that elites were more willing to accept higher taxation when it was accompanied by greater political influence and control over fiscal decisions. Similarly, Cox et al. (2025) argue that early modern states with strong revenue-raising capacity tended to follow one of two institutional paths: either rural-authoritarian regimes that centralised fiscal power in the crown or urban-parliamentary systems that centralized it in elected assemblies. In both cases, external threats, such as war, often served as a catalyst for reform and state building. Supporting this idea, Becker et al. (2025) provide causal evidence that military conflicts in German cities led to stronger local institutions, including more representative councils and increased fiscal and spending capacity.

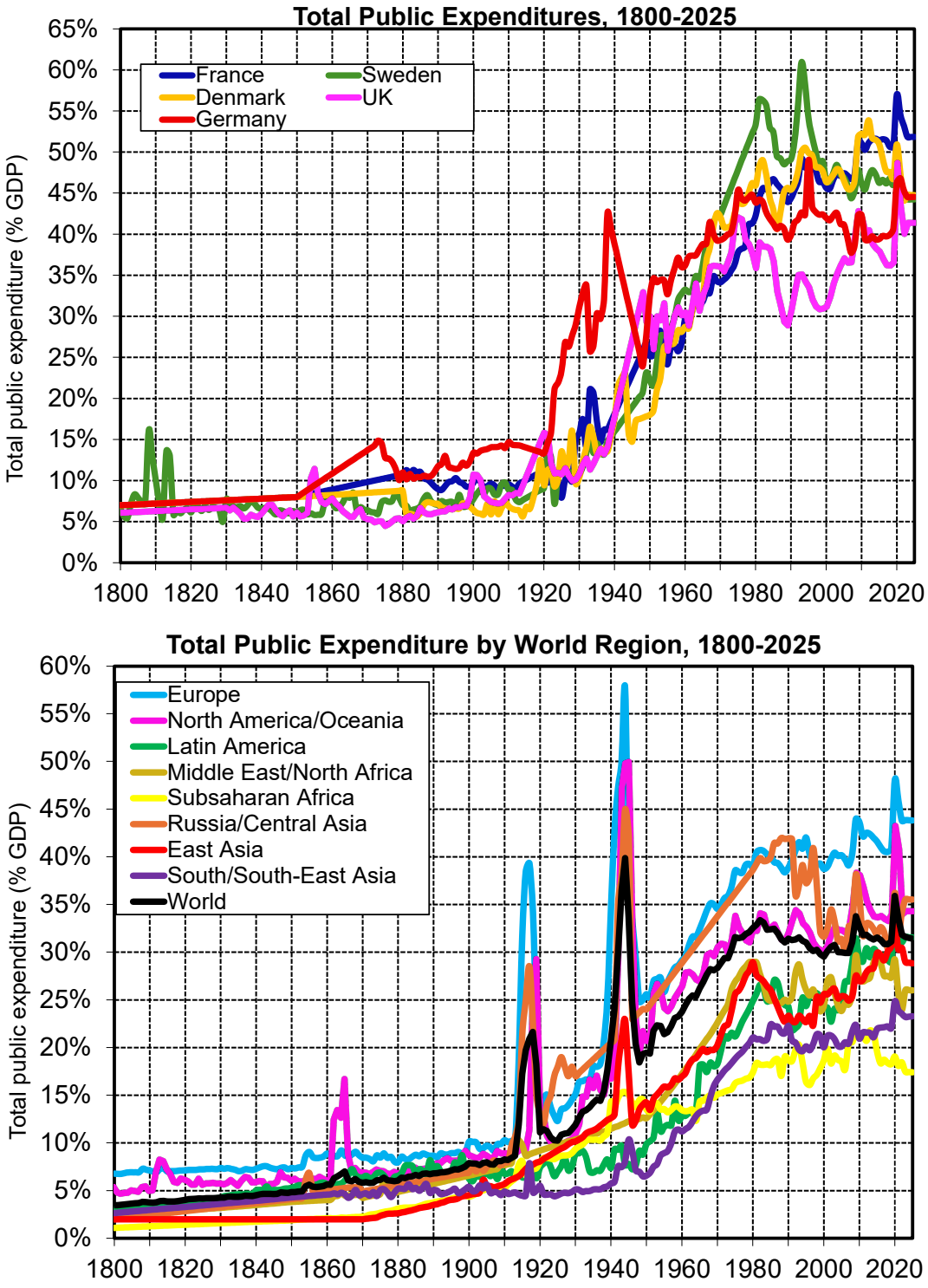
2.2 The Rise of the Welfare State

Rise of the welfare state As described in the previous section, at the beginning of the 20th century, there existed substantial differences in taxation across countries. Throughout the 20th century public expenditures increased gradually in most parts of the world. Lindert (2004) shows that on the eve of World War I, public spending in rich European countries was around 10% of GDP — only slightly higher than the 6–8% observed around 1800 in countries like France, England, or Prussia. With the first

world war, military expenditures surged, and after the war public spending remained at a higher level and continued to rise, particularly in Europe and North America. A similar pattern could be observed after the second world war and later became known as the *ratchet effect*. Based on their study on British public expenditures, Peacock & Wiseman (1961) argued that government spending and taxation increase sharply during wartime or crises and do not fully return to previous levels. Over time, this leads to a gradual expansion of the state. However, this theory cannot explain the strong acceleration in public spending between 1960 and 1980, when many countries expanded welfare systems and social services. Lindert (2004) argues that foremost the expansion of political representation can explain increasing demands for public goods, redistribution, and the rise of the social state.

Building partly on Lindert, Bharti et al. (2025) bring the analysis of fiscal capacity on a global level. On average, public spending as a share of world GDP increased from about 3% in 1800 to 31% in 2025. While all regions experienced a rise in public spending in the second half of the 20th century, regional differences remain large. Today, European countries have on average the largest public budget of about 43% of GDP. Countries in North America, East Asia, Russia and Central Asia and Latin America between 30 and 35% of GDP, MENA and South/South-East Asia around 25% and Subsaharan Africa around 18% (Figure 2).

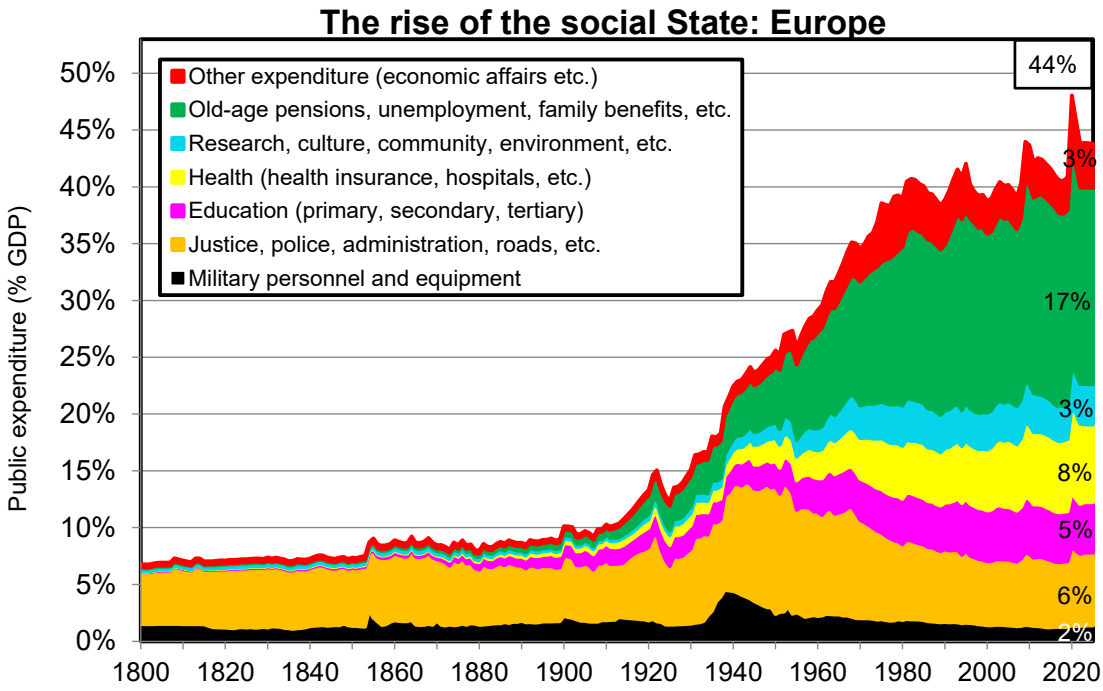
Changing Composition of Expenditures There are important limitations to using only fiscal revenue data to understand the size and the role of the state. Importantly, total tax revenues tell us nothing about how that money was actually used. Although detailed public spending data for the early-modern period is limited, we know that the largest part of government spending before the 19th century went towards the military. Ogilvie (2022) shows that in countries like Prussia, France, or Britain in the 17th and 18th centuries, public expenditures for military and debt services account for about 80% of central government expenditures, while civilian expenditures made up less than 20%. Social spending was only marginal, if existing at all.



Note: In the upper figure, WW years are interpolated. Source: Bharti et al. (2025)

Figure 2. Public Expenditure in the long-run, 1800-2025

In the 19th and 20th centuries, it is not only the level, but also the composition of public spending that changed. Figure 3 shows the development of public spending in Europe by function as a share of GDP. Until the late 19th century, nearly all public spending was on military and public administration. Although military spending and basic public services have changed little since the early 20th century, most of the growth in government budgets was driven by increased spending on education, healthcare, social protection, and other human and social services. As a consequence, the share of public expenditures on military and public administration decreased to less than 20% of the total budget. The largest part of public spending is dedicated to social protection in the form of pensions, unemployment benefits, or unemployment benefits. In Europe, these monetary transfers make 17% of GDP and thereby close to 40% of total public spending (Figure 3).



Note: World war years are interpolated, Figure from Bharti et al. (2025)

Figure 3. The rise of the social State in Europe, 1800-2025

2.3 Economic Development and the Size of the Public Sector

The global perspective provided by Bharti et al. (2025) also shows that the world's richest countries tend to have the highest share of public spending. The relationship

between public spending and economic development has been much discussed. Early contributions, notably by the German economist Adolph Wagner in 1893, linked economic development to a higher level of public expenditure.

Wagner's observation, which he termed *the law of the increasing public activities* and later became known as *Wagner's law*, states that economic growth is accompanied by both an absolute and relative expansion of the public sector. At the time, public spending in Germany was modest by modern standards, around 12% of GDP, and had not increased sharply in previous years. Nevertheless, Wagner states that "the phenomenon [rising state activity] has been generally observed for quite some time and can also be demonstrated here clearly and with numerical evidence" (Wagner, 1894). While his work does not include a systematic statistical analysis, he refers to public expenditure statistics for Prussia, Bavaria, Austria, Great Britain, or Switzerland. He highlights that public expenditures increased not only for military, but also for "peaceful" and "productive" activities such as public administration, education and culture. Wagner attributed this trend to two forces. First, as economies grow, they become more complex, requiring governments to maintain law and order, enforce property rights, and ensure justice — all of which expand state functions and expenditure. Second, economic development leads to new desires in social welfare, or in other words, that the demand for public goods rises with an income elasticity greater than one.

Theories like Wagner's law that explain an increasing size of the state with higher income levels are likely to face problems of reverse causality. Higher income may not only lead to higher public spending, but public spending itself can influence long-term growth. An important channel are investments in health and education, which have been shown to contribute significantly to economic development (Bharti et al., 2025). For example, Gethin (2025) estimate that education accounted for approximately 45% of global economic growth and 60% of pretax income growth among the poorest 20% of the world's population between 1980 and 2019, mainly through reductions in within-country inequality. However, access to such growth-enhancing public services remains highly unequal: Europe and North America/Oceania host just 8% of the global school-age population but receive 40% of global public education expenditure (measured in PPP euros) (Bharti et al., 2025). At the same time, there are, of course, multiple confounding factors—such as political institutions, levels of democracy, and administrative capacity— that can jointly influence both public spending patterns and economic outcomes (Lindert, 2004).

2.4 Beyond Public Spending

This chapter described the transformation from states with very limited fiscal capacity to today's developed fiscal states. In the past century, public expenditures in Europe have grown from less than 10% to more than 40% of total value added. While taxation is an imperfect measure of state capacity, it remains one of the few indicators available for long-run and cross-country comparisons. However, relying solely on tax-to-GDP ratios to assess the size of the state presents important limitations. For example, we have seen that the increase in public spending during the last decades was mainly driven by rising public transfers for old-age pensions and other cash benefits. These payments are essentially collected through taxation and redistributed, without the state itself producing goods or services. Furthermore, a growing share of public expenditures is in the areas of health and education. While these services are (mostly) publicly financed, that does not necessarily mean the state is directly providing them—as illustrated by private hospitals operating within publicly funded systems.

To fully understand state involvement, it is therefore necessary to go beyond spending aggregates. I therefore examine the different types of public spending, the provision of goods and services by the state, and the public ownership of capital. This also includes the role of public corporations, which is often overlooked in standard government spending statistics. For example, if we focus solely on public expenditure, we might conclude that China has a smaller state than any European country, since its public spending accounts for only 32% of GDP. This would ignore the large role played by state-owned enterprises in the Chinese economy (Piketty et al., 2019). Also for Wagner, the increasing public activity refers not only to public spending. Economists empirically testing Wagner's thesis usually use simple measures of tax-to-GDP ratios or central government spending as a measure of the size of the state. Peacock & Scott (2000) show that the exclusion of public corporations or local administrations is a misinterpretation of Wagner's law, who saw an increasing role of the state also in the production of goods and services, for example, favoured public railway corporations (Wagner, 1877).

These questions point to a broader issue: the growing importance of understanding what exactly constitutes "the state" in modern economies. In many areas the boundary between public and private provision is often blurred. For instance, it is not always clear whether universities, healthcare providers, or utility services should be classified as public or private. Clarifying these boundaries is essential before com-

paring the size of the public sector across countries or over time. In the next chapter, I turn to the national accounts framework, which offers a standardised and internationally comparable definition of the public sector—covering both general government and public corporations—and use it as the basis for the measures developed in the following sections.

3 Defining the Public Sector

When comparing the different measures of the size of the public sector between countries or throughout time, it is important to use clearly defined concepts. What counts as *the government*, *the state*, or *the public sector* is a matter of definition and does not always align with the common understanding of these terms. The key reference for today's measures of macroeconomic aggregates is the *System of National Accounts* (SNA), which I present in this section and use in the following sections. The SNA is an internationally agreed statistical framework for compiling macroeconomic data. It is developed jointly by major international organisations, including the United Nations, the International Monetary Fund, the World Bank, and the OECD. Most national statistical institutes base their national accounts on the SNA guidelines to ensure international comparability. The SNA defines the public sector as *"all the units of general government and all public corporations"* (SNA (2008), 22.6; SNA (2025), 30.6).[1] Before turning to the scope and boundaries of the public sector, I will first introduce the institutional sectors on which the SNA is based.

3.1 Institutional Sectors in the System of National Accounts

The System of National Accounts (SNA) classifies each institutional unit in the domestic economy into institutional sectors. An institutional unit is characterised by its ability to own assets, incur liabilities, and engage in economic activities and transactions with other units. The units are grouped together based on their "principal function, behaviour, and objectives" (SNA (2008), 2.1.7). The classification of an institutional unit into a sector is primarily determined by two factors: whether its

[1]The current version of the *System of National Accounts* is SNA 2008, which I refer to unless otherwise noted. A revised version, *SNA 2025*, is currently in preparation, and a pre-print version is already available. With respect to the topics covered in this article, there are no major changes in definitions or concepts. However, data coverage for public corporations might improve, by including public corporations as a standard breakdown in SNA 2025. The implementation by national statistical institutes is not expected before 2029. For a history of the development of national accounts, see Vanoli (2005).

production is for market sale or non-market, and whether the unit is controlled by the government or by private entities (Figure 1). Based on these dimensions, the SNA defines five domestic institutional sectors: the corporate sector, covering non-financial corporations (S11) and financial corporations (S12), the government sector (S13), the household sector (S14), and the non-profit institutions serving households (NPISH, S15).

Table 1. Institutional Sectors in the Economy

	Control	
	Government (Public Sector)	**Private**
market-production	Public Corporation	Private Corporation
non-market production	General Government	NPISH

Note: This table shows the two dimensions that are most relevant to determine the institutional allocation of a sector according to the SNA. There are also exceptions like the central bank, which produces non-market services but is counted as a public financial corporation.

Corporations are units whose principal function is to produce market goods and services. Corporations can be divided into financial corporations (S.12) and non-financial corporations (S.11) depending on the type of their services. The corporate sector can be further subdivided regarding the control of the corporation. If a corporation is controlled by the government, it is counted as a public corporation belonging to the corporate sector and *not* to the government sector. If a corporation is under foreign control, it is classified as a foreign-controlled corporation, and if it is under national (but not public) control, it is classified as a national private corporation. While the concepts of public corporations and foreign-controlled corporations already existed under the SNA 2008, they will be made a "standard breakdown" under SNA 2025, which will hopefully improve future data availability.[2]

The **general government** includes all units that produce non-market goods and services and that are controlled by other parts of the government. The question of what exactly are "non-market goods and services" is fuzzy and will be discussed in detail in the following section. The difference between the General Government and the NPISH sector, which are both non-market producers, lies in the question

[2] "Breakdowns for the corporations sectors by foreign-controlled corporations, public corporations and national private corporations, are introduced as standard breakdowns." (SNA 2025)

of control. While all units of the government sector are controlled by units of the government, NPISH are under private control. Again, there are many borderline cases which will be discussed in more detail.

It is important to highlight that the general government includes much more than the central administration. The term could be misleadingly understood as referring only to elected political institutions. However, it includes all government units at the central, regional, and local levels, public social security funds, as well as other institutions that provide goods and services free of charge or at non-market prices and are controlled by the government—such as public schools, universities, or health services. These "other institutions" are also referred to as "extra-budgetary units" or non-profit institutions (NPIs) controlled by the government. In other languages such as French (les administrations publiques) or German (Staatssektor) it is clearer that the sector includes more than just political or central bodies. The general government (S13) includes the subsectors: central government (S1311), state government (S1312), local government (S1313), and social security funds (S1314).

Households play a special role among the economic sectors. Besides producing goods and services in their function as unincorporated businesses, their principal function is to "supply labour [and] to undertake final consumption" (SNA, 2008). Questions about the boundaries between the corporate and household sectors, as well as the production boundary within the household sector, can have important implications for economic measures such as GDP (Lequiller & Blades, 2014). The key determinant of whether an unincorporated enterprises is treated as a quasi-corporation (and thereby counted as part of the corporation sector and not the household sector) is whether they publish "complete sets of accounts" (SNA, 2008, 4.44). It is worth highlighting that the definitions in national accounts do not depend on the legal status of a unit. This is an explicit aim of the SNA to make numbers comparable between different countries with different legal systems. However, the household-corporation boundary is not of primary concern regarding the measurement of the public sector and will not be discussed further here.

Non-profit institutions serving households (NPISH) are units that primarily produce non-market goods and services, which means that they offer their output free of charge or at prices that are not economically significant. These institutions are privately controlled and include organisations such as charities, religious groups, and

foundations that provide services to households. Note that NPISH are only a subset of all non-profit institutions (NPI). Some NPIs are market producers. For example, business and employer lobby organisations are private NPIs that serve enterprises. According to the System of National Accounts (SNA), such entities are considered market producers and therefore part of the corporate sector (SNA, 2008, 4.89).

Table 1 summarises the institutional sectors along the questions of market production and control. This summary on institutional sectors within the SNA was necessary to now discuss in more detail what counts as the public sector. I will do so along the questions of what does it mean to "produce non-market goods" and to be under "government control".

3.2 Government Control

The question of which institutional units are controlled by the government is relevant to determine the scope of the public sector. While it is rather clear that the central and local administrations are under public control, it becomes less straightforward in areas of utilities, health provision, or education, which are often provided by entities separate from, but under some form of influence by, the general government. Publicly controlled units always belong to the public sector. Depending on whether they are market producers or not, they are classified either within the general government or as public corporations (as discussed in the next section).

Public vs. Private Corporations The SNA defines *control* of a corporation as the "ability to determine the general corporate policy of the corporation" (SNA, 2008). Since control arrangements can vary widely, the SNA outlines eight key indicators to guide classification of corporations into public and private: majority ownership of voting shares; control over the board or governing body; control of appointment and removal of key personnel; control of key committees; special rights through golden shares or similar options; regulatory influence that goes beyond standard industry oversight; control exerted by being a dominant customer; and control tied to borrowing conditions. In practice however, public corporations are often defined by the general government owning more than 50% of shares or voting rights.[3]

[3]See for example the definitions of public corporations by INSEE (France) or Destatis (Germany). Also note that many institutions and studies use the broader concept of state-owned enterprise (SOE), which has no common definition and sometimes already starts at state ownership shares of 10% (World Bank, 2024) or 20% (IMF, 2020).

Non-profit institutions A non-profit institution (NPI) is classified as part of the government sector if the government has the ability to determine the NPI's general policy or programme. This control can arise through several channels: the government's right to appoint the NPI's officers; provisions in the NPI's founding documents that restrict its objectives or operations; contractual agreements that limit its independence; or exposure to the financial risks of the NPI's activities. While significant government financing may suggest control, funding alone is not sufficient—an NPI remains outside the government sector if it retains meaningful autonomy over its policies and decisions (SNA, 2008, 4.92). This could apply, for example, to NGOs that obtain the majority of their funding through public tenders. Examples of government-controlled NPIs include universities or public broadcasting agencies.

3.3 Economically significant Prices and non-market Output

The second relevant dimension to determine the institutional sector of a unit is whether it produces market or non-market goods and services. This question decides whether a government-controlled unit belongs to public corporations or to the general government and can have important real-world consequences. In the EU, the headline "public" deficit-to- GDP ratio refers to "general government gross debt at nominal value" and therefore does not include the debt of public corporations (Eurostat, 2023; de Matos et al., 2015; Deutsche Bundesbank, 2018). Other consequences are more technical, such as public corporations showing up as as financial assets in public balance sheets, while assets of the general government are counted as non-financial assets (as discussed later).

For a unit to belong to the general government it must provide its goods or services mainly free of charge or to prices that are *not economically significant*.[4] In practice most national accountants treat *economically significant*, as prices that cover at least 50% of the production costs (Lequiller & Blades, 2014). There are many units around this threshold. In Germany for example, the German Central Bank noted that sometimes "several hundred units change sector in one year" from the general government to the private sector even though they require a unit to be below

[4] *"Economically significant prices are prices that have a significant effect on the amounts that producers are willing to supply and on the amounts purchasers wish to buy. These prices normally result when: a) The producer has an incentive to adjust supply either with the goal of making a profit in the long run or, at a minimum, covering capital and other costs; and b) Consumers have the freedom to purchase or not purchase and make the choice on the basis of the prices charged."* (SNA, 2008, 22.28)

or above the threshold for three subsequent years (Deutsche Bundesbank, 2018).

There is one important exception regarding central banks. While they are classified as a non-market producer and controlled by the government, they are still treated as a public financial corporations and not part of the general government.

3.4 The General Government in practice: Germany and France

These definitions have shown that the government sector is much broader than the central administration. In Germany, the national statistical institute publishes each year a list of all extra-budgetary units controlled by the government. Extra-budgetary means units that are under public control but have separate accounts from the central or local government. In 2024, the German Statistical Office counted 25339 units under the control of the government. Among these, 7832 were classified as non-market producers and thereby as part of the general government. 17507 units were classified as market-producers forming the public corporations.[5] Among the public corporation the largest single company is Deutsche Bahn (German Railways), of which the government holds 100%. Formerly state-owned companies like Deutsche Post, Deutsche Telekom, or Deutsche Lufthansa of which the German state continues to hold 15%-20% of the shares are not part of public corporations within this framework. The main sector of these extra-budgetary entities is energy, including municipal energy providers (Hesse et al., 2017).

In France extra-budgetary organisations that are part of the general government are called *Organismes Divers d'Administration Centrale (ODACs)*, *Organismes Divers d'Administration Locale (ODALs)*, or *Organismes dépendant des assurances sociales (ODASS)* depending on the sub-sector that controls these entities. The French National Statistical Institute (INSEE) publishes an annual list of all ODAC and summary of all ODAL entities.[6] Examples of ODACs include national museums, universities, or CNRS. ODALs include public nurseries, local development agencies, or cultural associations controlled by local governments. Public corporations are summarised as *enterprise publique* or *sociétés contrôlées majoritairement par l'État*. In 2022, there were 1,888 companies majority-owned by the French state, employing

[5] In German, all units under state control are *Öffentlichen Fonds, Einrichtungen und Unternehmen (FEU)* of which *Extrahaushalte* are non-market producers and *Sonstige FEU* are market producers.

[6] ODAC list 2022: https://www.insee.fr/fr/statistiques/fichier/8068749/Liste_ODAC_SD2022.pdf, ODAL list 2023: https://www.insee.fr/fr/statistiques/fichier/8574832/Liste_ODAL_SD2023.pdf. See INSEE website or Lienert (2014) for a detailed discussion of extra-budgetary untis in France.

572,000 people, which account for 2% of total salaried employment in France (INSEE, 2024b). Among them, the most prominent examples are SNCF, EDF, or RATP.

3.5 Frontier within the corporate Sector

Although the focus of this article is on the government sector, we should not forget that there exists a wide variety of types of organisations within the private corporate sector. These range from multinational shareholder-owned companies to owner-led enterprises, as well as more associative forms such as cooperatives. I have already discussed the distinction between non-profit institutions serving households (NPISH) and corporations, which are both independent institutional sectors in the framework of the SNA, and the distinction depends on the criterion of market production. However, also within the market corporate sector, meaning organisations that make a significant part of their revenue from sales, we can find a wide variety of different organisations like cooperatives, social enterprises, or mutual societies.

Currently, national accounts do not offer standardised definitions and sufficient granularity to display these variations within the private sector. However, there have been recent international efforts to improve the measurement of what is referred to as the third or social economy (TSE) or the social and solidarity economy (SSE) (ILO, 2023). These frameworks aim to capture a part of the economy that includes organisations with social missions, democratic governance models, or restricted profit distribution, and typically includes cooperatives, mutual societies, associations, foundations, and in some concepts also volunteer work and informal organizations. The two key dimensions are usually limited profit distribution and democratic governance.

One main difficulty lies in mapping these concepts to the existing institutional sectors of the SNA. With the *Satellite Account on Non-profit and Related Institutions and Volunteer Work*, the UN Department of Economic and Social Affairs introduces the concept of the third or social economy (TSE). The framework includes three components: (1) non-profit institutions not controlled by government, (2) related institutions such as cooperatives, mutual societies, and social enterprises, and (3) volunteer work (UNSD, 2018). It requires a limited distribution of profits from all units and thereby excludes cooperatives or mutuals that distribute profits to its members and at the same time includes social enterprises which do not have democratic governance structures. [7] Therefore, this approach provides an incomplete picture

[7] *"Cooperatives or mutual societies that allow the distribution of more than 50 per cent of their profits to members are normally excluded from the TSE sector."* (UNSD, 2018, 3.19)

of the size of the cooperative sector when only defined by democratic governance. Harmonised statistics on the size of the cooperative sector remain rare and national studies are often based on specific legal forms of enterprises, which differ between countries.

The aim of this section has been to clarify how "the state" is defined in modern macroeconomic statistics, based on the international System of National Accounts. In short, the public sector comprises all units in an economy under government control. It is divided into the general government, which produces non-market goods and services and includes central and local administrations as well as extra-budgetary units under government control that also produce non-market output. Public corporations, by contrast, are entities in which the state holds more than half of the voting rights and that cover more than half of their costs through sales. With this conceptual framework, I now turn to the measurement of the size of the public sector in four European economies.

4 Measuring the Size of the Public Sector

Building on the concepts of the previous section,this section analyses the size of the public sector in selected European economies using a multidimensional framework. As discussed before, defining what constitutes the public sector is often a nuanced issue. Therefore, I will highlight the influence of the public–private boundary on the measures. I begin with public spending, but argue that understanding the full relevance of the public sector requires looking beyond public spending-to-GDP ratios. A high level of public spending does not necessarily mean a large public sector in the *production* of goods and services. We could imagine an economy with very high taxation, but if all money is redistributed in the form of cash transfers, it is ultimately private companies that produce all goods and services. This would also be the idea behind school vouchers, supported, for example, by Milton Friedman. While the state *spends* money on education in the form of vouchers, it is ultimately private competing school companies that *provide* education services (Friedman & Friedman, 1980). The amount of public spending on education could be similar to that in a system where teachers are public servants. To capture a more complete picture of the relative size and economic role of the state, I combine analyses of public spending, government value added, the role of public corporations, and public wealth. In doing so, I highlight that the state not only acts in its role of redistribution, but also as a

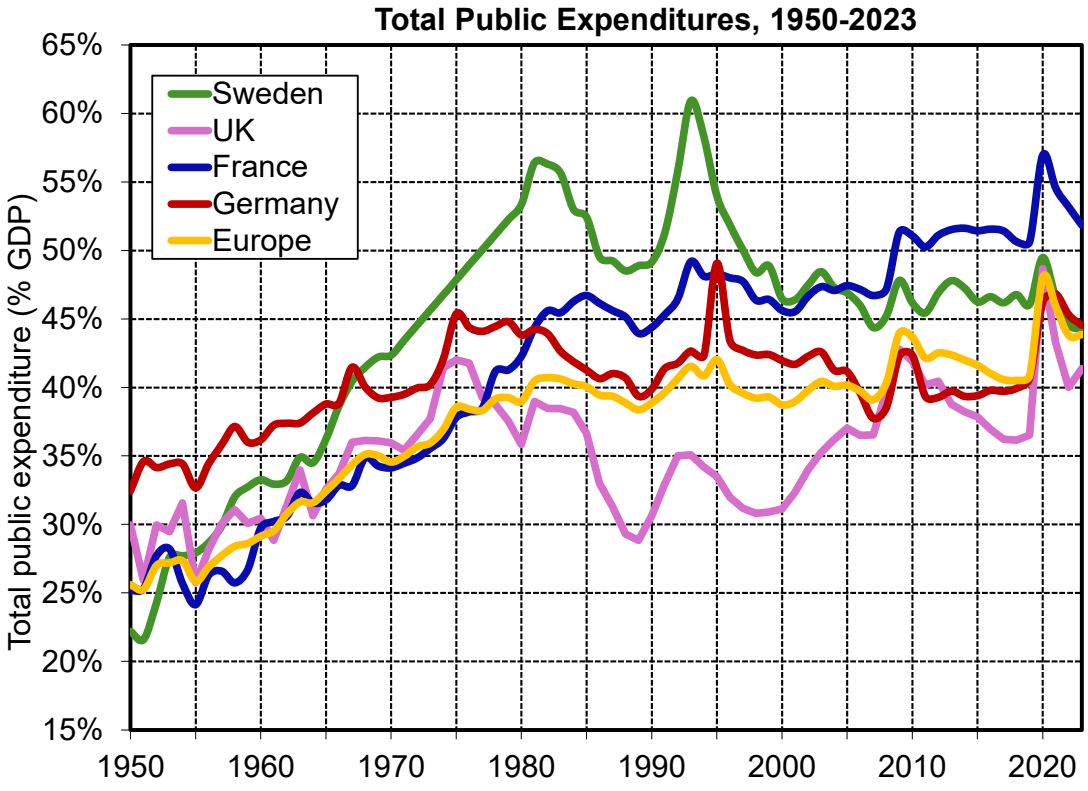
producer of goods and services.[8]

4.1 Public Spending

Public spending or public expenditure is one of the most common measures used to describe the size of the public sector. For temporal or regional comparison, it is usually expressed as a share of GDP. As I have presented before, taxation and public spending are also used in the literature on the historical development of the state. I will focus here on the developments in public spending in recent decades in France, Germany, Sweden, and the UK, which allows for a detailed decomposition and a comparison to other indicators. If not stated otherwise, the data in this section are based on the OECD's government expenditures by function (COFOG). Public spending is usually defined as the sum of all consolidated expenses of units of the general government. Consolidation means that transactions between the different units within the government sector (e.g. transfers from central to local governments) are excluded to avoid double counting.

Public spending as a share of GDP has been relatively stable during the last 40 years compared to the historical rise of public spending after the Second World War. Figure 4 shows the development of public spending since 1950. Today, the levels of public spending differ significantly between European countries. Before the Covid-19 pandemic, public spending reached about 40% of GDP in Germany and the UK, while it was about 50% in France and Sweden. Well-known limitations in the cross-country comparisons of public spending numbers include the taxation of social benefits, tax breaks with social purposes, and private (mandatory) social expenditures (Adema et al., 2011). One point that often limits comparability are different designs of pension systems. While (as we will see later) there are relevant differences between the countries, they are all based on a publicly administered unfunded pension system, although in the UK private and occupational pensions play a comparatively larger role.

[8] See Sekera (2020) for a description of the changing understanding of the role of the government as a producer in the history of (public) economic thought.

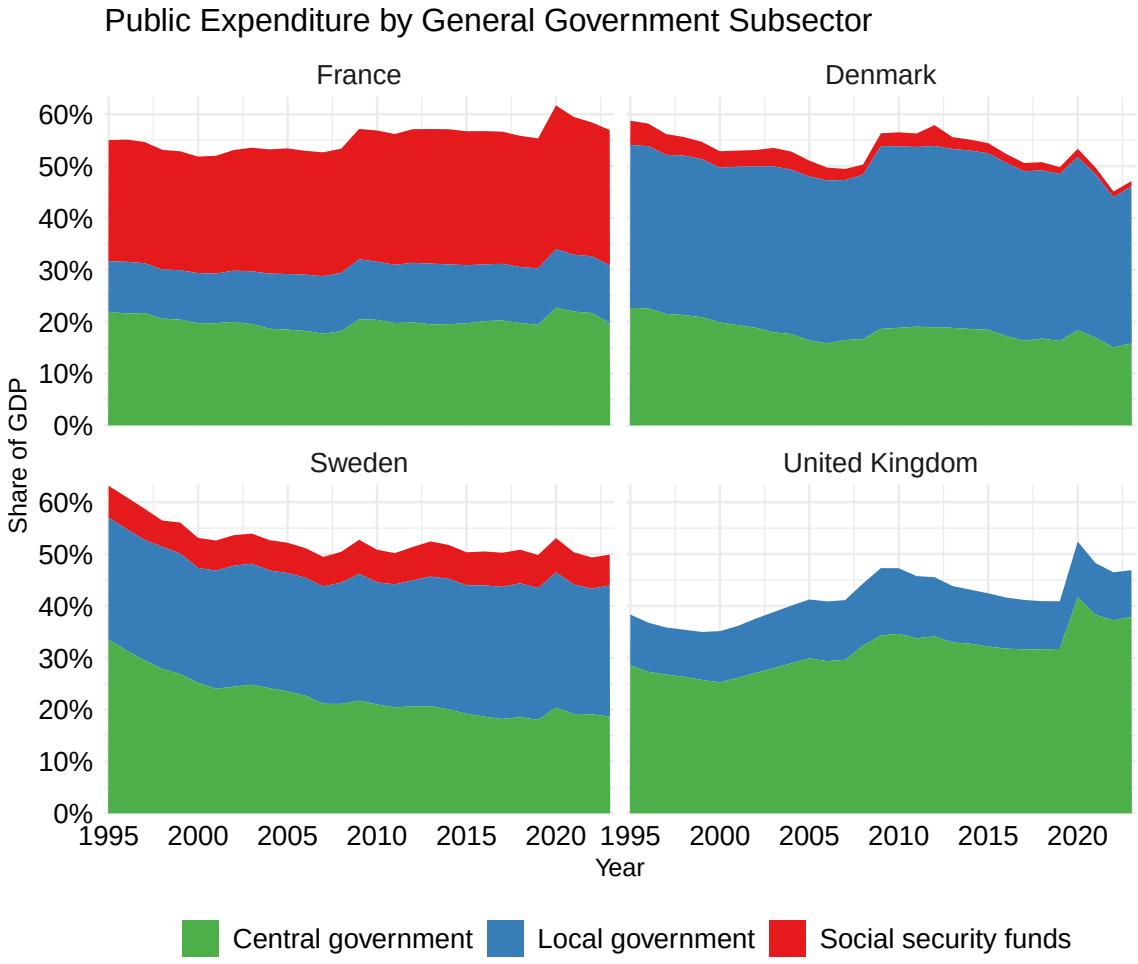


Note: Data from Bharti et al. (2025)

Figure 4. Public Spending 1950-2023

By sub-sector As already highlighted before, public spending refers not only to the expenditures of the central government, but also to local government and social security funds. Looking at the different sub-sectors, we can see large institutional differences between countries (Figure 5). While in countries like Germany or France, social security funds make a large share of public spending, their share is relatively small in Denmark and Sweden. The UK does not have a public social security fund. These differences reflect two different ways of organising social security systems. In Bismarckian models (e.g. Germany, France), social protection is primarily delivered through security funds financed through social security contributions of workers. In contrast, Beveridgean systems (e.g. Sweden, UK, Denmark) rely more on universal, tax-funded benefits administered directly by the state. We can also see large differences in the share of public spending of local government. Again, this is partly explained by social services. In the UK the public health service (NHS) is funded through expenditures of the central government, while in Denmark municipalities and regions are responsible for major functions like healthcare, education, and social

protection—including pensions and cash benefits (OECD, 2022).

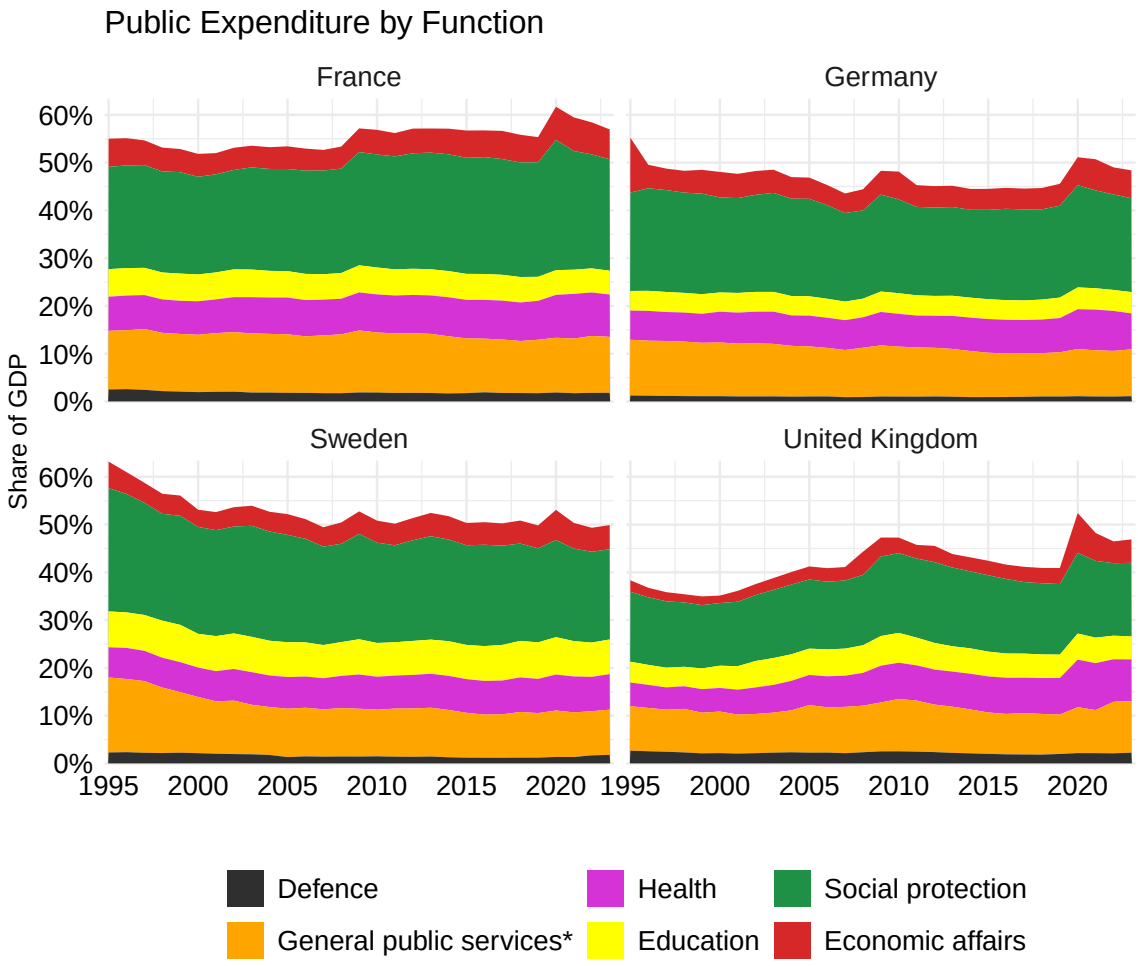


Note: Data shows consolidated spending, transfers to other government sectors were substracted. Full consolidation for Germany by sub-sector is not possible due to data limitations.

Figure 5. Public Spending by sub-sector, 1995-2023

Expenditure by Function To gain a better understanding of the nature of government spending, it is common to decompose government spending by function. As we have seen in the first section, the composition of public expenditure has transformed fundamentally compared to early fiscal states (Figure 3). Today, Germany, France, the UK, and Sweden all spend around 10% of GDP on general public services and defence. Education accounts for between 4.5% and 7% of GDP, with Sweden allocating the most. Health expenditures range from about 7% (Sweden) to over 9% (France and the UK). The largest component is social protection, where spending also varies more widely: from 15% in the UK to nearly 24% in France, with Germany

and Sweden in between (Figure 6).



Note: General Public Services include expenditures on culture, recreation, environmental protection and debt services.

Figure 6. Public Spending by function, 1995-2023

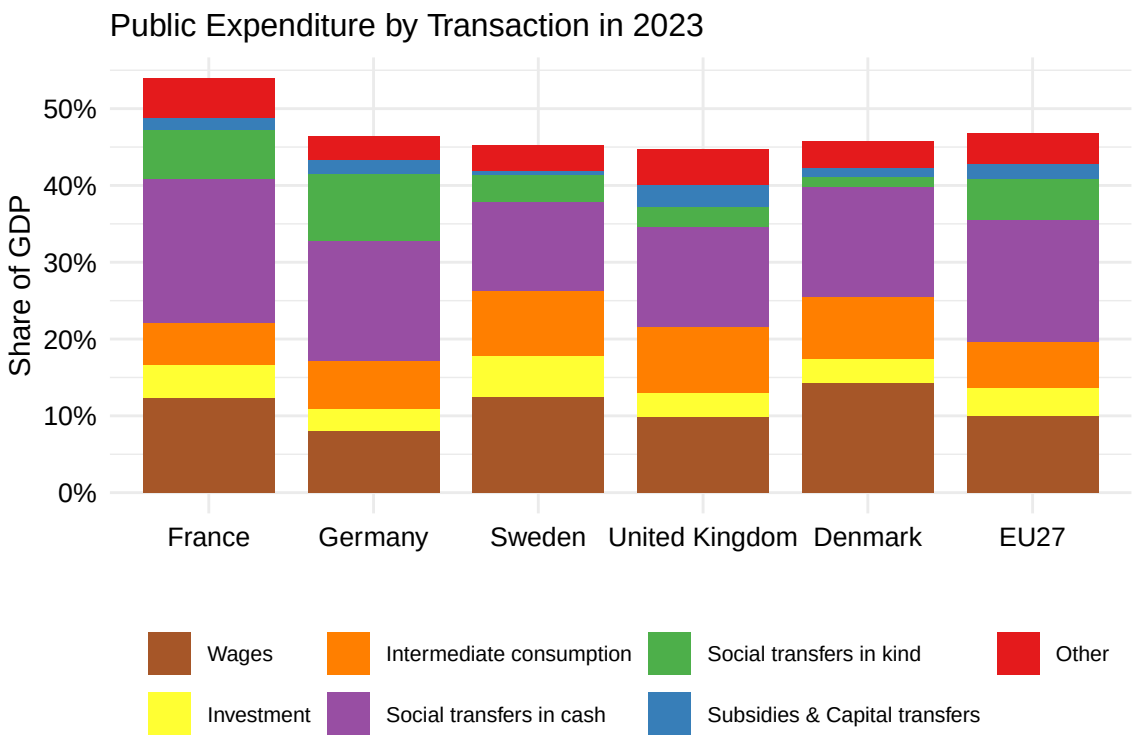
Expenditure by type Another way to look at government spending is to decompose total government spending into the different *types* of payments. This can be wages to public employees, spending on intermediate goods, or transfers to citizens. Public spending in Europe is on average close to 50% of GDP. The largest part consists of transfers for social protection, either in the form of social transfers in cash (16% of GDP), of which a large part are pensions, or in the form of social transfers in kind (5.3% of GDP). Social transfers in kind are purchases of goods and services by the government produced by market producers and supplied to households. This includes expenditures on medicines, medical consultations, home care, and housing

allowances. In addition to socail transfers, European countries spend on average 10% percent of GDP (around 20% of public spending) directly as wages, including civil servants. Further expenditures are for intermediate inputs (6%), subsidies and capital transfers (4%), investments (3.5%) and other expenditures, including interest payments (Figure 7).

One striking difference from looking at public expenditures by type is that wages paid by the government are comparatively low in Germany. While the German government pays 8% of GDP in the form of wages, they account for 12% of GDP in France and Sweden and for 14% of GDP in Denmark. At the same time, we observe that *social transfers in kind* are relativity large in Germany (Figure 7). To understand the reason for these differences, we have to look into the details of national account. If a state wants to provide a welfare service, it has, simply put, two options. First, it can provide the services itself through public employees of units belonging to the general government. In this case, the wages of these employees would show up as wages paid by the government.

The second option is for the government to finance the service without providing it itself. The private provider may receive transfers from the State to deliver the service free of charge, or individuals may be reimbursed for the cost. In national accounts, these payments are recorded as *social transfers in kind*. This institutional choice has a direct impact on the composition of public expenditure: countries that rely more on outsourcing service provision tend to record lower compensation of employees in the general government sector but higher social transfers in kind. Conversely, countries where such services are predominantly produced within general government will record a larger wage bill.

There are exceptions to this institutional alignment between provider and employer. In some countries, certain private schools are staffed by teachers who are legally employees of the State. In France, for example, under the *enseignement privé sous contrat* system (predominantly Catholic), the schools themselves are classified as NPISH, but their teachers are employed and paid directly by the state. From a national accounts perspective, these salaries are recorded in the general government's compensation of employees (INSEE, 2024a, see).



Note: Other includes interest payments as well as the categories *Other current transfers* and *Other taxes on production; current taxes on income, wealth, etc; adjustment for the change in pension entitlements*"

Figure 7. Public Spending by transaction type, 2023

Health spending and public transfers in-kind We can illustrate these differences by looking at the health sector. Figure 8 shows public expenditures on health by type, following Eurostat's COFOG classification (see Appendix Figure A.1.1 - A.1.3 for other spending categories). We see that while public health expenditures in all selected countries are at a similar level, of about 7% to 8% of GDP, the type of spending differs. Especially in Germany, public health expenditures are in the form of social transfer in kind and thereby provided by private market producers - while in Scandinavian countries health services are mainly provided directly by the government, showing in the expenditures as wages and intermediate consumption. France is in between with about half of the health services provided by private producers, similar to the EU average.

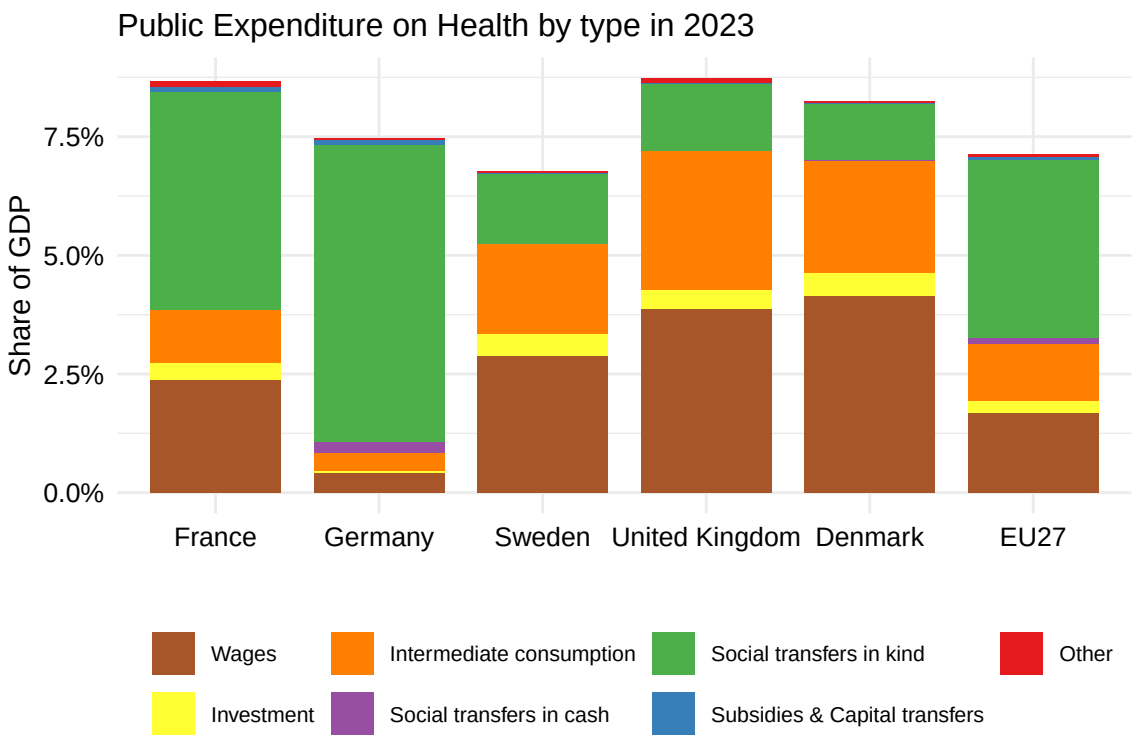


Figure 8. Public Health Expenditures by transaction type, 2023

One example that highlights the difference in public and private provision of health services are hospitals. In Germany, only around 40% of hospital beds are in public institutions, while about 60% are in private hospitals—divided between non-profit institutions (28%) and for-profit providers (32%). France shows a slightly less privatised picture, with about 40% of hospital beds in private hospitals, including 15% non-profit and 25% for-profit private providers. In Denmark, by contrast, nearly all hospital beds remain in public hands, and private provision plays only a marginal role.[9] The UK also relies heavily on the public sector, where hospital care is primarily delivered by NHS, with very limited private provision. These differences come in part from historical traditions: countries with tax-based funding systems, such as Denmark and the UK, have maintained predominantly public hospital sectors. Those following the Bismarckian social insurance model, such as Germany and France, traditionally include a significant private hospital sector, including non-profit organisations linked to religious or charitable organisations (André & Hermann, 2013).

However, active policy choices have also played a crucial role in increasing the involvement of private agents in the provision of public services. The privatisation

[9]Data from OECD Health Statistics

of hospitals in Germany, for example, has been an ongoing process since the early 1990s, resulting in the increasing involvement of private, for-profit hospital chains (Schulten, 2006). Similarly, in Sweden the privatization of public services, including healthcare and education, increased during the 1990s, especially under the Conservative government's "freedom of choice revolution." This led to the introduction of private for-profit providers within the publicly funded welfare system, particularly in the education sector (Schön, 2019). In line with this, we observe an increasing share of social transfers in kind in Swedish education expenditures (Figure A.1.4).

Public procurement and Government Consumption Other related concepts based on the classification of public expenditures of type are public procurement and government final consumption expenditures. General government final consumption expenditure (GFCE) includes all non-market services produced directly by the government, such as education, but also the purchase of market services for transfers in kind or intermediate consumption.[10] This is what we assign to the government when calculating GDP from the expenditure side. "Government consumption" should be rather understood as an accounting convention, because ultimately these services (like public health and education) are consumed by households. Government consumption has been stable at around 20% to 25% of GDP during the last 25 years in most European countries (Figure A.1.5).

Excluding services produced by the government itself, public procurement includes all kinds of goods and services bought by the government from market providers in the form of intermediate consumption, investments, or social transfers in kind. It thereby captures all market production that is bought by the government. In many OECD countries, public procurement accounts for approximately 15% of GDP (see Figure A.1.6). As a share of public spending, public procurement has increased in most countries (Figure A.1.7). In addition to fulfilling operational needs, public procurement can also be used to support social or environmental objectives. In Germany, many states require companies that receive public contracts to comply with sector-specific minimum wages or collective bargaining agreements (Schulten, 2025).

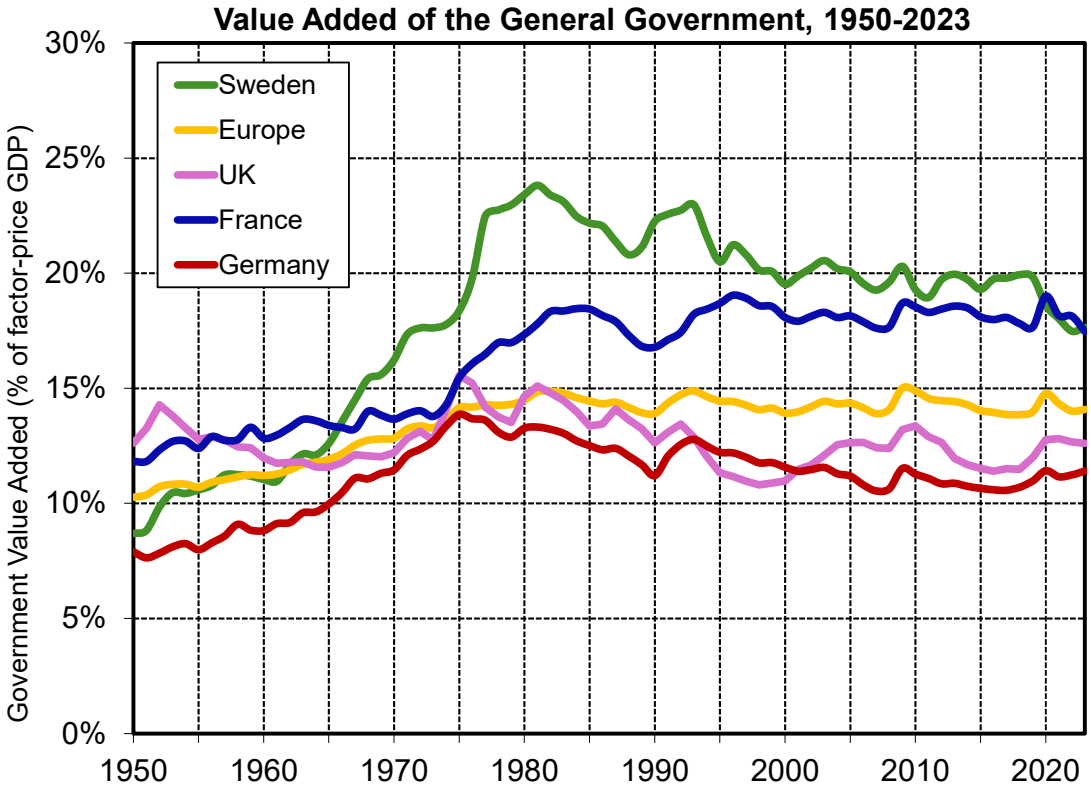
[10]Final consumption expenditure of general government = Non-market output + Social transfers in kind - Partial payments by households. Partial payments by households (e.g., private copayments for medicine, tickets for public museums or tuition fees for public universities) are subtracted from the value of non-market output when calculating GFCE, because they are counted as part of private consumption expenditures.

4.2 Public Value Added

We have seen that governments today tax and spend about half of the total value added in the economy. At the same time, a large part of public spending today accounts for social transfers in cash or governments buying goods and services from market producers in the form of in-kind transfers or intermediate consumption. To get an understanding of the relative size of the government in its role as a *producer* of (goods and) services, we can look at the value added by the general government. One advantage of using value added is that we can compare it in a consistent way to the value added of other sectors (households and corporations) and that we can combine the value added of the general government with other measures such as the value added of public corporations to get a full picture of the public sector.

The general government sector accounts for 12% to 20% of total value added in the economies studied with large differences between countries (see Figure 9). On the global level, we see that the value added of the government sector ranges between 10% and 15% for most countries in the world (Dietrich et al., 2025). In Germany and the UK the general government contributed 12% to the total GDP, in France and Sweden it accounts for about 20%. Sweden's exceptionally high share of value-added by the government, exceeding 20% during the 1980s, is closely linked to the structure of its welfare state. A broad range of services — including education, healthcare, childcare, and elderly care — were largely delivered directly by municipalities and county councils, rather than through private providers (Thoursie & Wadensjö, 1996). Since the 1980s, the share of value added by the general government has been stable rather stable with large differences in levels. We see that countries such as Germany or the UK that paid low amounts of their budgets in the form of wages (Figure 7) also have a low share of value added by the government. This is not by chance. Because the government produces output that is not sold at market prices, it is valued by the costs of production. This means that the value added of the government sector is the sum of all wages paid by the government and capital depreciation. The government sector therefore does not make net profits.[11]

[11] In reality the general government sector does not *only* produce non-market output. Therefore the government sector can also show small net operating surplus (or deficit).



Note: Data from Dietrich et al. (2025) based on UN National Accounts Detailed Tables

Figure 9. GVA of the General Government 1950-2023

Measuring non-market output By definition, the units of the general government produce primarily non-market output. But how do we measure the value-added of non-market output? For market production, national accounts define the value of a product as its sales price and the value-added is calculated as output at sales prices less intermediate inputs. As non-market outputs are available for free or to non-significant price, the sales prices can not be used to determine their value. To still fit non-market production into the framework, national accountants use the convention to value non-market output by its costs. These costs include the compensation of employees, intermediate consumption, consumption of fixed capital, and other taxes (less) subsidies on production (SNA, 2008, 6.130). This means that the value-added of all public schools is equal to the value of all wages paid to teachers and the depreciation of school buildings.

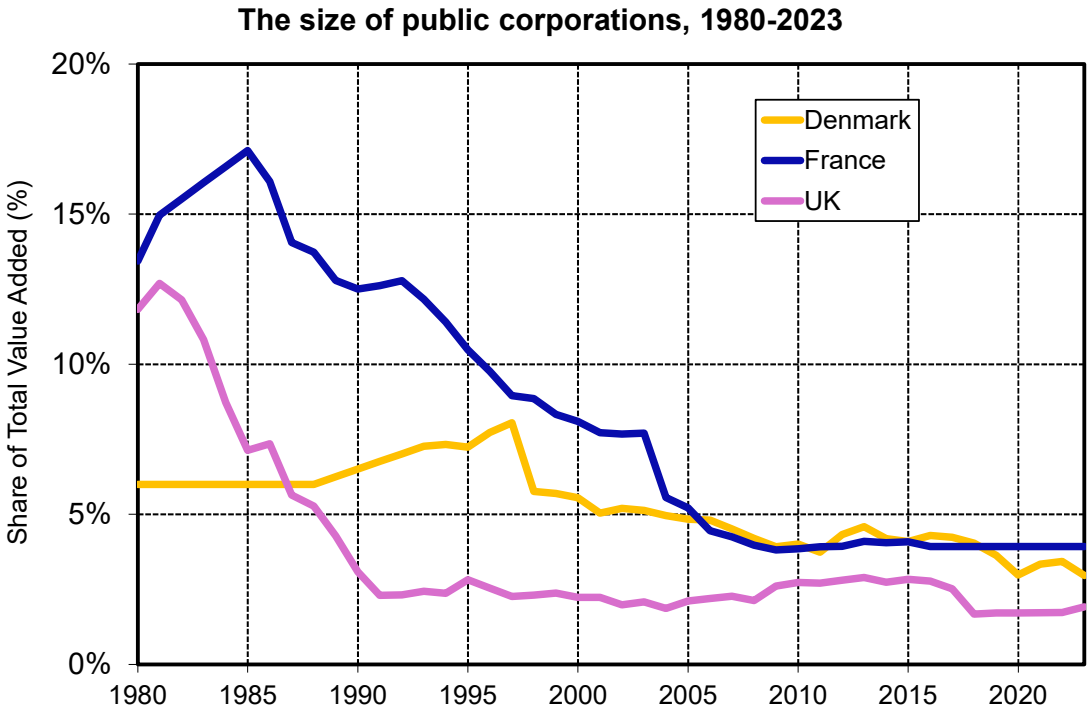
In theory, public services could be undervalued due to low productivity in the public sector or overvalued due to higher willingness to pay than the costs of provision. One main problem is that valuing non-market output by input costs implies

no productivity increase in the public sector. Therefore, if there is positive productivity growth in the public sector this would underestimate the value added in the government sector. One option is to use output-based measures, such as indicators on number of students, or health care quality. Gethin (2024) shows that there is a clear correlation between output indicators and public spending in education and health. The Stiglitz-Sen-Fitoussi-report provides and extensive discussion of problems in GDP as a measure of wellbeing (Stiglitz et al., 2009).[12] They highlight the importance of the correct measure of non-market output, but do not find a clear bias of over or undervaluation. Some national statistical institutes do already adjust non-market services by output-based measures. OECD (2022) shows the different output-based indicators used in OECD countries. Stiglitz et al. (2009) highlight that the question of valuation of non-market services is increasingly relevant for the future with an increasing share of value added in areas such as health and education where non-market providers play an important role.

A reclassification of German public transport illustrates the problem. With a general revision of national accounting in 2024, the German statistical office changed the sector classification of many local public transport providers from non-financial corporations to the general government. This change in sector allocation also changed the way in which value added for public transport was calculated. As a non-market producer the value added is now calculated by its costs instead of valuation by sales price. As the operation costs in public transport are often larger than the revenue from sales, this change increased the value added of public transport. The revision led to an increase of the German GDP by 7 Billion Euros, accounting for an increase in 0.2% of German GDP (Destatis, 2024).[13]

[12] While most of the the problems they highlight remain, the forthcoming SNA system implements one of their recommendations and natural resource depletion will be counted as a cost of production thereby in the calculation of net measures (SNA, 2025).

[13] The reclassification was part of the Eurostat National Accounts 2024 benchmark revision and was initiated by an advice from Eurostat to the German statistical institute on the treatment of public passenger transport (Eurostat, 2022). Eurostat clarified that lump-sum government payments for public transport services—such as ordering payments in regional rail, infrastructure charges, and general subsidies—may no longer be recorded as revenue. This leads to less than 50% revenues of public transport firms and therefore being a non-market producer assigned to the general government sector.



Note: Values for UK is proxied by the share of public corporations in total gross operating surplus (B.2g) from UK Economic Accounts. They are of simlar magnitute to estimates for the early 1980s by Short & Conrad (1983). Other data sources for value added are: France: INSEE (1985-2016), Haggarty-Shirley (1980-1985); Denmark: Statbank (1993-2023), Haggerty-Shirley (1988), Short & Conrad (1983) (1974).

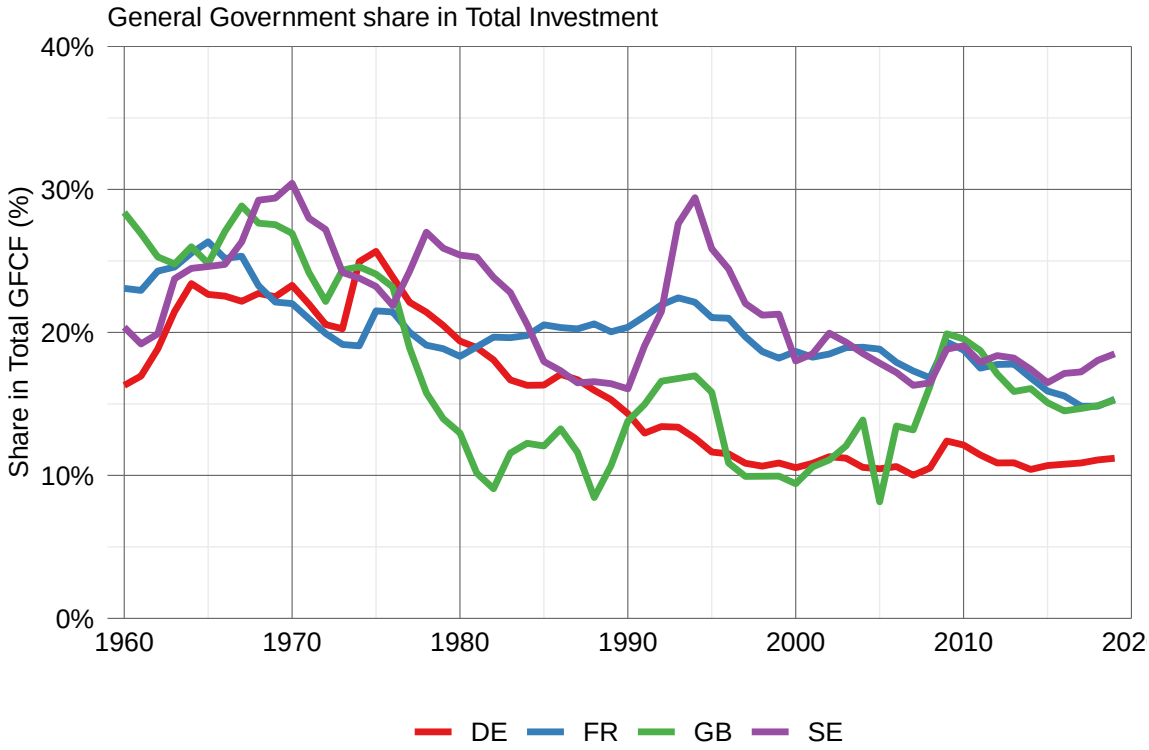
Figure 10. Value-Added by Public Corporations, 1980-2023

The size of public corporations Coming back to the definition of the public sector as the sum of the general government and public corporations as described in the third chapter. These public corporations are controlled by the state and cover more than half of their costs by revenues from sales. Macroeconomic data on public corporations are not recorded in standard national accounts. While one quarter of the 500 largest companies in the world are under state control (OECD, 2024), they do not play a major role in most European economies today. Their value added or employment shares are usually below 5%. In several countries like France or the UK, we see the decline share of value added by public corporations in the 1980s and 1990s as a result of privatisations. In France, corporations under public control accounted for 17% of total value added in 1985 with a steady decline to less than 5% by 2008. Also in the UK, privatisations led to a declining share of value added by public corporations during the 1980s under the governments of Margaret Thatcher. Major privatizations included British Telecom in 1984, British Gas in 1986, British

Airways in 1987, and British Steel in 1988. These transactions significantly reduced the role of public corporations in sectors such as utilities, transport, and industry. Nationalisation has also returned as a topic in British politics. In the 2017 and 2019 general election campaigns, the Labour Party proposed renationalising railways, water companies, and parts of the energy and postal sectors.

4.3 Public Investment

One component of public spending that requires special attention is investment. In a recent piece, Aaron Benanav emphasises that public investment is not only a tool for short-term economic stimulus but also a means of shaping the long-term structure of the economy. He argues that when the state directs a significant share of total investment, it can influence the composition of production and the pace and direction of technological change well into the future (Benanav, 2025). The most straightforward way to measure public investment is in terms of gross fixed capital formation (GFCF) of the general government. As seen in Figure 7, the general government of most countries spends between 2% and 5% of GDP on investments. With average total investment rates of about 20% of GDP, the general government accounts for about 10% to 20% of total investments. This share has declined since the 1970s, when investments by the general government accounted for about one quarter of total investments (Figure 11). Note that the distinction between investment (GFCF) and consumption lies in the expected use of the good or service: if it is used up within a year, it is counted as consumption; if it lasts longer, it is treated as investment. As a result, spending on education, healthcare workers, or social services—despite contributing to long-term outcomes—is classified as government consumption, not investment.

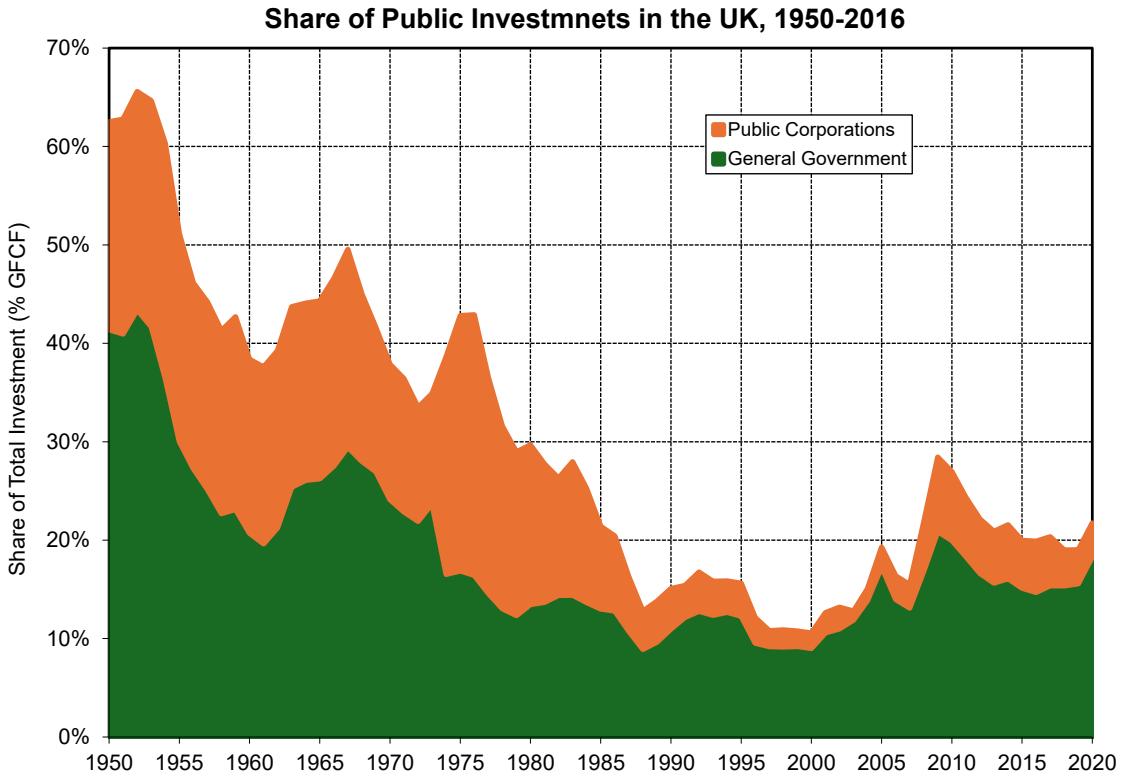


Data: IMF Investment and Capital Stock Dataset (ICSD)

Figure 11. General Government Share in Investment, 1960-2023

Analysing public investment, it becomes important to not only look at the general government, but also on public corporations. Many public corporations operate in capital intensive sectors such as energy, utilities, or public transport. Unfortunately, macroeconomic aggregates for public corporations are rarely available. While in early version of national accounts, investments of public corporations were often recorded separately, they are usually not recorded anymore. Using these early national account data, Short & Conrad (1983) show that in the 1960s and 1970s investments of public corporations accounted for about 15% to 20% of total investment in many advanced economies. The UK is one of the few countries where national accounts data are separated for public corporations. During the 1960s and 1970s, public investment - including public corporations and the general government - accounted for about 40% of total investments. Today, the general government accounts for 18% of total investment, while public corporations contribute further 3% (Figure 12). The staggering decline in the share of investment by public corporations coincides with the major privatisation programme in the UK, which began in the 1980s. In other countries, investments by public corporations also play an important role, but trans-

parent data is rare. In France, for example, public corporations accounted for 60% of all investments in the industrial and energy sector in the 1980s according to Hall (1985).



Note: Data from A Millennium of Macroeconomic Data and UK National Accounts

Figure 12. Public Investment in the UK, 1950-2020

In his article, Benanav (2025) recalls Keynes's proposal to place most investment under public control. Concerned with macroeconomic stability, Keynes suggested that "two-thirds or three-quarters of total investment" should be carried out by "semi-autonomous bodies within the state." Benanav expands on this by noting that whoever controls investment also shapes the future capital stock, productive capacity, and technological path of the economy. Public investment, in this sense, includes not only spending by the general government and public corporations, but also funds channelled through investment grants or loans from public development banks. In post-war Britain, investment by the general government and public corporations alone came already close to Keynes target, with the public share exceeding 60%—not far from the two-thirds level mentioned by Keynes. The next chapter turns to the relative size of public and private wealth.

4.4 Public Wealth

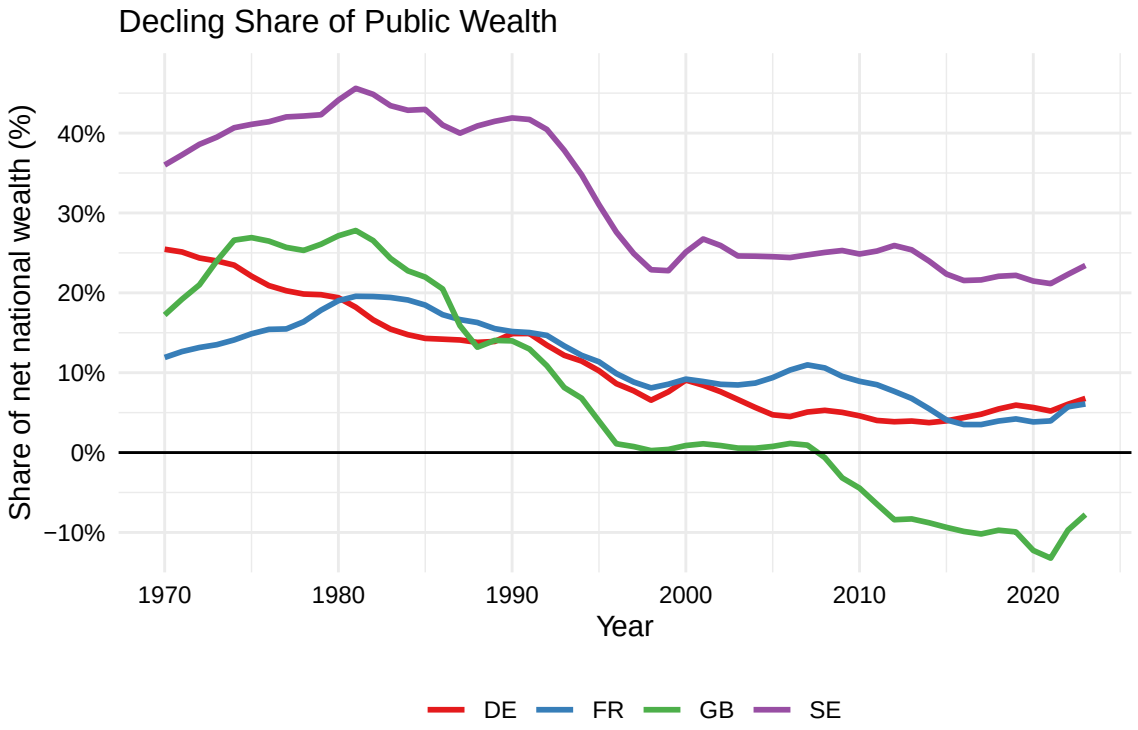
So far, I analysed the size of the public sectors in terms of government spending or income *flows*. Wealth, on the other hand, represents the *stock* of accumulated past savings. Wealth is a net concept, meaning that it is the difference between assets and liabilities. The wealth of the general government is the sum of all assets of all institutional units assigned to the general government (including public buildings, infrastructure, etc.) less all their liabilities (mostly central government debt). In this section, I rely on the wealth concepts and data from the World Inequality Database (WID), as described in Bauluz et al. (2025). These concepts follow the definitions of wealth (or net worth) in the SNA 2008 framework, but exclude unfunded pension assets and liabilities from wealth. Wealth is decomposed into four main components: housing assets, business assets (and other non-financial assets), financial assets, and liabilities. The data is harmonised from a variety of sources including financial balance sheets from National Statistical Offices, National Central Banks, Eurostat, the OECD or the IMF. I will focus on the period from 1980 to today, for historical trends in public and private wealth see Piketty (2014).

All assets and liabilities in an economy are owned by private or public actors. Private actors that hold wealth are households and non-profit institutions serving households (NPISH). Public wealth is held by the general government, including central and local governments, as well as social security funds and extra-budgetary units. Therefore, national wealth is equal to the sum of public and private wealth. While corporations also hold assets and liabilities, they are ultimately owned by private households or public entities and are not a final owner of wealth themselves. The equity of corporations shows up as financial wealth of households or, in the case of public corporations, as financial wealth of the general government. If not otherwise noted, I will refer to wealth at market-value, which can differ from wealth at book value.[14]

Public Wealth in Europe One way to analyse the relative size of the public sector is by the share of public sector wealth in national wealth. Over the past 50 years the share of public wealth in national wealth has decreased in most countries (Figure 16). In the 1970s, the share of public wealth in national wealth was between 15% and 25% in Germany, France, and the UK and fell in all countries during the 1980s.

[14] See Bauluz et al. (2025); Blanchet et al. (2020); Piketty & Zucman (2014) for further discussions of the wealth concepts used here including the differences of market value and book value wealth.

Today, public wealth makes up about 5% of national wealth in Germany and France and is negative in the UK. Negative public wealth means that public debt exceeds the value of all public assets. Sweden has a higher level of public wealth throughout the observed period, but also in Sweden the share of public wealth declined during the 1980s from about 40% to 20% of national wealth. The declining public wealth share is driven by several trends which I will analyse in this section, increasing public assets, including increasing levels of public debt and the privatisation of public corporations.



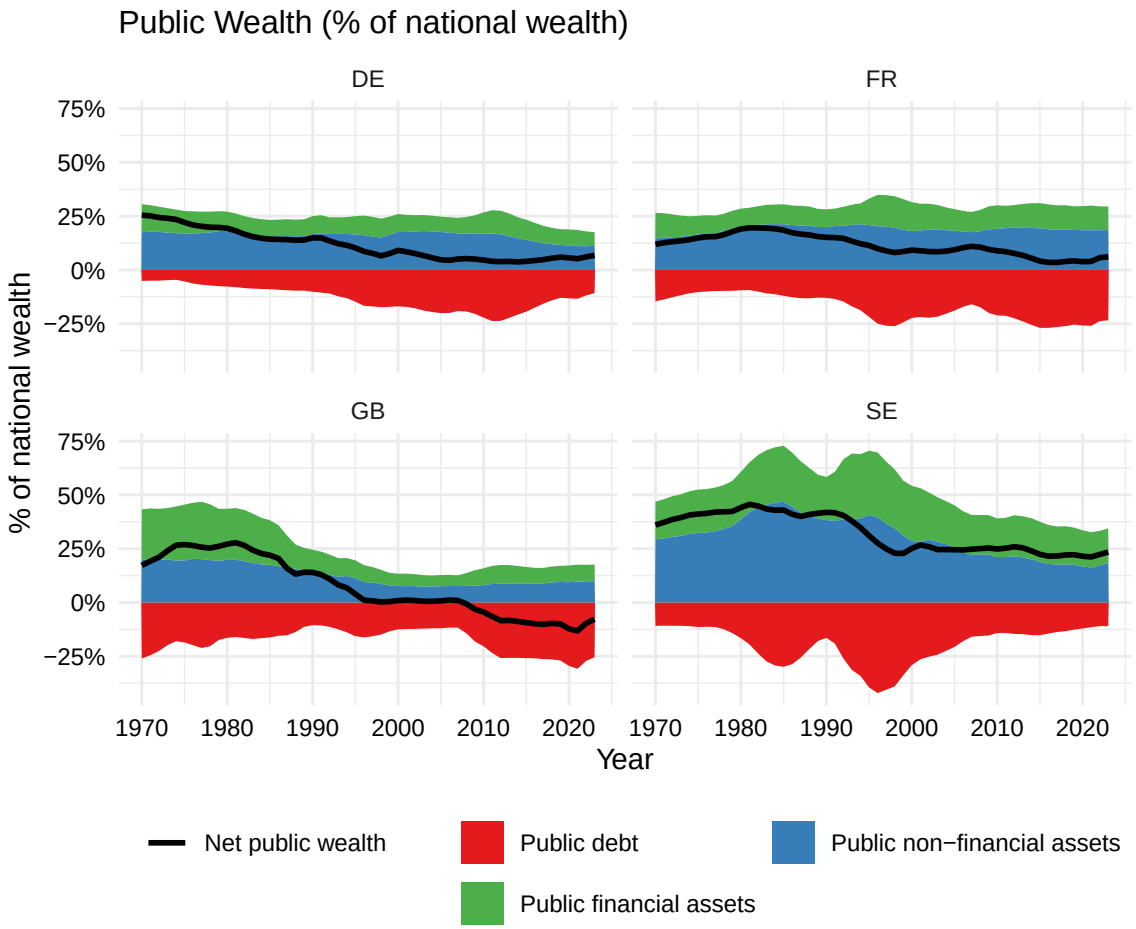
Note: Data form wid.world, details in Bauluz et al. (2025)

Figure 13. Declining Public Wealth in Europe, 1970-2023

Public wealth is the difference between public assets and public liabilities. Figure 14 shows the composition of public wealth into financial and non-financial assets and public liabilities. Non-financial assets include land, dwellings, and infrastructure by units of the general government. Financial assets include deposits, pension funds, or shares and equity holdings in public corporations. Public liabilities are mostly central government debt.

France has a higher public debt than Germany, but at the same time also has a higher share of public assets, and therefore the resulting share of public (net) wealth

is very similar.[15] In the UK the share of public wealth in total wealth declined from about 25% during the late 1970s and early 1980s to close to zero in the 2000s. This decline was driven by declining public financial assets as a result of major privatisations of state-owned enterprises and social housing. The further decline of public wealth into negative numbers was driven by the increasing public debt following the global financial crisis, including the reclassification of private financial institutions as public corporations (Office for Budget Responsibility, 2023).



Note: Data form wid.world, details in Bauluz et al. (2025)

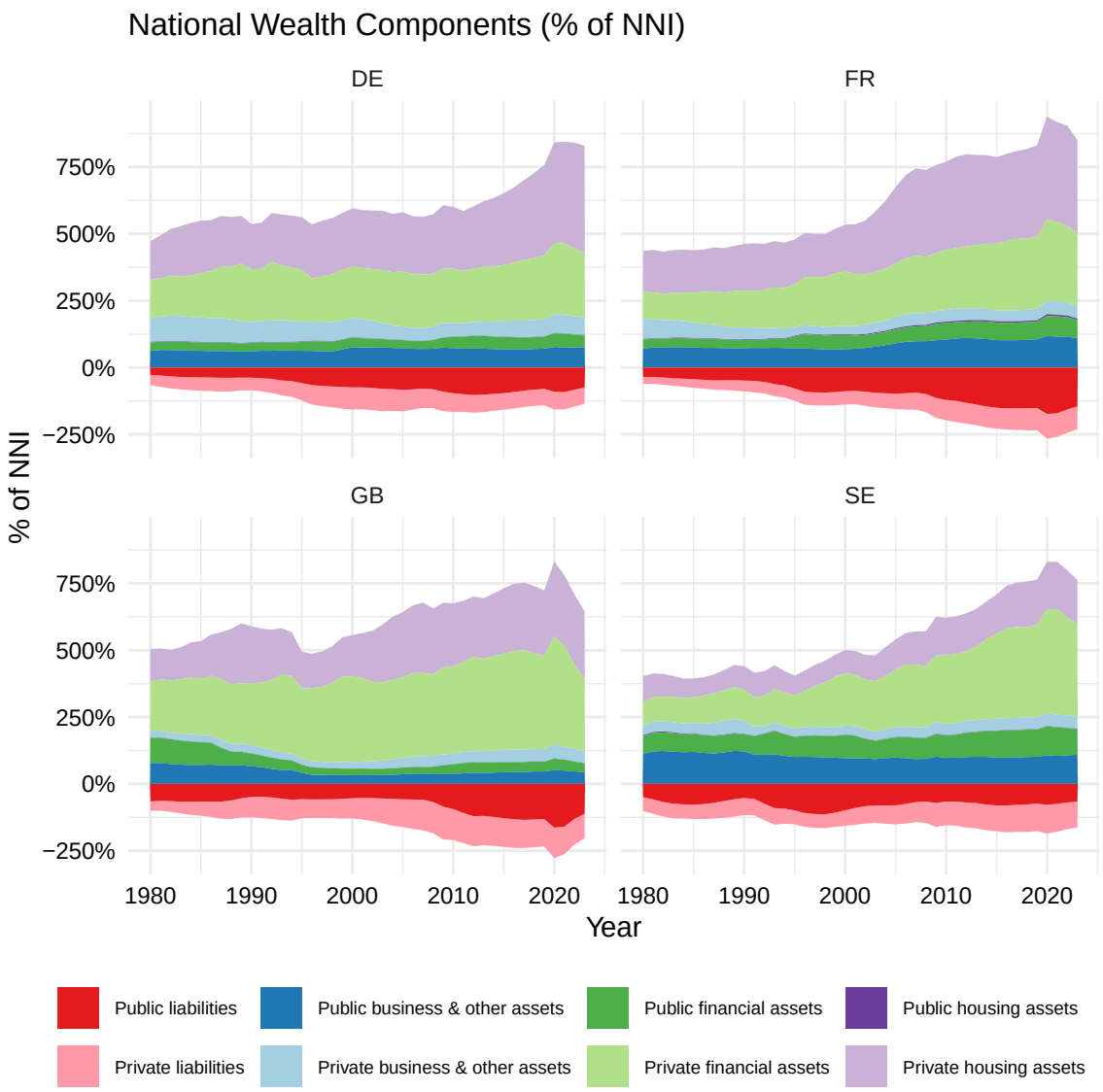
Figure 14. Public Assets and Liabilities, 1970-2023

[15] As highlighted by Bauluz et al. (2025), financial balance-sheets within sectors are unconsolidated. This means that the balance sheets are aggregated without cancelling out assets and liabilities that are held by entities within the same sector. Strictly speaking, higher levels of public assets and public debt could thereby also result from inter-sector borrowing and lending. However, this is unlikely to drive my results.

Throughout the observed period, the public wealth of Sweden is larger than in other European countries. Sweden's high shares of public wealth are primarily driven by a high share of public financial assets. There are several reasons for Sweden's historical high share of public wealth. Among them are the establishment of complementary public pension funds (called public buffer funds) which significantly increased public assets in the post-war period (Waldenström, 2016). A further factor is Sweden's high share of public ownership in corporations. As highlighted by Gratzer et al. (2021) the main reasons for public ownership were less of ideological nature, but often the result of economic crisis where the government acted as an "owner of last resort". The decile of public wealth during the early 1990s corresponds to the first major wave of privatisations, when several SOEs such as Pharmacia, Celsius, and Assi Domän were sold fully or partially.

Privatisations per se do not automatically reduce public wealth. Selling a public corporation at market value is an asset swap— exchanging equity in a firm for liquid financial assets. If all proceeds are used to repay government debt or for investments, the transaction reduces public liabilities and leaves net worth (in the short term) unchanged. In practice, the decline in public wealth observed in many European countries during the 1980s and 1990s coincided with periods of privatisation. In some cases, as in the UK, there is a very clear link between declining public wealth and privatizations (Office for Budget Responsibility, 2023).

Another driver of declining public wealth is increasing private wealth. Figure 15 shows national assets and liabilities as a share of national income. The total value of national wealth-to-income ratios has increased during the last 40 years as described by Piketty & Zucman (2014). While public assets declined or stagnated, private assets increased in all countries since 1980. This leads to decreasing public wealth shares in national wealth.

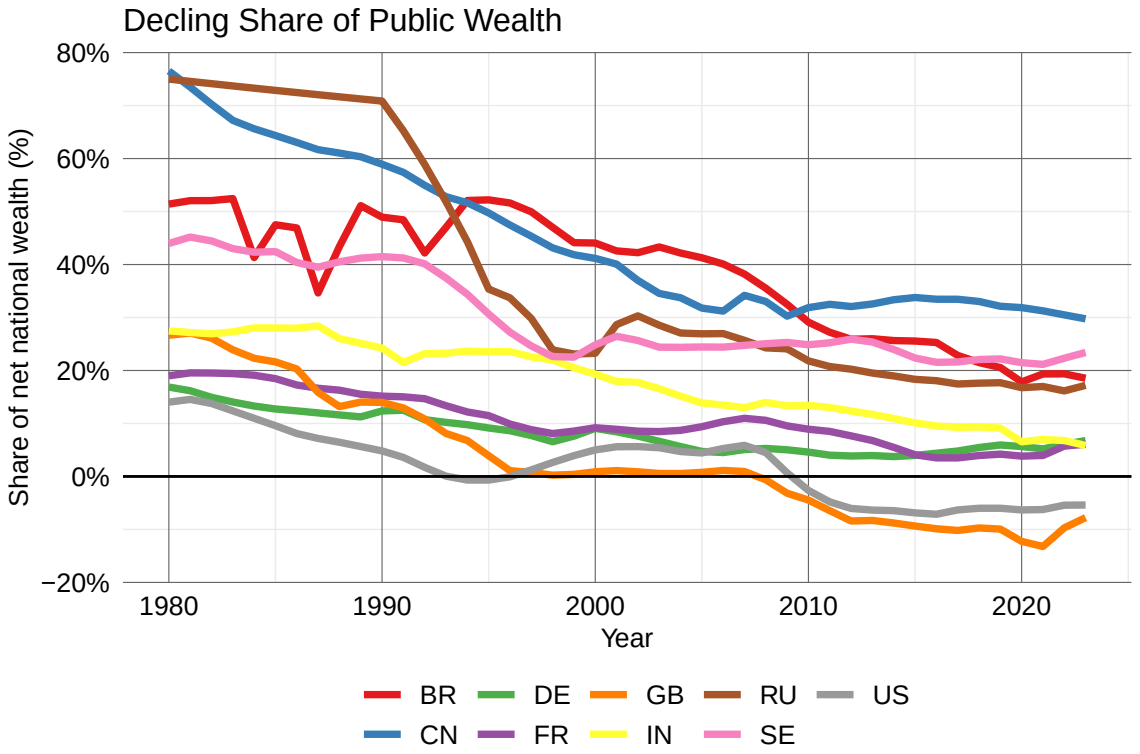


Note: Data form wid.world, details in Bauluz et al. (2025)

Figure 15. National wealth components, 1980-2023

Declining public wealth around the world So far, I have focused on trends in public wealth in European countries. However, the decline of public wealth shares is not only a European phenomenon but is also observed in other large emerging economies (Figure 16). In former communist China and Russia, more than three quarters of national wealth was under public control (Novokmet et al., 2018; Piketty et al., 2019). In both countries, public wealth has declined to about 30% in China and about 20% in Russia today. Also, countries like India and Brazil have seen a decline of public wealth compared to national wealth during the last 40 years.

In India, public wealth fell from about 25–30% of national wealth in the 1980s to less than 10% today. This decline is not driven by increasing levels of public debt (which is constant as a share of wealth), but rather by disinvestment policy. Not only did the share of public wealth in national wealth, but also the public wealth to national income ratio declined since 1990. India went through several privatisation periods. The first major phase followed the 1991 balance-of-payments crisis, when minority stakes in Central Public Sector Enterprises were sold. Since 2014, privatisation has accelerated again, with high-profile sales such as Air India and large stake reductions in Coal India and LIC, guided by annual disinvestment targets (Pahuja, 2022).



Note: Data form wid.world, details in Bauluz et al. (2025)

Figure 16. The decline in public wealth: Global trends, 1980-2023

Declining public wealth in Post-Soviet Transition With the fall of the Soviet Union and the market liberalization in China, both countries underwent a historical transformation in ownership structures. In 1980, before privatisation, public wealth accounted for roughly 75% of national wealth in both China and the Soviet Union. In the decades that followed, this share declined sharply. By 2023, public wealth represented only about 30% of national wealth in China and about 20% in Russia.

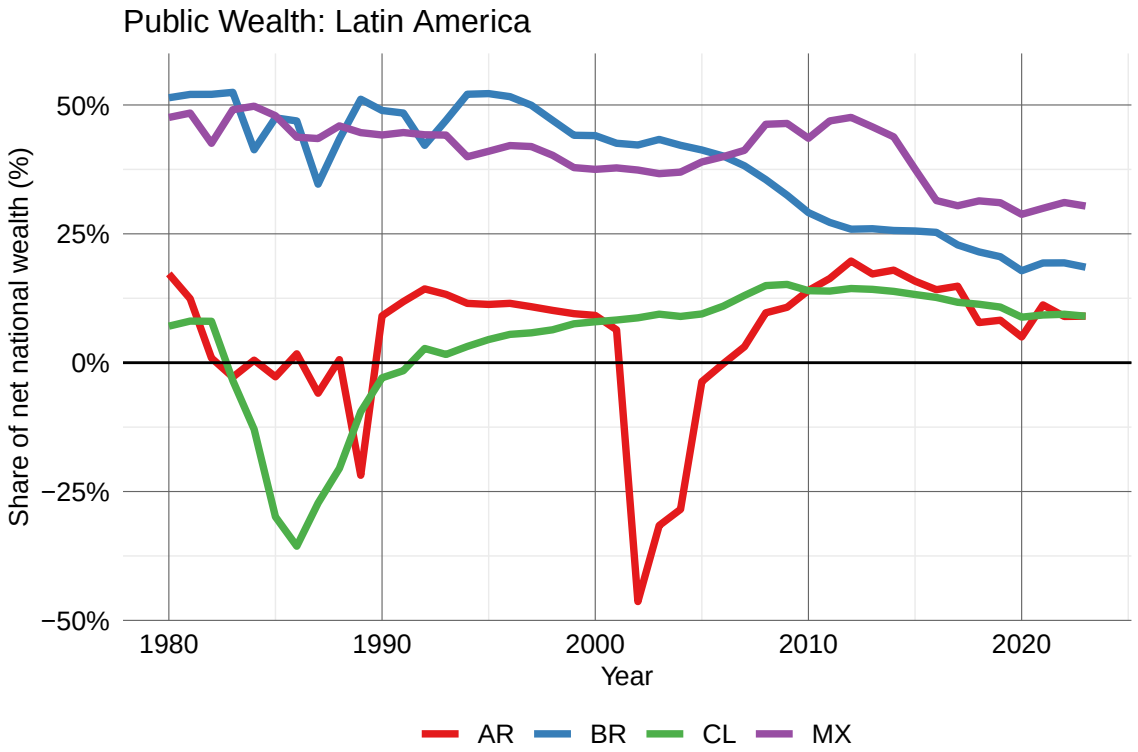
China's privatisation process was gradual (Weber, 2021). The housing sector was almost entirely privatised by 2000, but the state retained control over a substantial portion of the corporate sector. Public ownership of corporate assets fell from near-complete state control in the late 1970s to about 55% in 2010, a level that has remained relatively stable since then (Piketty et al., 2019).

In contrast, Russia's transition was characterized by rapid "shock therapy" reforms and voucher privatisation, leading to a swift transfer of assets to private hands. This not only reduced public wealth more abruptly than in China, but also contributed to high levels of wealth concentration and inequality (Novokmet et al., 2018). Today, the share of public wealth in Russia is lower than in countries like Brazil or Sweden.

Latin America In Brazil, the share of public wealth fell from about 50% in 1980 to roughly 20% in 2020. This decline reflects both a reduction in public financial and non-financial assets during the 2000s and a strong increase in private assets during the 2010s. During the 2000s, a wave of privatisations also took place, particularly under President Fernando Henrique Cardoso's earlier reforms, when state-owned enterprises in telecommunications, electricity, mining, and banking were sold to domestic and foreign investors.[16] Debt restructuring in 1997 also came with explicit conditions for selling state assets (International Monetary Fund, 1998).

Compared to other Latin American countries, Brazil's share of public wealth remains relatively high. While Mexico shows similar levels, Chile and Argentina have shares between 0% and 10% of national wealth. In both countries, debt crises (Chile in the 1980s and Argentina in 2003) sharply increased public liabilities, pushing net public wealth into negative territory. In Chile, the subsequent increase from the 1990s to 2010 was largely the result of falling public debt.

[16] Of total privatisation receipts, 48% came from foreign investors. Under the national privatization program (PND), 66 enterprises were privatised between January 1991 and July 2001. A detailed discussion of net foreign assets is beyond the scope of this paper.



Note: Data form wid.world, details in Bauluz et al. (2025)

Figure 17. Public Wealth in Latin America, 1980-2023

Public share in Housing and Businesses Capital So far, I analysed the public share in the total national wealth. To better understand what kind of wealth is held in public hands, we can look at different asset classes. In most countries half of the domestic capital is in the form of housing and the other half in the form of businesses and other non-financial assets (including Infrastructure).

If we look at the share of domestic housing assets held by the general government, they are close to zero for most countries. In Russia and China, we observe a large decline associated with the privatisations described earlier. This does not mean that there is no public housing in other countries. In many countries, public housing is owned and administrated by municipal or regional housing agencies. In Germany, for example, municipality-controlled housing agencies own 10% of all rental housing (BBSR, 2021). Because they cover more than half of their costs through rental income, they are classified as public corporations. As a result, the value of their assets does not appear directly in the general government's non-financial housing assets. Instead, the general government records its ownership of public corporations as a financial asset under *shares and other equity* (GFSM 2014, item 6315), reflecting

the corporation's net worth rather than the value of its underlying assets. Therefore, Figure 18 does not show the total public housing stock, but only the housing assets directly owned by the general government, such as buildings used for administrative purposes, schools or other government-operated facilities. The fact that we see a large share of housing assets held by the general government in China and Russia before privatisation suggests that most public housing at the time was provided at heavily subsidised rents, covering less than half of production costs, and thus classified within the general government sector.

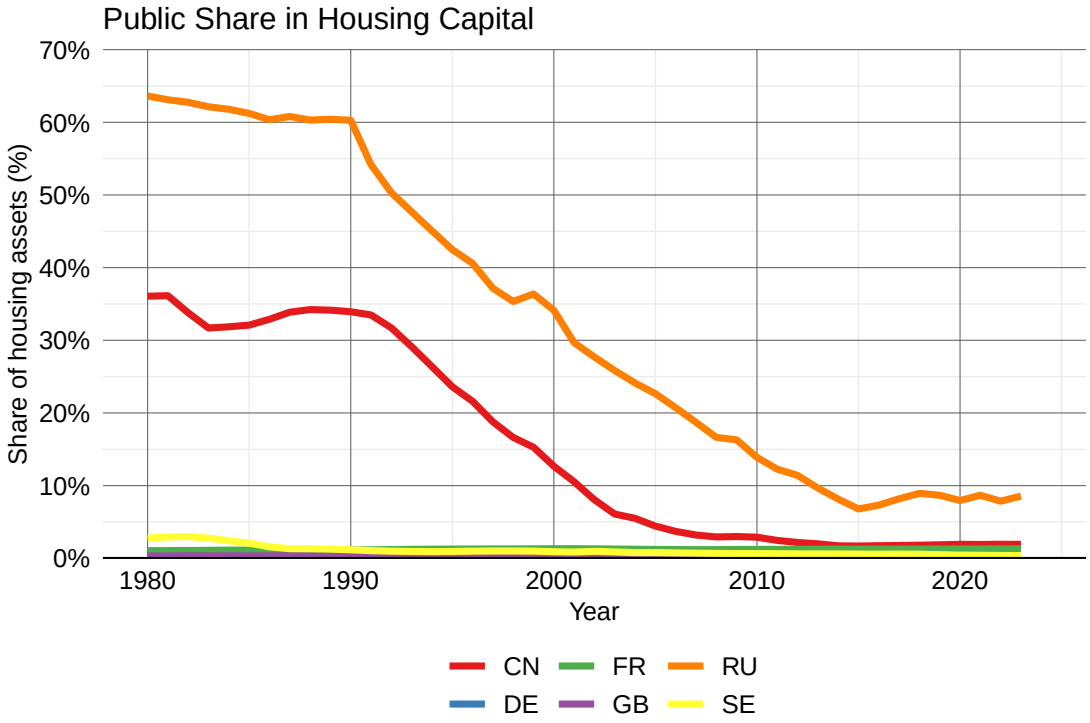
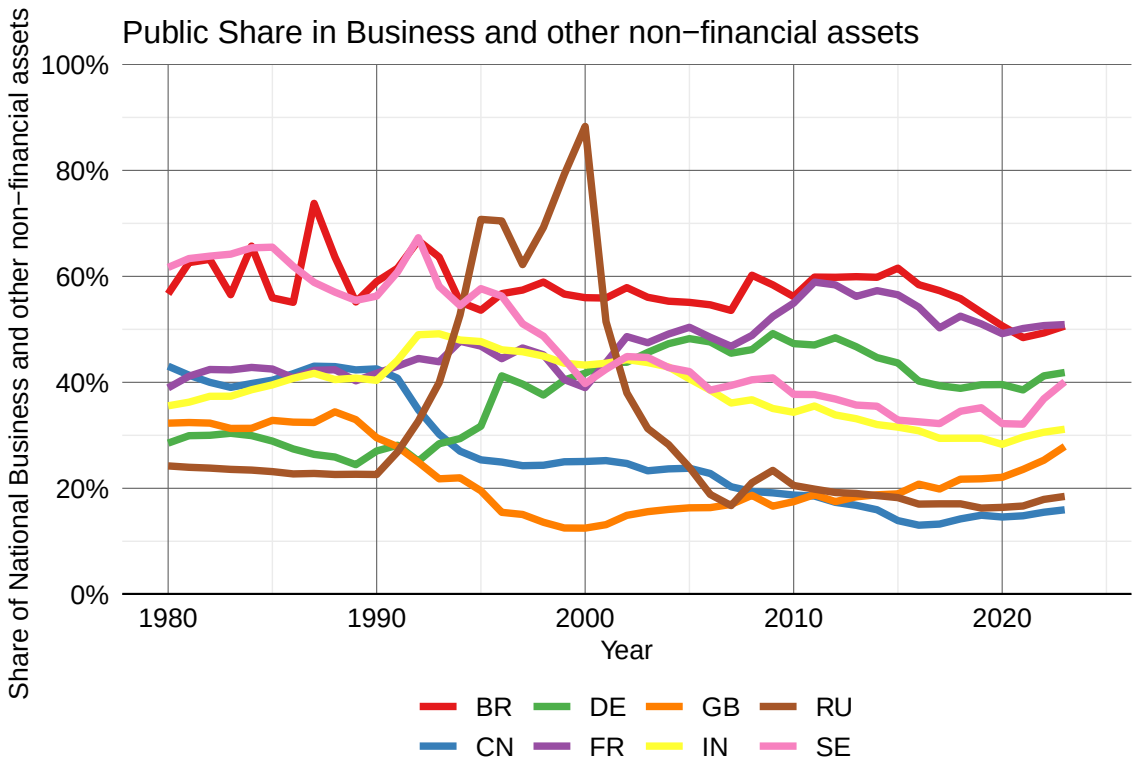


Figure 18. Housing Wealth in housing capital, 1980-2023

Apart from housing, we can also examine the public share in business and other domestic non-financial assets. This category includes assets such as land, infrastructure, machinery, and other productive capital outside the housing sector. For most countries, the public share is between 20% and 60% (Figure 19). It is generally higher than the public share of total wealth because it focusses only on the asset side of the balance sheet, without considering liabilities. As before, public corporations are not included in the business assets of the general government, which explains why Russia and China showed relatively low shares in the 1980s despite the large role of public corporations.



Note: Data form wid.world, details in Bauluz et al. (2025)

Figure 19. Share of Public Wealth in Businesses and other domestic capita, 1980-2023

Beyond Public Debt While the political debate focusses on gross public debt-to-GDP ratios, several authors argue that public wealth provides a more comprehensive measure of a government's financial position (Ball et al., 2024; Zaranko, 2023; Chai et al., 2024). Looking solely at gross public debt can give a misleading picture of a government's fiscal position as it ignores the asset side of the balance sheet. A country may carry large debts, but also own substantial assets (such as infrastructure, land, or equity in corporations) that improve its overall net worth. For example, Japan is often cited as a country with extremely high gross public debt (over 250% of GDP), yet it also holds substantial public assets. As a result, its public net worth is only slightly negative. This illustrates another case where a single indicator (debt-to-GDP ratio) dominates the discourse, while a more multidimensional approach can provide a more balanced and differentiated understanding.

The data presented in this chapter show that the share of domestic wealth owned by governments has declined in most countries over the past decades, driven by increasing public liabilities, stagnating or falling public assets, and faster growth of private wealth. The share of public wealth in national wealth can serve as an indica-

tor of the relative power of the public sector in the economy, because it shows who owns the productive capital. Unlike public spending figures, it focusses on ownership and long-term resources rather than spending flows. The next chapter summarises trends in the size of the public sector and places them within a broader discussion under the concept of collective ownership.

5 Discussion: Mixed Economies

The different measures described in the previous sections show that economies are neither purely capitalist nor purely socialist. They combine both private and public actors. Indicators such as public spending, government value added, public wealth, and the size of public corporations capture different aspects of the public sector. These measures do not necessarily move together: while public spending may increase or stagnate, government production of goods and services of public wealth can stagnate or decline (Figures 20 and 21). So far, I have looked only at the relative size of the state compared to private actors. However, as discussed before, there is also a wide variety of ownership and governance models within the private sector, including cooperatives, self-employed workers ,social enterprises, and mutual societies. These differences within the private sector open up a broader reflection on ownership patterns of corporations as discussed in proposals for *participatory socialism* (Piketty, 2022) or *democratic socialism* (Kenworthy, 2022).

Kenworthy's proposes defining socialism as an economy in which two-thirds of production takes place in "firms that are owned by the government, citizens, or workers". But what exactly does "owned by the government, citizens, or workers" mean in practice? Ultimately, all firms in a country are owned by citizens or the governments, except those that are foreign-owned. For worker-owned companies, Kenworthy distinguishes two models: one is *employee share ownership* (such as ESOPs in the United States), where employees own shares and the company follows a one-share-one-vote rule. If workers hold the majority of shares, the firm can be called "worker-owned." The other model is a cooperative, where governance is based on one-person-one-vote without outside shareholders.

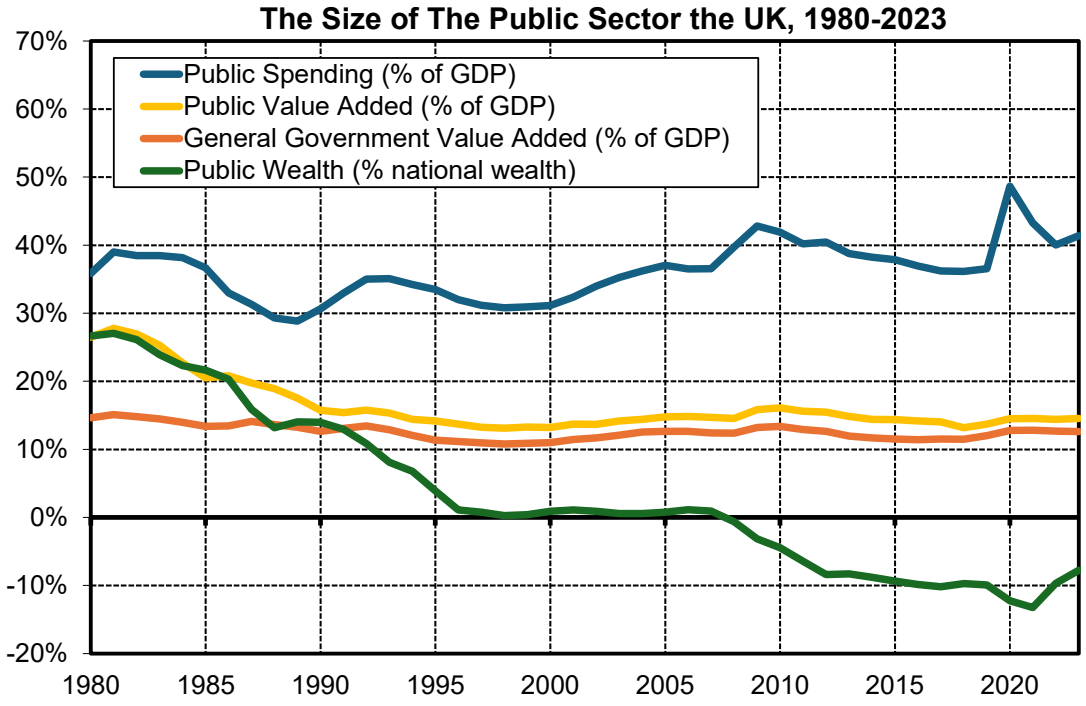


Figure 20. The Size of The Public Sector the UK, 1980-2023

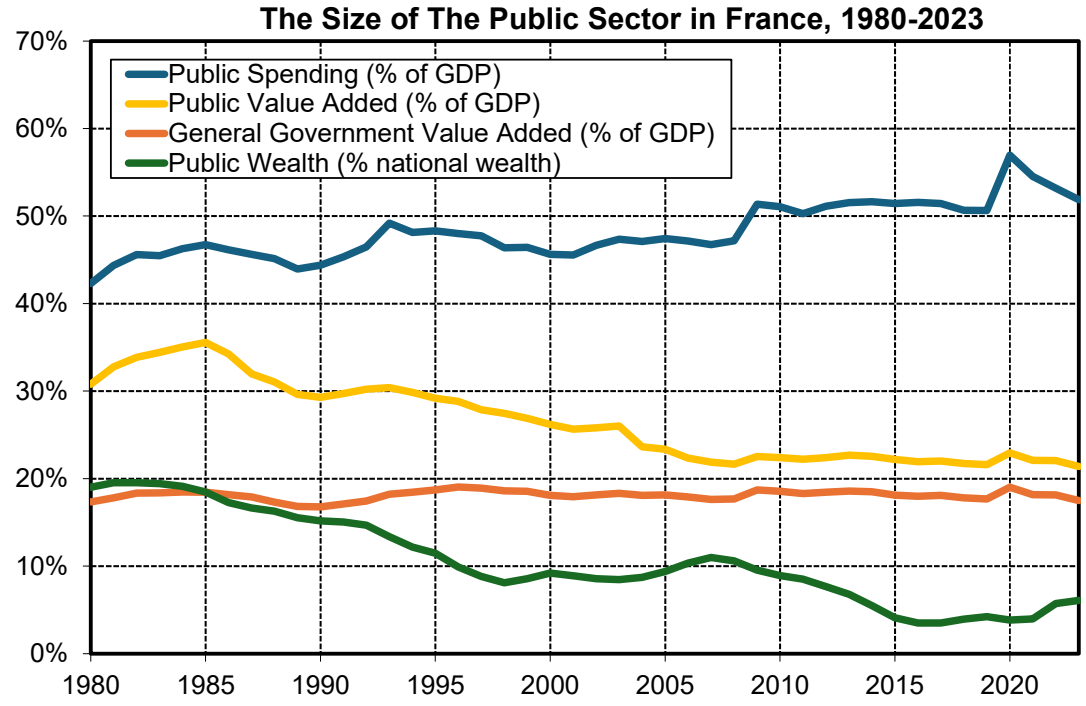


Figure 21. The Size of The Public Sector in France, 1980-2023

Without taking a firm stance on this definition, the perspective of economic accounting can help to discuss these concepts. Figure 22 shows the value added by institutional sectors in France, including a breakdown of public and private corporations. While private corporations account for the largest share of economic activity, it is worth noting that France in the 1980s came close to Kenworthy's threshold if self-employed individuals are counted as "worker-owned." In 1987, about half of total value added in France came from government, public corporations, and self-employment combined. Of course, this is a very simplified assumption. For example, in today's gig economy, drivers for platforms such as Uber or Delivery Hero are often classified as self-employed in national accounts, but remain highly dependent on the platforms and would certainly not fall into the common understanding of a self-employed business owner.

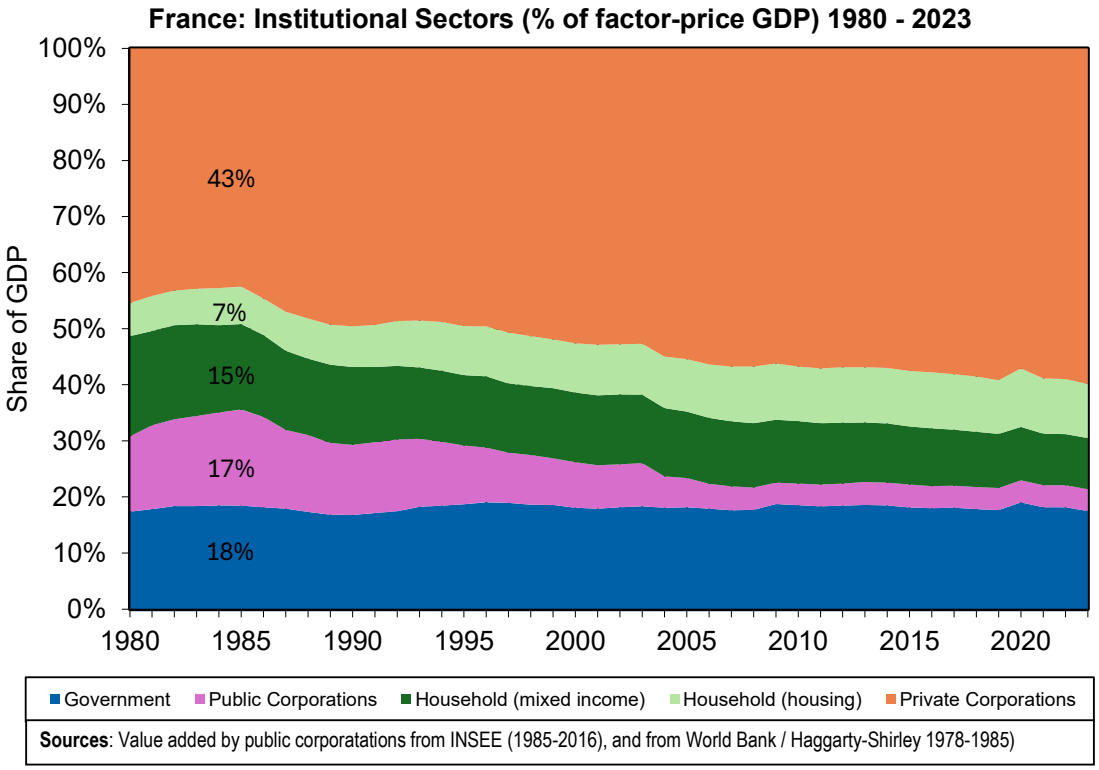


Figure 22. Value-Added by Institutional Sector in France, 1980-2023

The other question is what fraction of private corporations can reasonably be considered "citizen-owned". A precise answer would require detailed corporate ownership data, which is beyond the scope of this article. Still, I want to sketch what could be understood as a lower and an upper bound. If we define "citizen-owned"

narrowly—limiting it to firms with democratic governance—then citizen ownership largely overlaps with worker ownership.

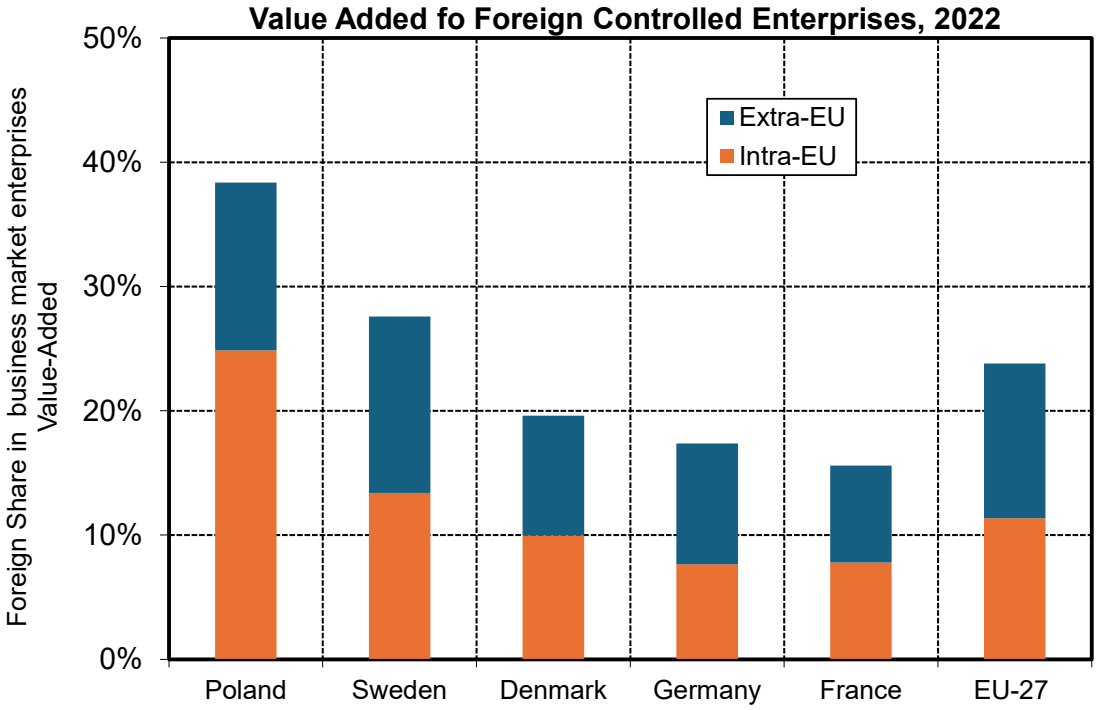
For example, in France, INSEE reports that the social and solidarity economy accounts for 9% of employment and 5% of total value added (INSEE, 2024c). They include all units whose internal organisation and activities are defined as being based on principles of solidarity, social utility, and democratic governance. The scope is mainly determined by legal form and includes cooperatives, mutual societies, associations, and foundations. Excluding those already classified under the general government or NPISHs, about 3.5% of the French workforce (and 2% of value added) works in democratically governed organisations (Table 2). This means that within the private corporate sector itself, cooperatives, mutuals, and other democratically governed firms represent roughly 4.5% of corporate value added. As many of these democratically governed companies operate in areas such as education and health, there is an overlap with the general government, and it therefore makes sense to study them together or, at the very least, to use precise definitions. In Canada, cooperatives and mutuals combined contribute about 5% of GDP (Co-operatives and Mutuals Canada, 2023), while in the UK the share of cooperatives is below 1% (Kenworthy, 2022). These figures are not perfectly comparable due to differences in legal definitions and classification practices.

Table 2. French Social Economy by Institutional Sector in 2012

	Value Added (% of total)	Employment (% of total)
Breakdown by form		
Associations and foundations	3.4%	7.2%
Cooperatives	0.8%	1.2%
Mutual societies	0.5%	0.5%
Breakdown by sector		
Non-financial corporations	1.9%	3.5%
of which associations and foundations	1.2%	2.7%
of which cooperatives	0.5%	0.6%
Financial corporations	0.6%	0.8%
Non-market units*	2.1%	4.5%
Total social economy	4.7%	8.9%

* Non-market units are mainly associations and foundations classified either as Non-profit institutions serving households (NPISH) or as General government. The wage bill of NPISH includes remunerations paid by General government, particularly in education. Sources: INSEE (2014), French total from INSEE's 2012 national accounts.

At the other extreme, if we take "citizen" to mean all people residing in a country, we can consider domestically owned public corporations as an absolute upper bound for citizen ownership. Eurostat publishes data on foreign-controlled corporations. In 2022, foreign controlled firms accounted for 23% of value added in non-agricultural businesses in the EU. This is roughly evenly split between firms controlled by entities inside and outside the EU (see Figure 23). This share varies significantly across countries— while France, Germany, and Denmark had less than 20%, Poland had close to 40% foreign control. Foreign control is defined as a non-resident holding at least half of the voting power, directly or indirectly. Of course, the resulting domestic "citizen" ownership is highly unequal and concentrated. For example, in Sweden, companies controlled by the Wallenberg family accounted for about 40% of the country's industrial workforce in the early 1970s (**?**). This measure also does not capture the growing influence of large asset managers, who often hold significant stakes of companies without majority control—a phenomenon described by Braun et al. (2021) as *asset manager capitalism*.



Note: Business market enterprises includes all market producers in NACE Sections B-S (except Section O and Division 94), and thereby excludes agriculture and public administration. Source: Eurostat FATS.

Figure 23. Foreign controlled enterprises, 2022

Examining the diversity of ownership and governance forms within the private sector helps clarify the balance of power between public and private actors. This matters because public debates about the "state" versus the "market" often overlook these differences. Critics of neoliberalism usually do not refer to small-scale or democratically governed enterprises, but rather to the growing dominance of large corporations and the privatisation of public services. Recognising these distinctions is essential for understanding economic power relations.

6 Conclusion

There is no single number that can reflect the size of the public sector. The rise of the welfare state led to historically high levels of taxation and public spending. At the same time, we should not forget that public spending is not the same as the public provision of goods and services. There are legitimate arguments for both public and private provision. This paper does not take a position on this, but we should consider a broader set of indicators beyond the commonly cited tax-to-GDP ratio if we want to understand the size of the public sector. While public spending reached historically high levels, the largest part is paid as transfers in cash to households or to buy goods and services from private providers. The share of value-added *produced* by the government is stable or declining since the 1980s. Public corporations, which had contributed a significant part of value added, have been largely privatised in many countries. The share of national wealth held by the government has declined in the last decades. While most governments tax more than ever, at the same time they own less and less of their national wealth.

Of cause, there are many other dimensions of state capacity that are beyond the scope of this paper. This includes regulations and bureaucracy, one relevant point of criticism of people arguing that the state has become too "big". Each country and historical period could be analysed in far greater detail, but that is not the objective here. Rather than offering a comprehensive historical account, the aim has been to clarify the concepts and present an overview of trends in alternative indicators.

Looking ahead, demographic ageing, climate change, and structural transformation will place new demands on public institutions. As education, health, and care services become more central to modern economies, the conceptual and statistical questions raised in this article will become even more relevant.

References

Adema, W., Fron, P., & Ladaique, M. (2011). Is the european welfare state really more expensive?: Indicators on social spending, 1980–2012; and a manual to the oecd social expenditure database (socx). OECD Social, Employment and Migration Working Papers 124, OECD Publishing. https://doi.org/10.1787/5kg2d2d4pbf0-en

André, C. & Hermann, C. (2013). Privatisation of health care in europe. *Vienna: Working Life Research Centre*.

Ball, I., Buiter, W. H., Crompton, J., Detter, D., & Soll, J. (2024). *Public Net Worth: Accounting-Government-Democracy*. Springer.

Bauluz, L., Brassac, P., Martínez-Toledano, C., & Sodano, A. (2025). Estimation of global wealth aggregates in wid.world: Methodology. Technical Note 2024/14, World Inequality Lab. https://wid.world/www-site/uploads/2024/12/WorldInequalityLab_TechnicalNote_2024_14_Estimation-of-Global-Wealth-Aggregates-in-WID.world_Final.pdf

BBSR (2021). *Faktenblätter zum deutschen wohnungsmarkt*. https://www.bmwsb.bund.de/SharedDocs/downloads/Webs/BMWSB/DE/veroeffentlichungen/wohnen/faktenblaetter-zum-deutschen-wohnungsmarkt-2021.html

Becker, S. O., Ferrara, A., Melander, E., & Pascali, L. (2025). Wars, taxation and representation: Evidence from five centuries of german history. *Journal of the European Economic Association*, jvaf019.

Benanav, A. (2025). Beyond capitalism—1. *New Left Review*, 153(May–June).

Bharti, N., Gethin, A., Jenmana, T., Mo, Z., Piketty, T., & Yang, L. (2025). Human capital, unequal opportunities and productivity convergence: A global historical perspective, 1800-2100. *WIL working paper*, (15).

Blanchet, T., Chancel, L., Flores, I., Morgan, M., et al. (2020). Distributional national accounts (dina) guidelines: Concepts and methods used in wid. world. *World Inequality Lab*.

Braun, B. et al. (2021). Asset manager capitalism as a corporate governance regime. *The American political economy: Politics, markets, and power*, 270.

Brewer, J. (1989). *The sinews of power: war, money and the English state 1688-1783*. Routledge.

Chai, H., Harris, J., & Tieman, A. F. (2024). *Beyond debt: Net worth fiscal anchors*. International Monetary Fund.

Co-operatives and Mutuals Canada (2023). *Economic impact of canadian co-operatives and mutuals*. https://canada.coop/en/economic-impact-co-op-mutual/. The co-operative sector contributed CA$49.2 billion (2.5% of GDP) in 2019

Costa, L. F., Henriques, A., & Palma, N. (2024). Anatomy of a premodern state. *European Review of Economic History*, 28(4), 453–474. https://doi.org/10.1093/ereh/heae003

Cox, G. W., Dincecco, M., & Onorato, M. G. (2025). Warfare, fiscal gridlock, and state formation during europe's military revolution. *The Journal of Politics*, 87(4), 000–000.

de Matos, J. C., Branco, S., & Morais, F. (2015). Conceptual issues related to the definition of government debt1. *Banco de Portugal or of the Eurosystem*. https://www.bis.org/ifc/events/ifc_isi_2015/090_cadete_branco_morais_paper.pdf

Destatis (2024). Hintergrundpapier zur generalrevision 2024 der volkswirtschaftlichen gesamtrechnungen für deutschland. Technical report, Destatis. https://www.destatis.de/DE/Themen/Wirtschaft/Volkswirtschaftliche-Gesamtrechnungen-Inlandsprodukt/Methoden/hintergrundpapier-vgr-revision-2024.pdf?__blob=publicationFile

Deutsche Bundesbank (2018). Maastricht debt: Methodological principles, compilation and development in germany. Monthly Report 57, Deutsche Bundesbank.

Dietrich, J., Nievas, G., Odersky, M., Piketty, T., & Somanchi, A. (2025). Extending wid national accounts series: Institutional sectors and factor shares. Technical Note 2025/03, World Inequality Lab, Paris School of Economics. https://wid.world/document/extending-wid-national-accounts-series-institutional-sectors-and-factor-shares-wor

Dincecco, M. (2009). Fiscal centralization, limited government, and public revenues in europe, 1650–1913. *The Journal of Economic History*, 69(1), 48–103.

Dincecco, M. (2015). The rise of effective states in europe. *The Journal of Economic History*, 75(3), 901–918.

Eurostat (2022). *Letter to dr. georg thiel: The statistical treatment of certain types of public funding in the german short-distance public passenger transport market*. Official correspondence. https://s-circabc.europa.eu/ui/group/ca7c9cc4-b473-4abc-8e95-263dcd57d79d/library/9d420a12-84f9-4c50-8022-4aea0604f286/details

Eurostat (2023). *Manual on Government Deficit and Debt: Implementation of ESA 2010*. Publications Office of the European Union. https://ec.europa.eu/eurostat/documents/3859598/17041808/KS-GQ-23-009-EN-N.pdf

Friedman, M. & Friedman, R. D. (1980). *Free to choose: A personal statement*, volume 249. Harcourt Brace Jovanovich New York.

Gethin, A. (2024). Revisiting global poverty reduction: Public goods and the world distribution of income, 1980-2022. Technical report. https://amory-gethin.fr/files/pdf/Gethin2024PublicGoods.pdf

Gethin, A. (2025). Distributional growth accounting: Education and the reduction of global poverty, 1980-2019*. *The Quarterly Journal of Economics*, qjaf033. https://doi.org/10.1093/qje/qjaf033

Gratzer, K., Lönnborg, M., & Olsson, M. (2021). Collective ownership in sweden–the state, privatization and entrepreneurship.

Hall, P. (1985). Socialism in one country: Mitterrand and the struggle to define a new economic policy for france. *Socialism, the State and Public Policy in France. London*, 81–107.

Hesse, M., Lenk, T., & Starke, T. (2017). *Investitionen der öffentlichen hand: Die rolle der öffentlichen fonds, einrichtungen und unternehmen*.

Hoffman, P. T. (2012). Why was it europeans who conquered the world? *The Journal of Economic History*, 72(3), 601–633.

Hoffman, P. T. (2015). What do states do? politics and economic history. *The Journal of Economic History*, 75(2), 303–332.

ILO (2023). *Measuring the social and solidarity economy (sse): A roadmap towards guidelines concerning statistics of the sse*. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40dgreports/%40stat/documents/meetingdocument/wcms_894547.pdf

IMF (2020). *Chapter 3 Stat-Owned Enterprises: the Other Government*. International Monetary Fund. https://doi.org/10.5089/9781513537511.089.ch003

INSEE (2014). L'économie sociale, des principes communs et beaucoup de diversité. *Insee Première*, (1522). https://www.insee.fr/fr/statistiques/1281365

INSEE (2024a). Administrations publiques en 2023 – les comptes de la nation en 2023. Technical report, INSEE. https://www.insee.fr/fr/statistiques/8068612. "Les lycées, collèges et écoles privés sous contrat sont dans le secteur institutionnel des institutions sans but lucratif au service des ménages (ISBLSM), les salaires de leurs enseignants apparaissant toujours dans le compte de l'État."

INSEE (2024b). *Les sociétés contrôlées majoritairement par l'État en 2022*. https://www.insee.fr/fr/statistiques/8252208.

INSEE (2024c). *L'économie sociale et solidaire portée par les associations et le secteur sanitaire et social dans les hauts-de-france*. https://www.insee.fr/fr/statistiques/8189389

International Monetary Fund (1998). *Brazil: Recent Economic Developments*. International Monetary Fund. https://www.elibrary.imf.org/view/journals/002/1998/024/article-A003-en.xml

Karaman, K. K. & Pamuk, Ş. (2010). Ottoman state finances in european perspective, 1500–1914. *The Journal of Economic History*, 70(3), 593–629.

Karaman, K. K. & Pamuk, Ş. (2013). Different paths to the modern state in europe: the interaction between warfare, economic structure, and political regime. *American Political Science Review*, 107(3), 603–626.

Kenworthy, L. (2022). Would democratic socialism be better than social democratic capitalism? *Would Democratic Socialism Be Better?*, 163.

Lequiller, F. I. & Blades, D. W. (2014). *Understanding national accounts*. OECD publishing.

Lienert, I. (2014). Extra-budgetary funds in france. Case study (full report), International Budget Partnership. https://internationalbudget.org/wp-content/uploads/Hidden-Corners-France.pdf

Lindert, P. H. (2004). *Growing public: Volume 1, the story: Social spending and economic growth since the eighteenth century*, volume 1. Cambridge University Press.

Novokmet, F., Piketty, T., & Zucman, G. (2018). From soviets to oligarchs: inequality and property in russia 1905-2016. *The Journal of Economic Inequality*, 16(2), 189–223.

OECD (2022). *2022 Synthesis Report of the World Observatory on Subnational Government Finance and Investment*. OECD Publishing.

OECD (2022). International comparisons of the measurement of non-market output during the covid-19 pandemic. Oecd statistics working papers, Organisation for Economic Co-operation and Development. https://dx.doi.org/10.1787/301f1306-en

OECD (2024). *Ownership and Governance of State-Owned Enterprises 2024*. OECD Publishing. https://doi.org/10.1787/395c9956-en

Office for Budget Responsibility (2023). Public sector net worth: A historical perspective. Technical Report Working Paper No. 16, Office for Budget Responsibility. https://obr.uk/docs/PSNW-working-paper-No16.pdf

Ogilvie, S. (2022). State capacity and economic growth: Cautionary tales from history. *National Institute Economic Review*, 262, 28–50.

Pahuja, P. (2022). Disinvestment in public sector enterprises and its changing dynamics. Technical report, Economic Advisory Council to the Prime Minister (EAC-PM). https://ideas.repec.org/p/npf/wpaper/22-373.html

Peacock, A. & Scott, A. (2000). The curious attraction of wagner's law. *Public choice*, 102(1), 1–17.

Peacock, A. T. & Wiseman, J. (1961). Front matter, the growth of public expenditure in the united kingdom. *The growth of public expenditure in the United Kingdom*, 32–0. Princeton University Press.

Piketty, T. (2014). *Capital in the twenty-first century*. Harvard University Press.

Piketty, T. (2020). *Capital and ideology*. Harvard University Press.

Piketty, T. (2022). *A brief history of equality*. Harvard University Press.

Piketty, T., Yang, L., & Zucman, G. (2019). Capital accumulation, private property, and rising inequality in china, 1978–2015. *American Economic Review*, 109(7), 2469–2496.

Piketty, T. & Zucman, G. (2014). Capital is back: Wealth-income ratios in rich countries 1700–2010. *The Quarterly journal of economics*, 129(3), 1255–1310.

Schulten, T. (2006). Liberalisation, privatisation and regulation in the german healthcare sector/hospitals. Deliverable 1 for the Project "Privatisation of Public Services and the Impact on Quality, Employment and Productivity (PIQUE)" CIT5-2006-028478, Wirtschafts- und Sozialwissenschaftliches Institut (WSI), Düsseldorf. http://www.wsi.de/

Schulten, T. (2025). Collective bargaining and public procurement in germany. *ETUI Research Paper-Working Paper*.

Schön, P. (2019). *No profit cap in the swedish welfare sector*. ESPN Flash Report 2019/32.

Sekera, J. A. (2020). The public economy: understanding government as a producer.

Short, R. P. & Conrad, E.-A. (1983). *The role of public enterprises: An international statistical comparison*. International Monetary Fund, Fiscal Affairs Department.

SNA, U. (2008). System of national accounts. *United Nations Statistical Division International Monetary Fund World Bank EUROSTAT Organization for Economic Cooperation and Development*.

SNA, U. (2025). System of national accounts 2025. *United Nations Statistical Division International Monetary Fund World Bank EUROSTAT Organization for Economic Cooperation and Development*. Pre edit version.

Stiglitz, J. E., Sen, A., Fitoussi, J.-P., et al. (2009). *Report by the commission on the measurement of economic performance and social progress*.

The Economist (2024). Governments are bigger than ever. they are also more useless. *The Economist*. https://www.economist.com/finance-and-economics/2024/09/23/governments-are-bigger-than-ever-they-are-also-more-useless

Thoursie, A. & Wadensjö, E. (1996). *Labour Market Studies: Sweden*. European Commission, Directorate-General for Employment, Industrial Relations and Social Affairs.

Tilly, C. et al. (1992). *Coercion, capital, and European states, AD 990-1992*, volume 29. Blackwell Oxford.

UNSD (2018). *Satellite Account on Non-profit and Related Institutions and Volunteer Work*. New York. Studies in Methods, Series F, No. 91, Rev. 1; Handbook of National Accounting.

Vanoli, A. (2005). *A History of National Accounting*. Studies in National Accounting and Economic Growth. IOS Press. Originally published in French in 2002 as *Une histoire de la comptabilité nationale*.

Wagner, A. (1877). *Das Eisenbahnwesen als Glied des Verkehrswesens, insbesondere die Staatsbahnen: Abriss einer Eisenbahn-Politik und-Oekonomik*. Winter.

Wagner, A. (1894). *Grundlegung der politischen Ökonomie*, volume 1. CF Winter'sche verlagshandlung.

Waldenström, D. (2016). The national wealth of sweden, 1810–2014. *Scandinavian Economic History Review*, 64(1), 36–54.

Weber, I. M. (2021). *How China escaped shock therapy: The market reform debate*. Routledge.

World Bank (2024). *The Business of the State: Delivering on an Ambitious Global Agenda*. World Bank. https://www.worldbank.org/en/publication/wdr2024

Zaranko, B. (2023). Public sector net worth as a fiscal target. Technical report, IFS Report.

A Appendix

A.1 Additional Figures on Public Spending

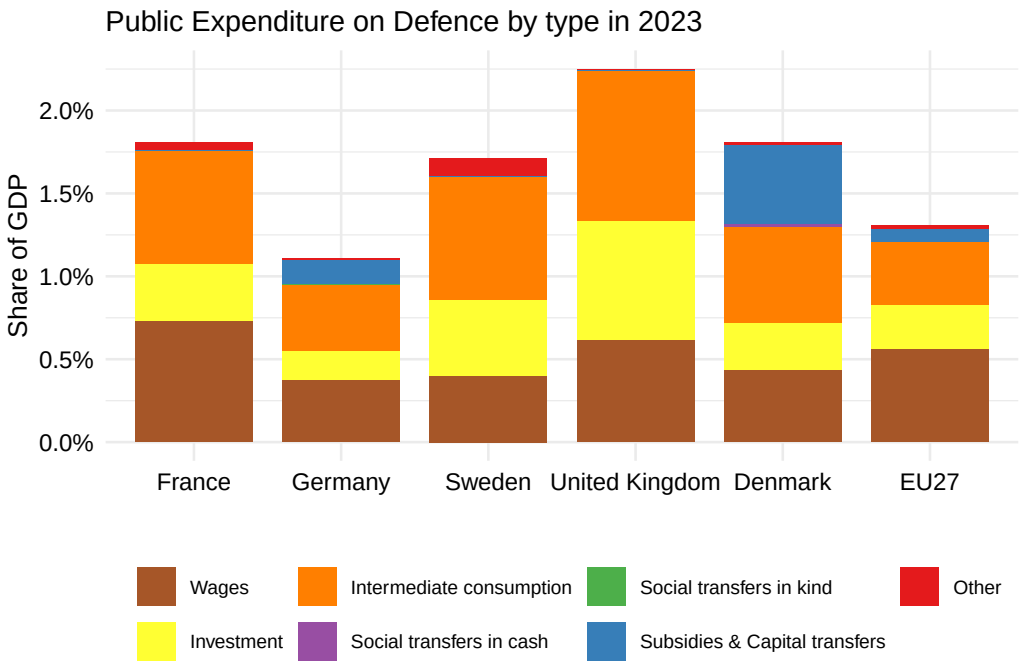
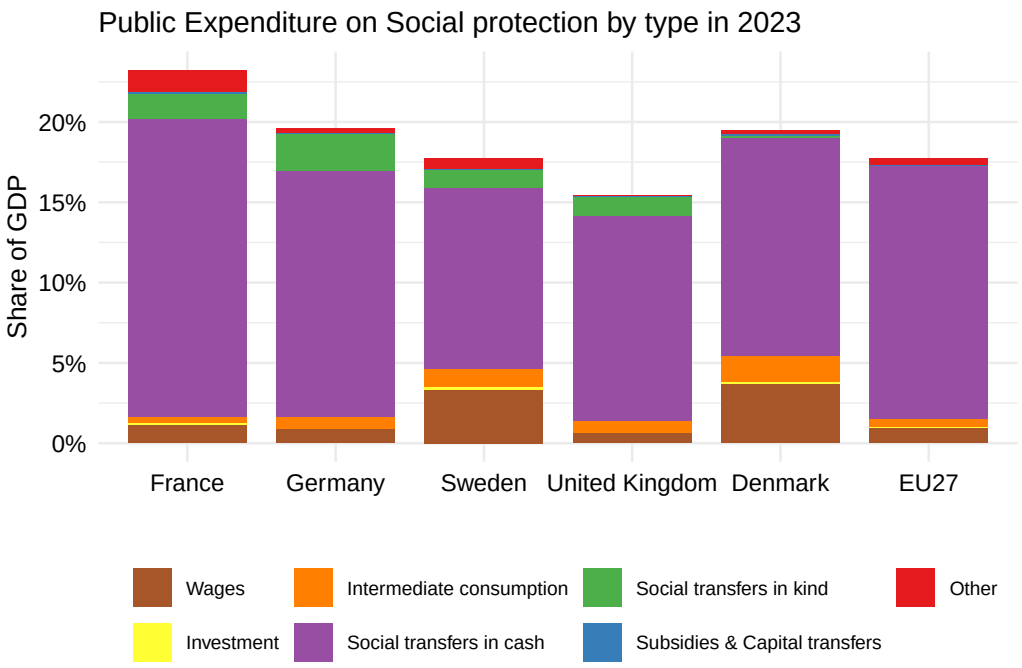


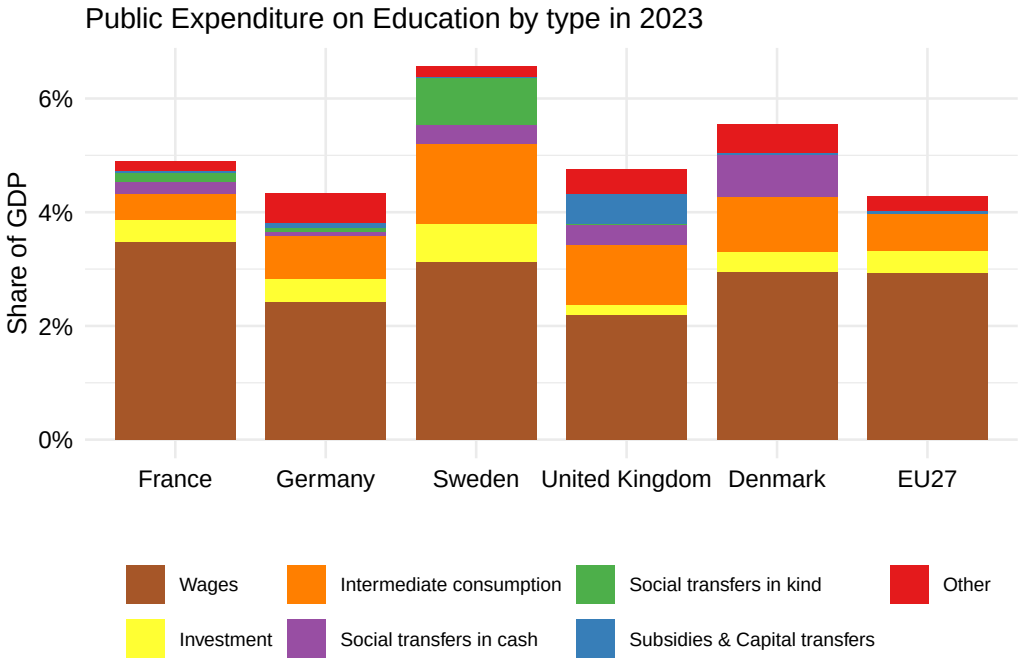
Figure A.1.1. Public Spending on Defense by transaction type



Note:

Other includes interest payments.

Figure A.1.2. Public Spending on Social Protection by transaction type



Note:

Other includes interest payments.

Figure A.1.3. Public Spending on Education by transaction type, 2023

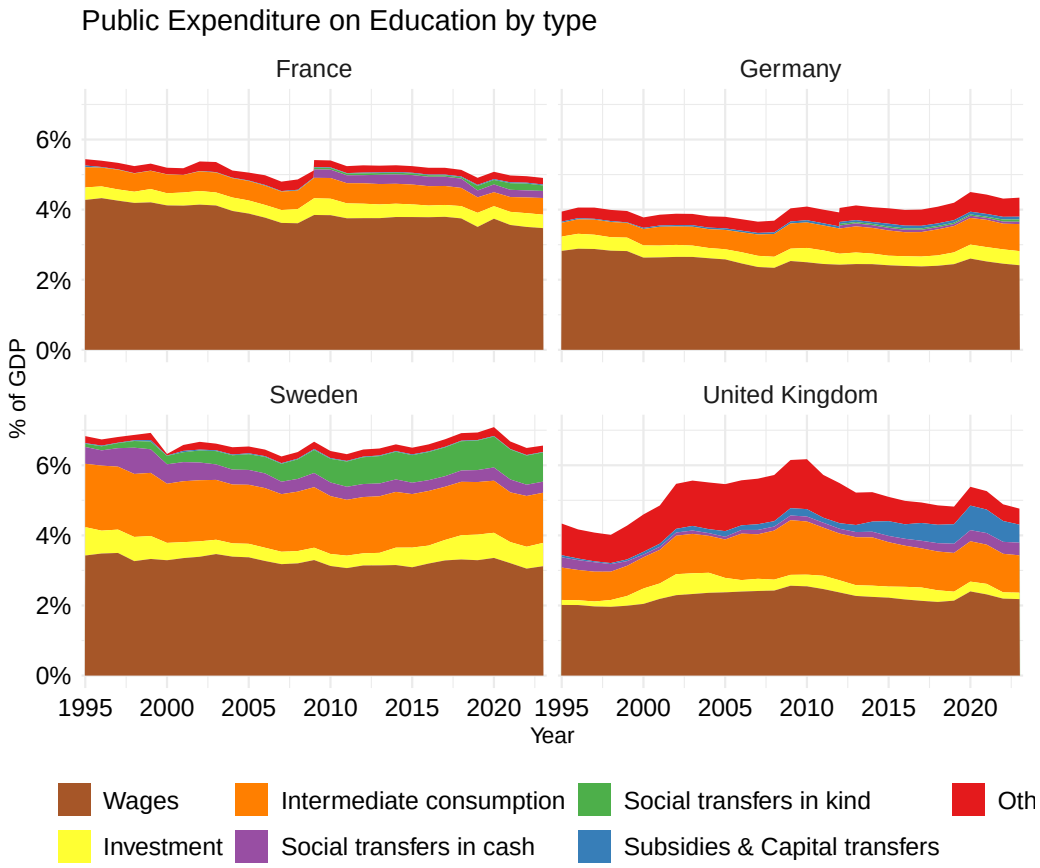
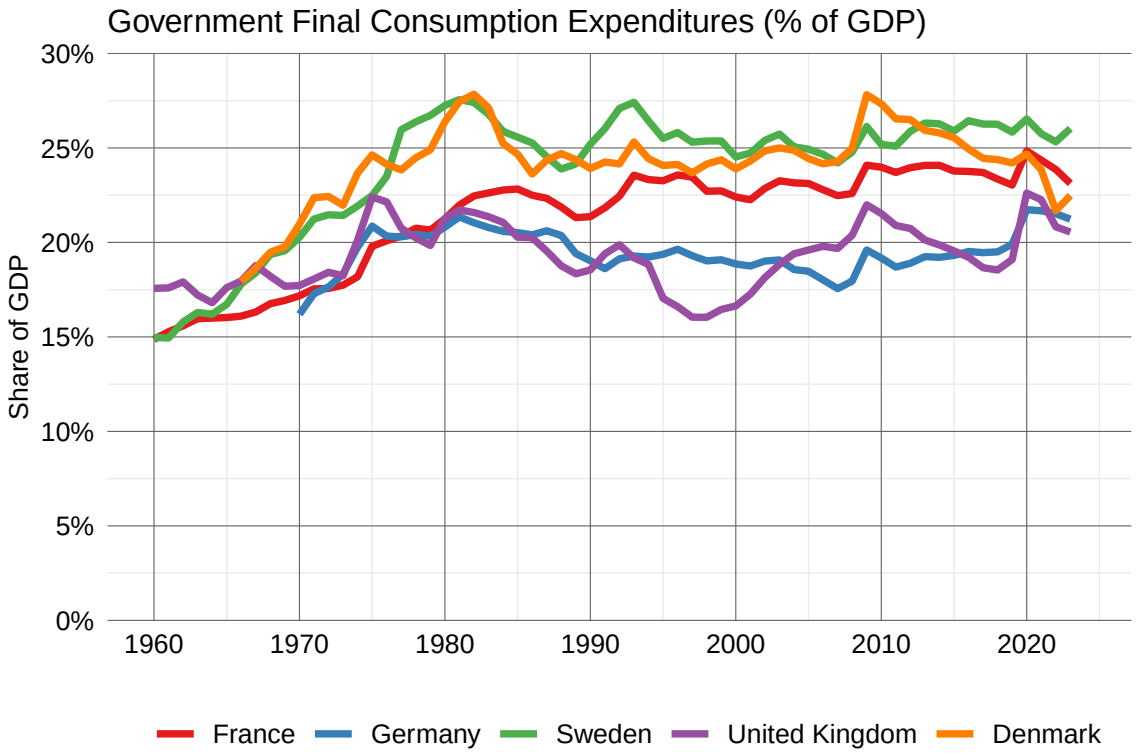
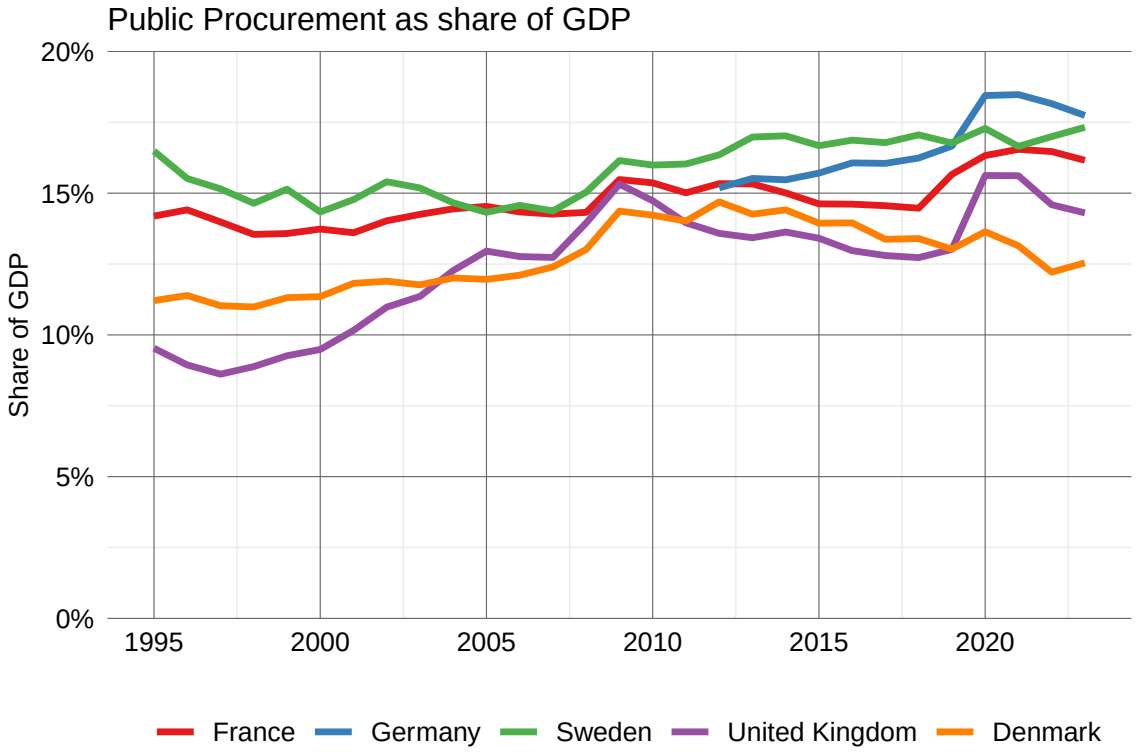


Figure A.1.4. Public Spending on Education by transaction type, 1995-2023



Data: Worldbank WDI (NE.CON.GOVT.ZS)

Figure A.1.5. Government final consumption expenditures



Note: Public procurement defines as the sum of intermediate consumption (P.2), gross fixed capital formation (P.51), and social transfers in kind (D.63). Germany does not provided between social transfers in-kind and other social transfers before 2012.

Figure A.1.6. Government Procurement

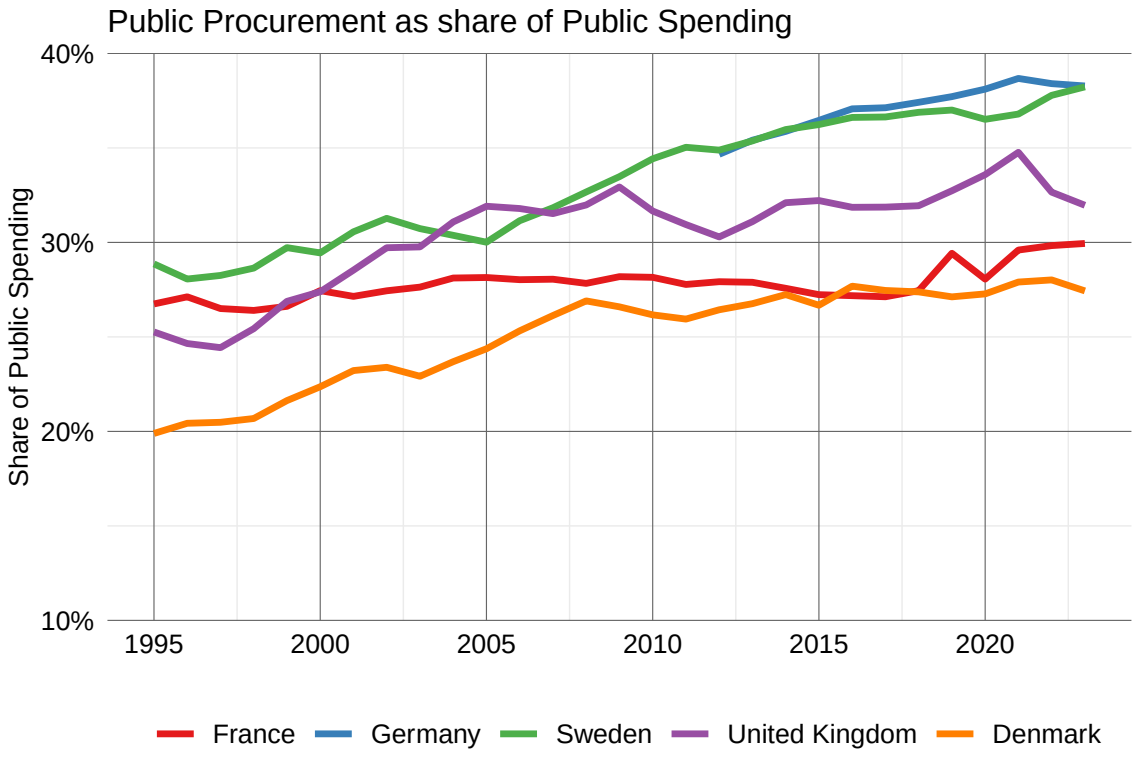


Figure A.1.7. Public Procurement as share of Public Spending

A.2 Additional Figures on Public Wealth

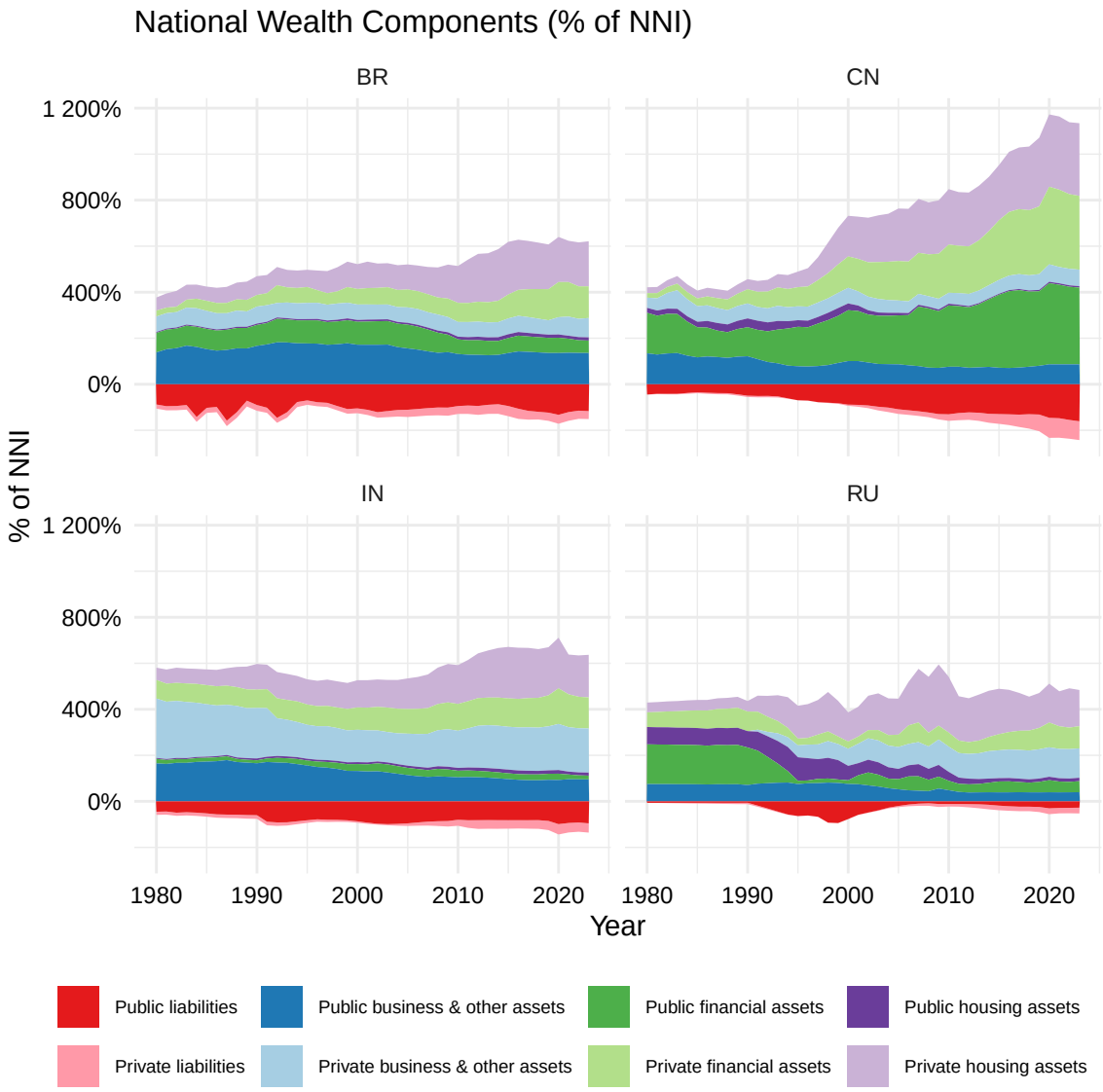


Figure A.2.1. National Assets and Liabilities, 1980-2023

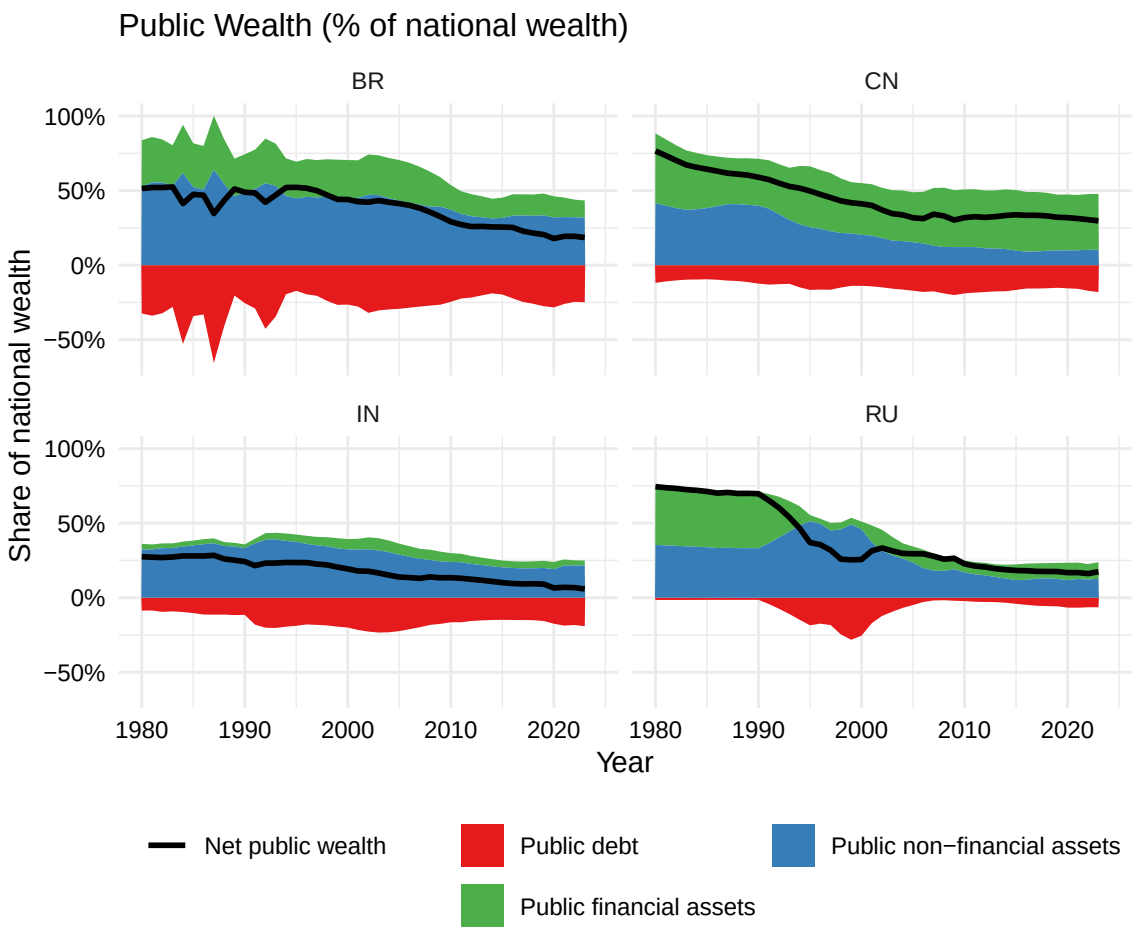


Figure A.2.2. Public Assets and Liabilities, Selected countries, 1980-2023

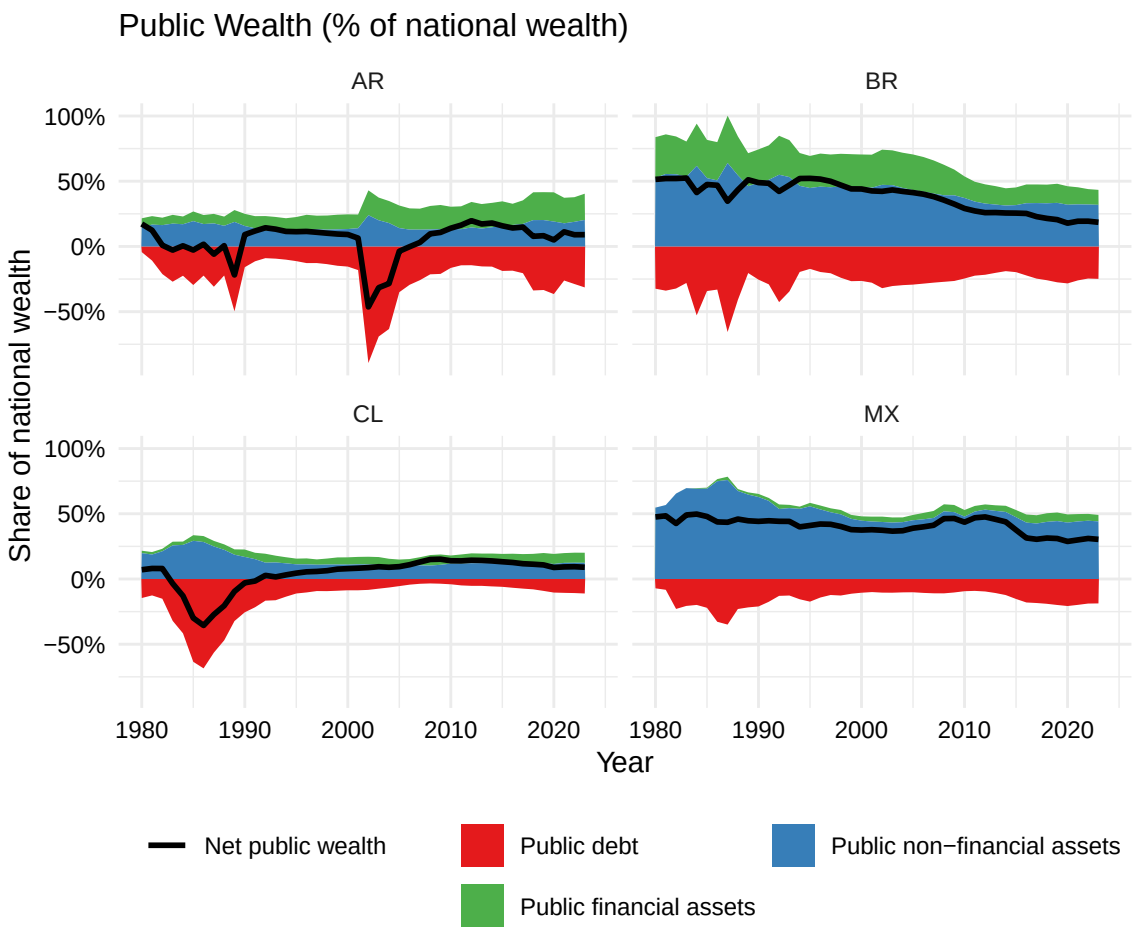


Figure A.2.3. Public Assets and Liabilities, Latin America, 1980-2023

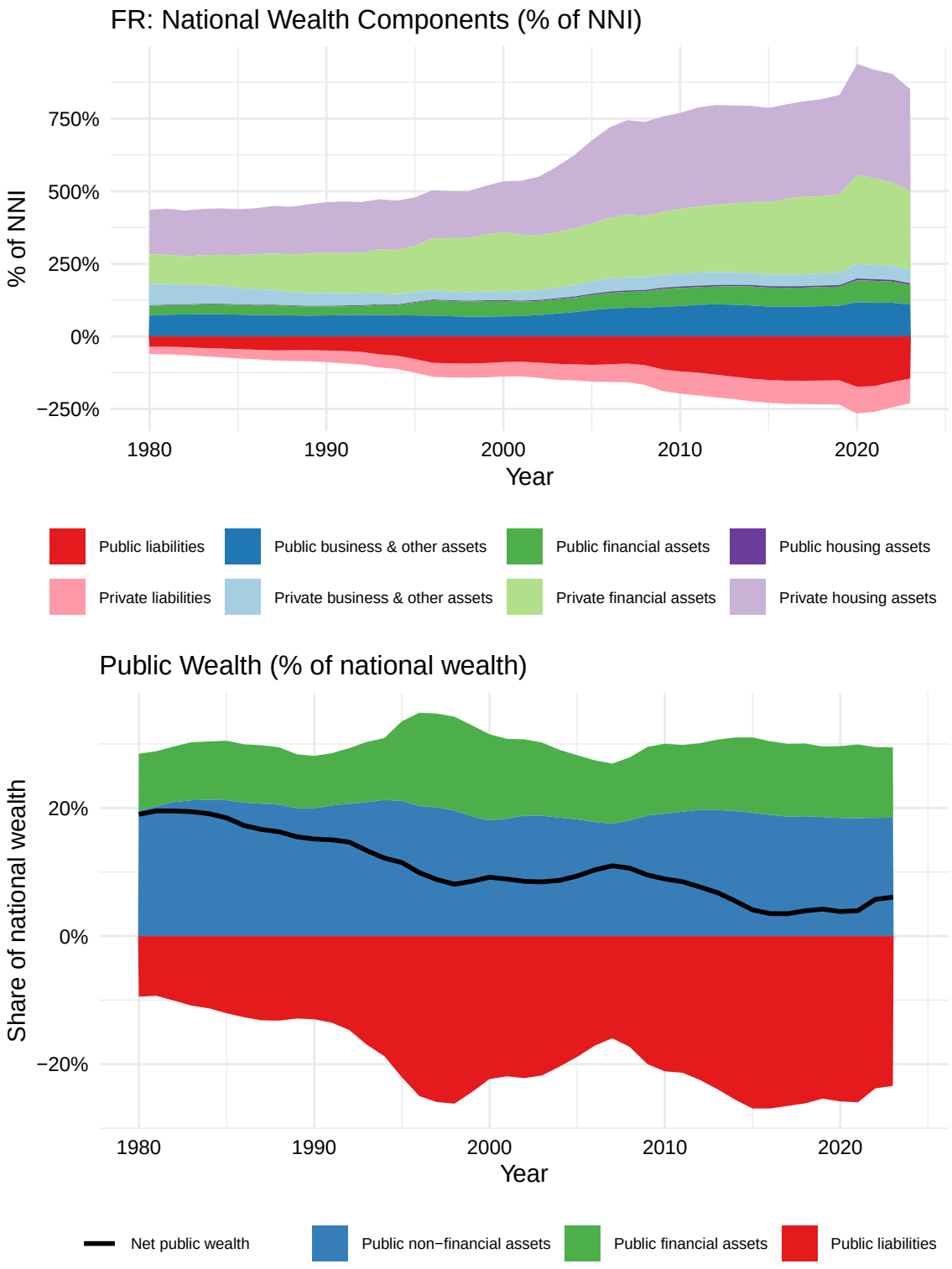


Figure A.2.4. Public Wealth in France

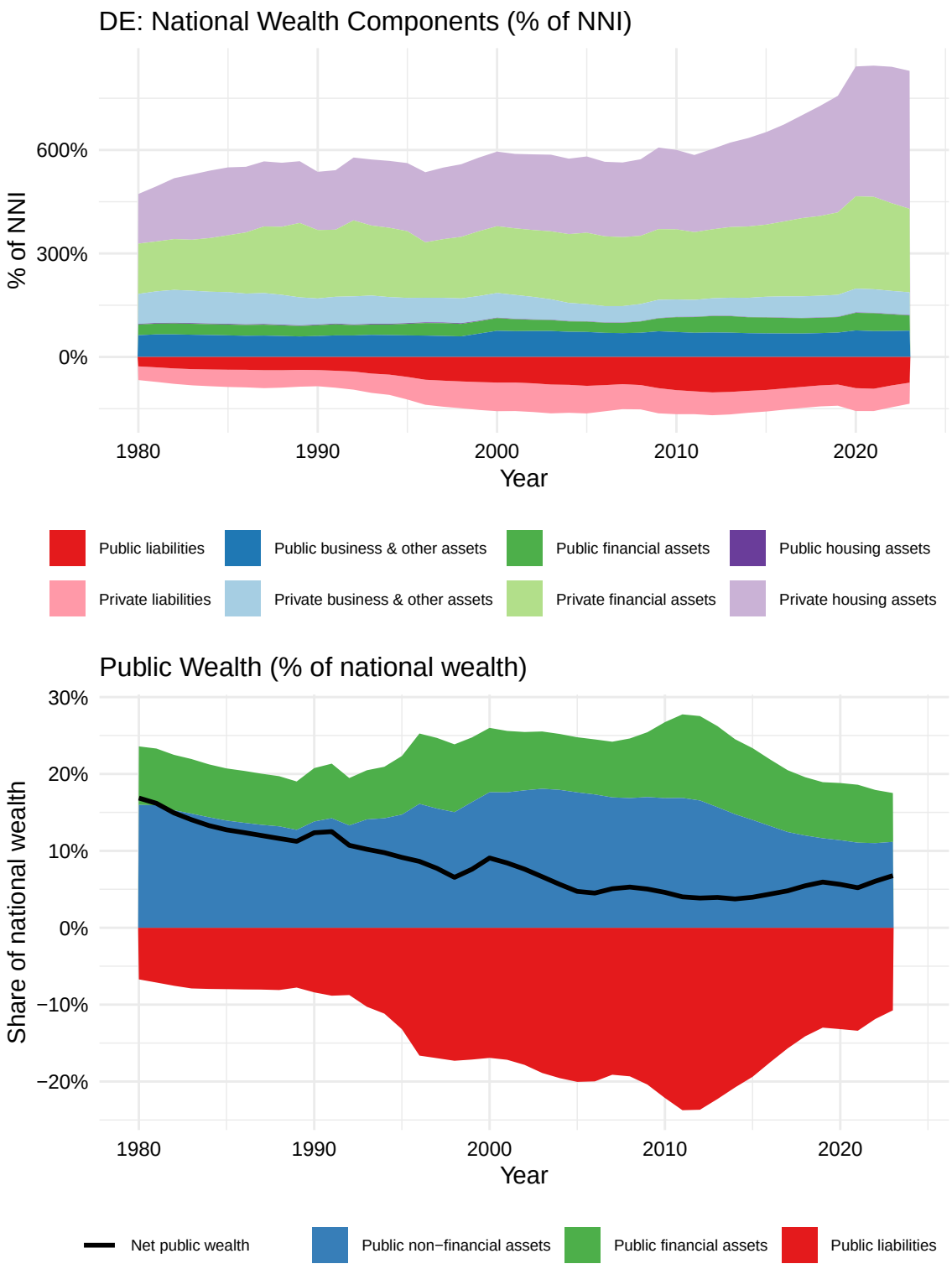


Figure A.2.5. Public Wealth in Germany

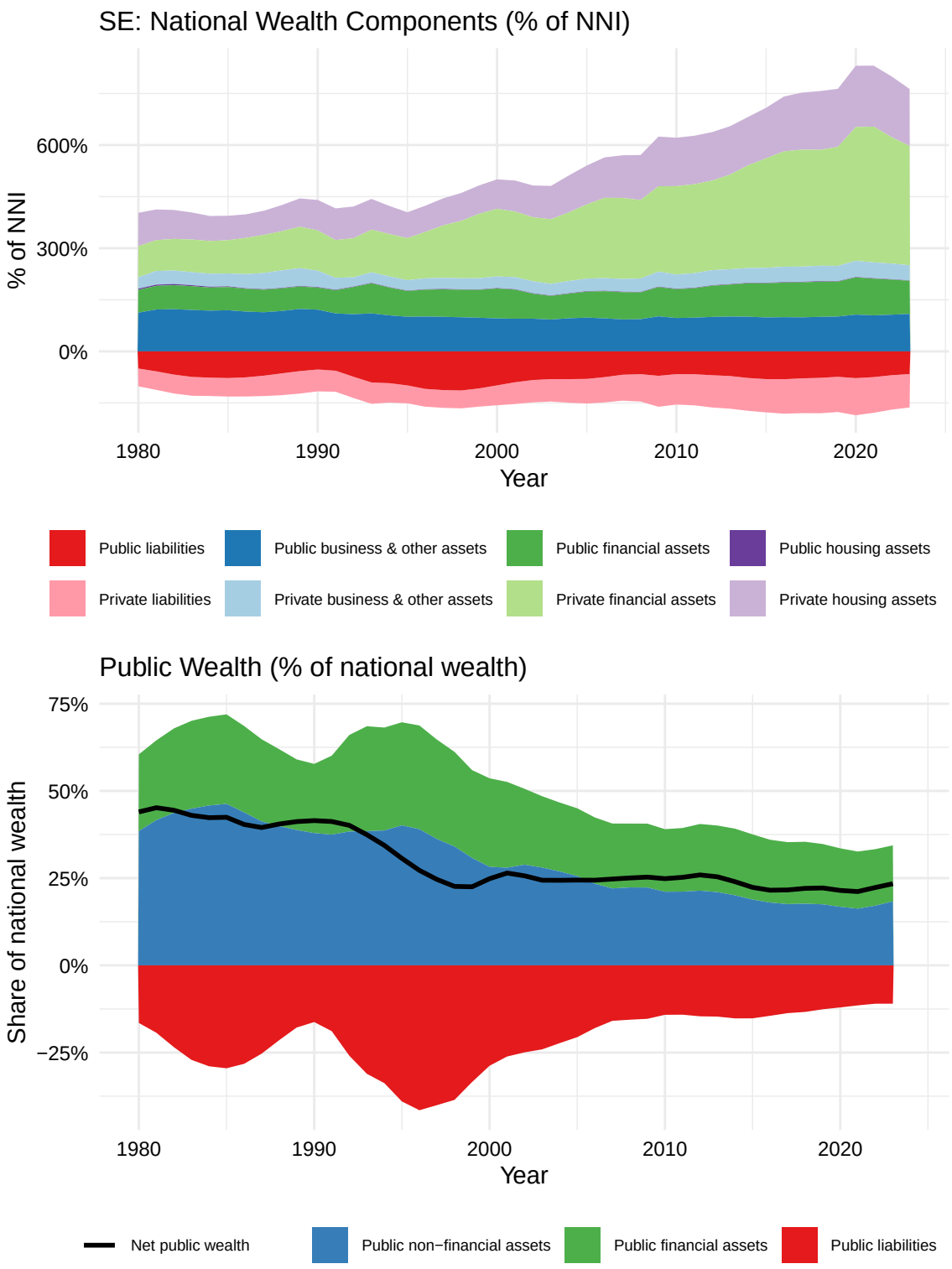


Figure A.2.6. Public Wealth in Sweden

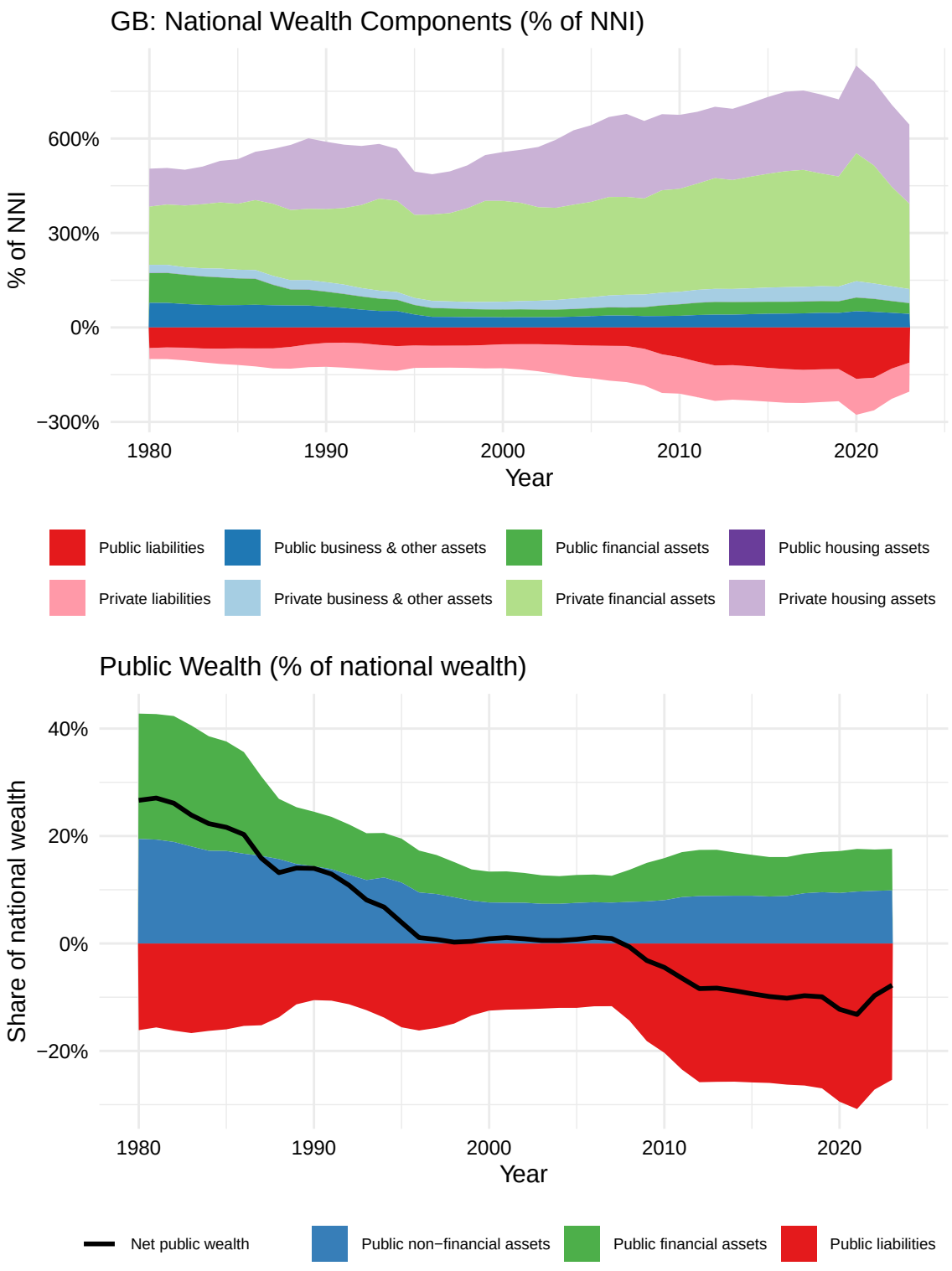


Figure A.2.7. Public Wealth in UK

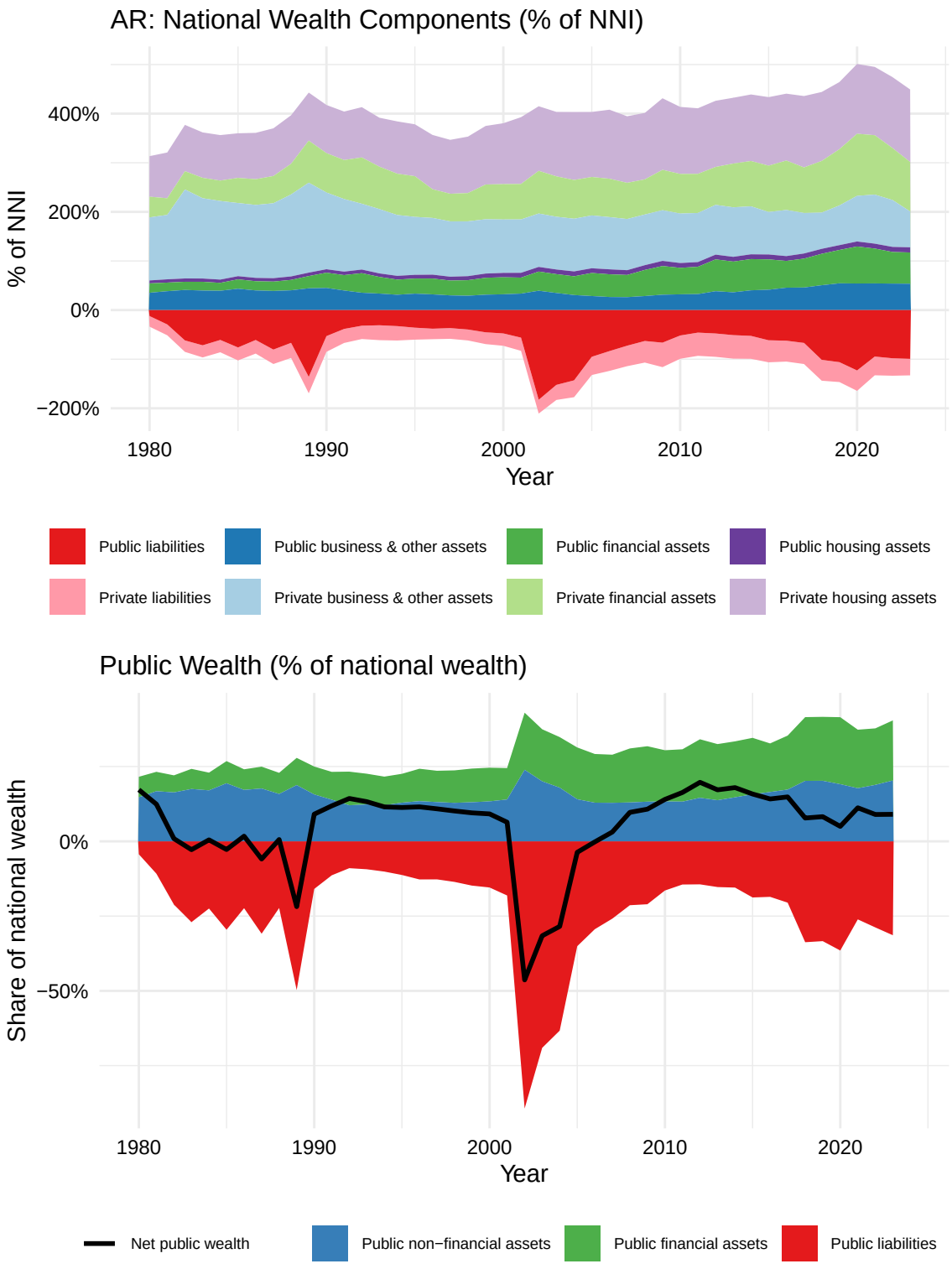


Figure A.2.8. Public Wealth in Argentina

A.3 Additional Figures on Mixed Economies

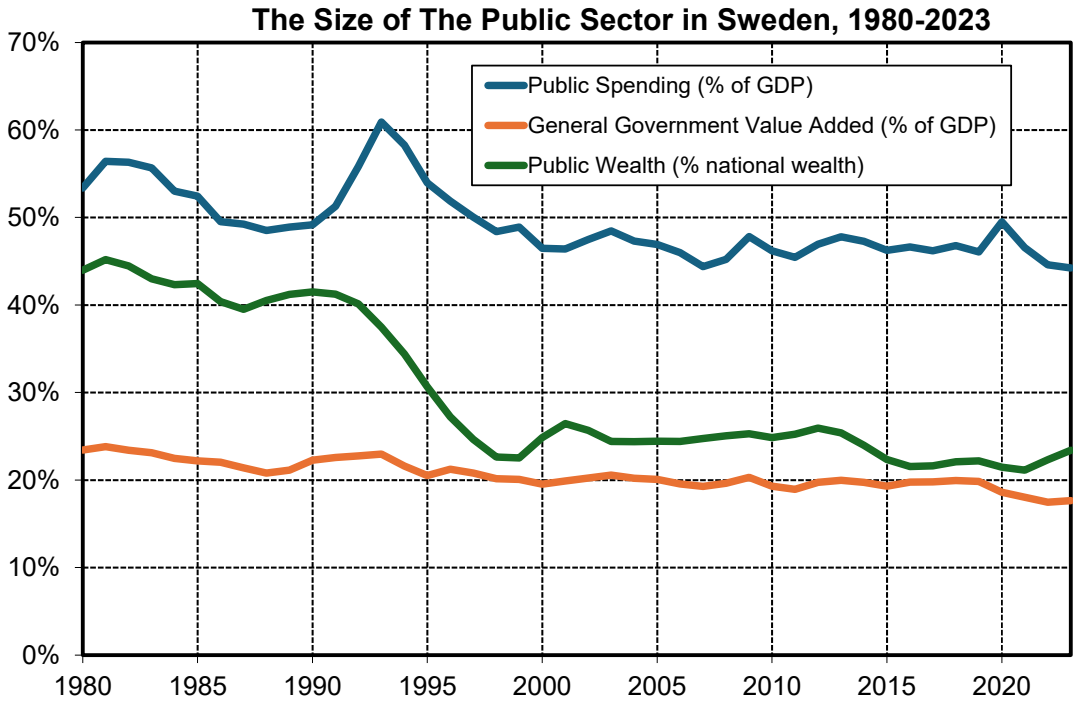


Figure A.3.1. The Size of The Public Sector the Sweden, 1980-2023

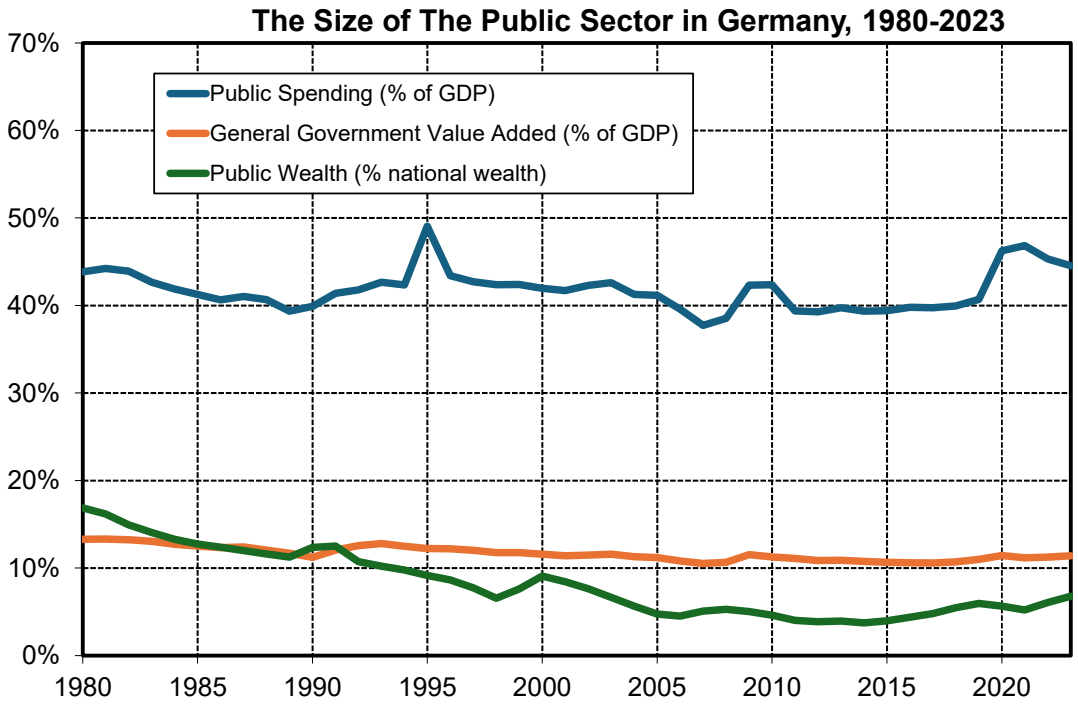


Figure A.3.2. The Size of The Public Sector in Germany, 1980-2023