



AUSTRIA

SELECTED ISSUES

July 2025

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June 9, 2025

Approved By
European Department

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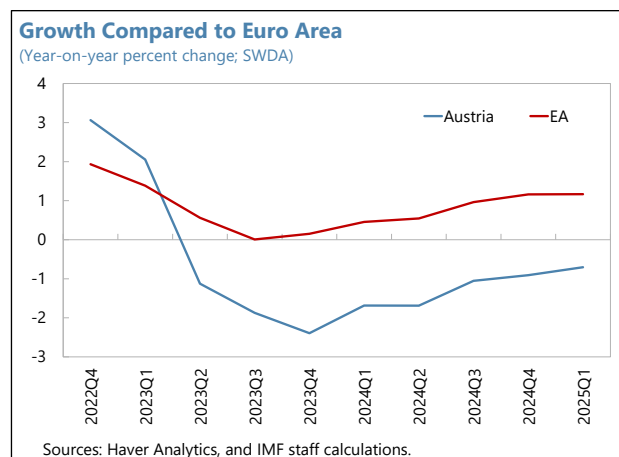
DRIVERS OF THE RECENT RECESSION IN AUSTRIA

Like most countries in Europe, Austria's economy was adversely affected by the spike in European energy prices in 2022 following Russia's invasion of Ukraine and by the rise in interest rates required to tame inflation. However, Austria's economic downturn during 2023-24 has been much deeper than in the rest of the euro area as a whole. To shed light on this issue, this chapter explores the reasons for Austria's downturn and growth underperformance through several perspectives. The broad picture that emerges is a downturn that has been especially large in the manufacturing and construction sectors as higher interest rates and weak confidence have sharply depressed investment and inventory accumulation. Identifying reasons for the growth underperformance in manufacturing is complicated by the fact that the downturn is broad-based and not limited to specific sub-sectors of manufacturing. However, the decline may partly reflect a reversal of unusually high manufacturing growth during 2019-22. The larger drop in construction activity than in the rest of the euro area during 2023-24 may be due in part to somewhat higher house price overvaluation leading up to the decline. Other contributors to Austria's growth underperformance include higher household saving rates amid weak confidence and a reduction in real spending per tourist arrival, among other factors. The GDP decline is also reflected in a large drop in productivity in manufacturing and construction, perhaps as a result of lower investment and labor hoarding amidst weak demand.

A. Introduction

1. Austria's real GDP declined significantly over 2023-24, with growth also underperforming the rest of the euro area.

Growth recovered rapidly after the COVID-19 shock but then declined by 2.5 percent between end-2022 and end-2024. These two years of recession stand in contrast to the euro area as a whole, where growth remained positive in 2023 and strengthened in 2024 (text chart).



2. This chapter uses three approaches to investigate the drivers of Austria's recent growth weakness.

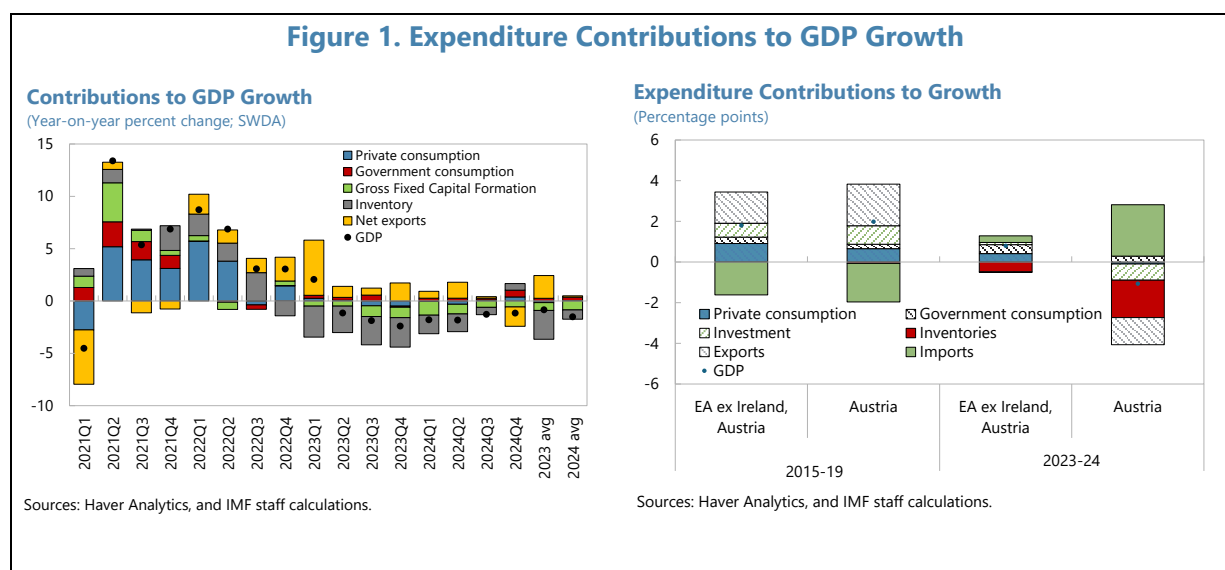
First, the chapter uses data from the expenditure side of the national accounts to assess which main spending categories drove Austria's growth underperformance. Second, it uses gross value added (GVA) data from the production side of the national accounts to assess which production sectors drove Austria's growth underperformance. Third, it assesses the degree to which the downturn was driven by declines in productivity versus hours worked. In each of these areas, the chapter also uses supplementary data to shed further light on the reasons for Austria's downturn. The broad picture that emerges from this analysis is a downturn that has been especially large in the manufacturing and construction sectors as higher interest rates and weak sentiment, both

domestically and in major trading partners such as Germany, have sharply depressed investment and inventory accumulation.

B. Drivers of Growth Underperformance from the Expenditure Side

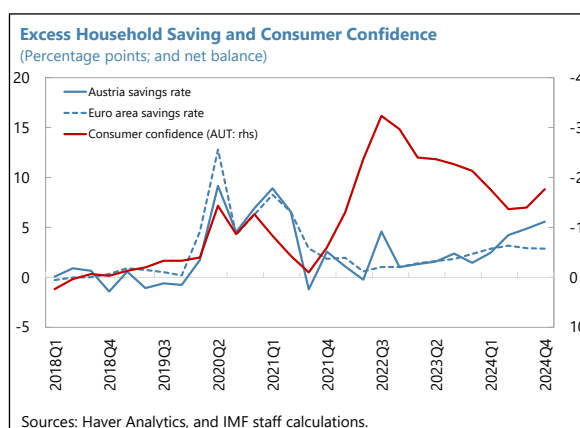
3. Most major categories on the expenditure side of the national accounts contributed to Austria's growth downturn, with especially large declines in inventories and investment

(Figure 1, panel 1). Comparing Austria's growth performance over 2023-24 with that of the euro area yields a similar picture, with falling inventories and investment being key contributors to Austria's relative growth underperformance (Figure 1, panel 2). Overall, domestic demand was very weak, with private consumption growth also underperforming its historical norm and relative to the euro area. Government consumption was the one positive contributor to domestic demand over this period, with a similar contribution to growth as during the pre-pandemic period. On the external side, exports declined substantially, but imports declined even more, such that net exports were a large positive contributor to Austrian GDP growth during this period (especially in 2023), both relative to Austria's historical norms and relative to the rest of the euro area. The remainder of this section looks further into developments in each of the main private-sector expenditure categories.



Private Consumption

4. Elevated household savings rates have kept private consumption weak. The absence of a recovery in private consumption—despite the recovery in real wages during 2024—is reflected in higher-than-usual household savings rates during 2023-24 amid historically weak consumer confidence (text chart). Compared to the euro area, the deviation of the savings rate from its



long-run average has widened more noticeably in late-2024 in Austria. Among the drivers of higher savings rates, OeNB analysis suggests that about one-third to one-half of the increase in the savings rate between mid-2022 and mid-2024 is driven by higher interest rates on deposits, with a smaller share driven by transfer payments to cushion the effect of high energy prices and about one-third of the increase being due to unexplained factors, which could be ascribed to precautionary savings due to higher uncertainty and past declines in real wealth when inflation was high.¹

Investment

5. Falling real investment has been a key factor in the Austrian slowdown and the growth gap relative to the euro area. In the five years prior to the pandemic, investment contributed 0.9 percentage points to growth on average, which is nearly half of the average growth in Austria over this period, and larger than the investment contribution to growth in the euro area. Following the energy-price shock and subsequent monetary tightening in the euro area to lower inflation, the contribution of investment to growth in Austria has instead been negative, contributing the largest drag on growth after inventory dynamics. The decline in real investment of 6.5 percent between 2024 and 2022 reflects almost entirely a drop in construction investment, while machinery and equipment and other investment have remained flat in real terms. Sequentially, real investment has fallen nearly each quarter from 2022Q4 but appears to have bottomed out over the most recent two quarters, with construction activity leveling off and some uptick in machinery and equipment investment.

Inventories

6. Adverse inventory dynamics have also exerted a large drag on growth in the last two years. Strikingly, the drop in inventories more than accounted for the entire decline in Austrian GDP during 2023-24 (Figure 1, panel 2). This followed a large positive contribution from inventory accumulation in 2022, due in part to the build-up of the strategic gas reserves as well as the post-pandemic easing of supply constraints. The large inventory drawdown during 2023-24 may reflect some reversal of the build-up during 2022 as well as historically subdued levels of confidence during 2023-24, driven by self-reinforcing weak expectations in view of the extended recession, sustained increases in energy prices and interest rates, and rising global geoeconomic fragmentation. Such large inventory drawdowns are unlikely to be sustainable and hence indicate scope for a rebound in growth once confidence recovers and firms start restocking. Alternatively, it is possible that subsequent GDP revisions may reallocate part of the large downturn in inventories to other expenditure components of GDP.

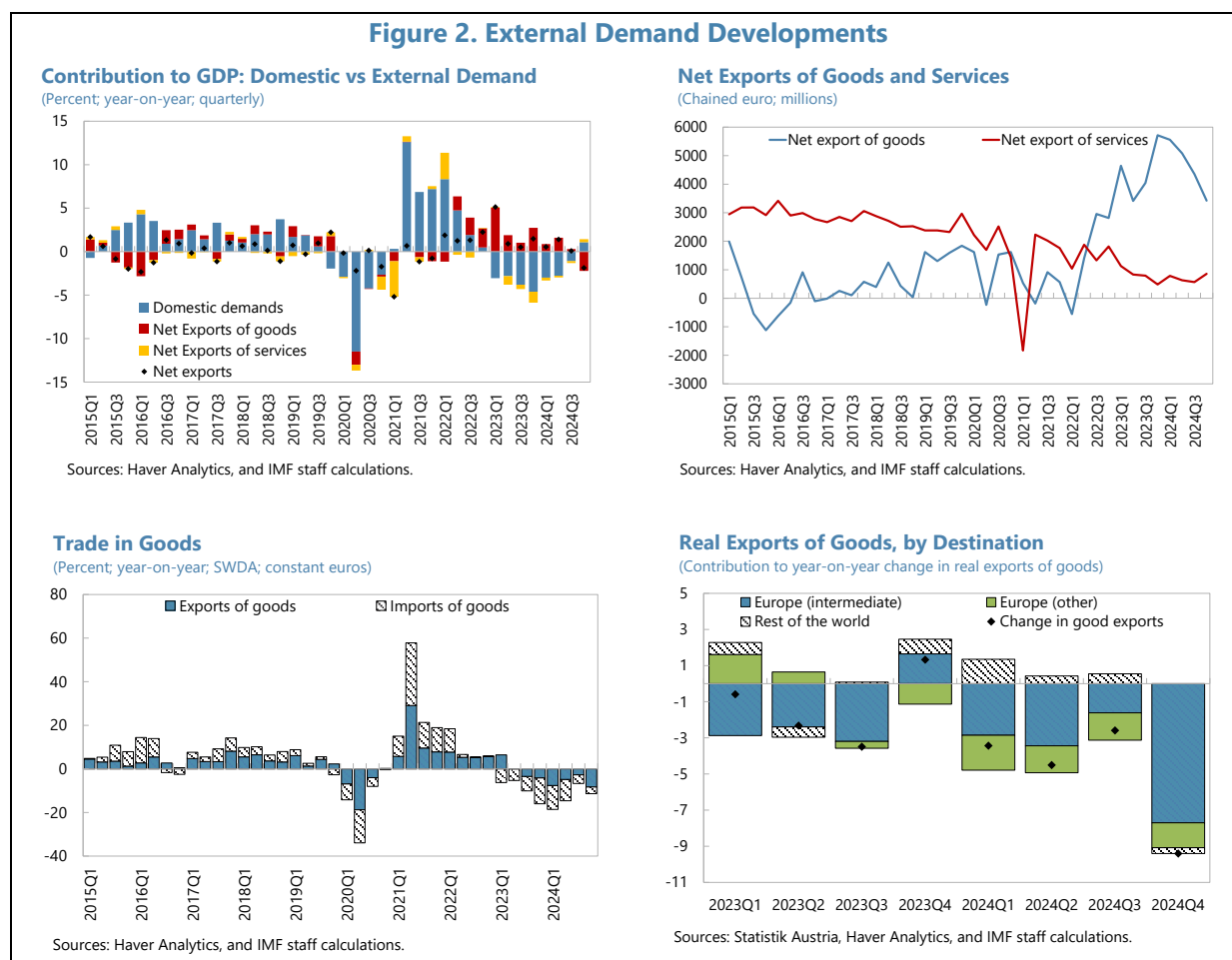
External Demand

7. The contribution of net exports to growth rose sharply after the pandemic. Prior to the pandemic, the contribution of net exports to GDP growth averaged 0.1 pp between 2015Q1 and

¹ See [“Economic Outlook for Austria,” OeNB December 2024.](#)

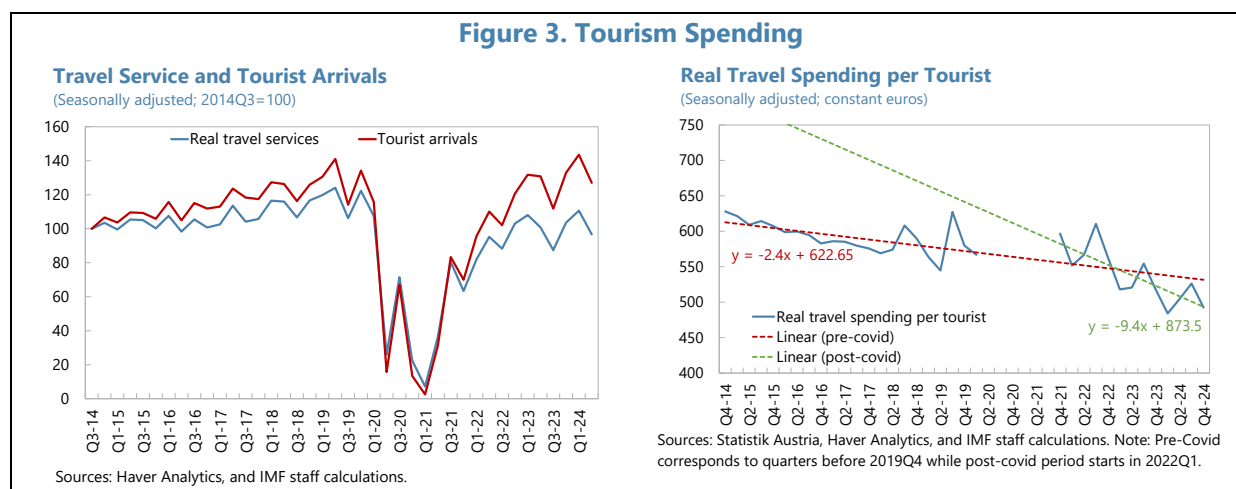
2019Q4 (Figure 2, panel 1). Since 2022, this contribution has surged to 1.2 pp of GDP; this reflects divergent dynamics and trends between goods and services (Figure 2, panel 2).

- **Goods.** Real goods exports rebounded solidly in the aftermath of the pandemic (Figure 2, panel 3). However, this trend has reversed since 2023, with real goods exports in the fourth quarter of 2024 declining to 9 percent of their 2022 level, driven mainly by falling exports of intermediate goods to Europe, which account for approximately half of Austria's goods exports (Figure 2, panel 4). In this regard, the slowdown in German manufacturing is likely to have played a significant part in terms of demand for Austrian intermediate goods exports.² Despite this decline in goods exports, *net* exports of goods continued to contribute positively to GDP during 2023 and most of 2024 (Figure 2, panel 1) as goods imports declined even faster than goods exports, reflecting lower demand for imported inputs and weak domestic demand, among other factors.



² A spillover analysis suggests that weakness in German intermediate goods production has the largest spillovers on Austrian intermediate goods production from among a sample of 8 European countries. See [“The recent weakness in the German manufacturing sector,” Banca D’Italia, 2024.](#)

- **Services.** Real net services exports have declined over time, and their contribution to growth has been mostly negative since 2023. Travel exports are a key services export, representing nearly 30 percent of Austria's total nominal services exports pre-pandemic. While tourist arrivals have rebounded from the pandemic-induced downturn, real receipts per arrival for travel services exports have only partially recovered, remaining 13 percent below their pre-pandemic level (Figure 3, panel 1).³ This measure of real travel spending per arrival, which was already on a downward trajectory before the pandemic, has experienced an accelerated decline in the post-pandemic period (Figure 3, panel 2). Counterfactual estimates suggest that if real travel services receipts per tourist arrival had returned to their 2019 levels, real GDP growth would have been 0.3 percentage points higher in 2023 and approximately 0.2 percentage points higher in 2024.⁴



C. Sectoral Drivers from the Production Side

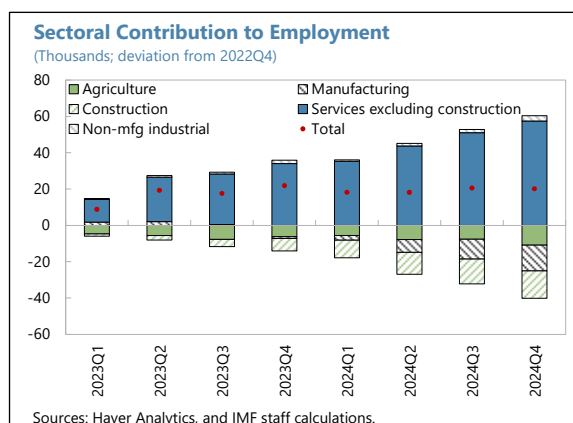
8. Austria's slowdown has been broad-based across sectors from the production side of the national accounts. Excluding agriculture and public administration, all other sectors performed better in the rest of euro area than in Austria.⁵ However, some sectors contributed especially heavily to Austria's underperformance. Specifically, three sectors that account for about half of Austrian GVA—manufacturing; trade, travel, accommodation, and food; and construction and real estate activity—explain three quarters of Austria's growth gap in this 2-year period relative to the rest of the euro area (Figure 4, panels 1 and 2), with manufacturing being the largest contributor. Employment data paint a similar picture, with employment declines in Austria concentrated in manufacturing and construction (text chart). For manufacturing, part of the downturn may reflect a

³ Real receipts per arrival for travel services exports are calculated as nominal travel service exports per arrival deflated by the HICP recreational and personal care index (which includes package holidays and accommodation).

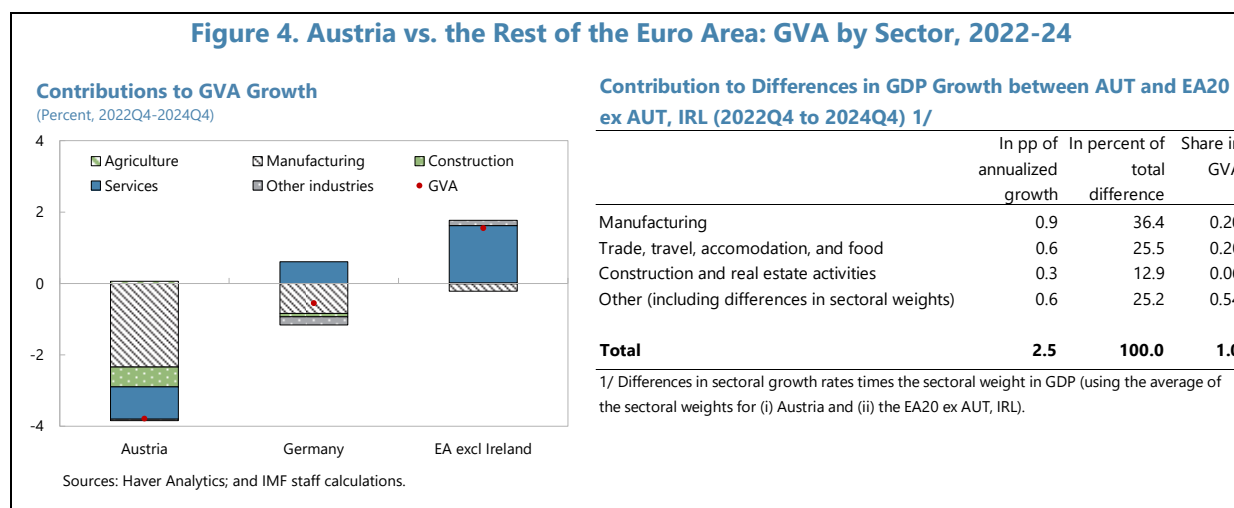
⁴ Considering indirect effects of tourism on GDP, the impact could be 1/3 larger. The direct impact of tourism on GDP was equal to 4 percent of GDP in 2023; WIFO estimates that its indirect impact amounts to an additional 2.2 percent of GDP. The indirect impact includes the impact of tourism on other sectors such as retail, transportation, and food services.

⁵ In this chapter, data on the rest of the euro area excludes Ireland due to the high volatility of Ireland's GDP data, which in turn reflects the activities of large multinationals.

reversal of unusually high production during 2019–2022, as Austria’s manufacturing GVA grew at an annualized rate of 4.5 percent from end-2019 to end-2022, compared to only 0.6 percent in the rest of the euro area. Reversal of unusually high GVA does not seem to be a reason for the weak relative performance of construction or trade, travel, accommodation, and food, as these two sectors’ GVA also underperformed the rest of the euro area during 2019–22.⁶



9. The following sections look further into factors driving the downturn in manufacturing and construction. While detailed data on GVA developments within manufacturing and construction are not yet available for 2024, some insight into developments within these two sectors can be gleaned by looking at more detailed sectoral trends in other, higher-frequency data, such as industrial production (IP), employment, and capacity utilization. For trade, travel, accommodation, and food, the relative growth weakness likely reflects some combination of generally weak domestic demand and the decline in real travel spending per tourist arrival noted earlier.



⁶ The larger weight of manufacturing in total GVA in Austria (18 percent in 2023) than in the rest of the euro area ex. Ireland (14 percent) explains only a very small part of the growth difference with the rest of the euro area during 2023–24. Specifically, if the rest of the euro area had Austria’s manufacturing share of GVA, its annualized growth between end-2022 and end-2024 would have been only 0.04 percentage points lower.

Manufacturing

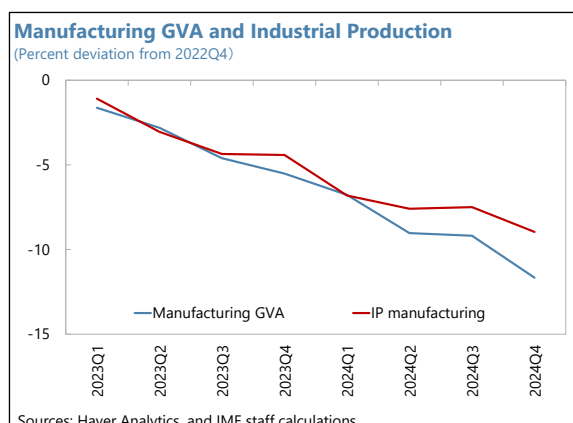
10. The decline in manufacturing GVA has been mirrored in the IP data (text chart).⁷ We thus examine trends in the more detailed and more timely IP data to assess key drivers of the downturn in manufacturing.

11. The decline in manufacturing IP has been broad-based across sectors.

- All *sub-sectors* of manufacturing declined during 2023-24, with the exception of chemicals and pharmaceuticals (Figure 5, panel 1).
- *By economic category*, intermediate goods and investment goods production both fell sharply (Figure 5, panel 2), with a larger contribution to the overall manufacturing output decline from intermediate goods given their 40 percent share in IP (Figure 5, panel 3); investment goods account for only 8 percent of IP.
- *By energy intensity*, output in the non-energy-intensive sectors (which account for three quarters of industrial production) fell somewhat more than in the energy-intensive sectors over the period of investigation and accounted for a larger share of the decline in manufacturing IP (Figure 5, panels 4, 5).⁸ However, the decline in energy-intensive production started earlier (in early-2022), following the energy price shock.

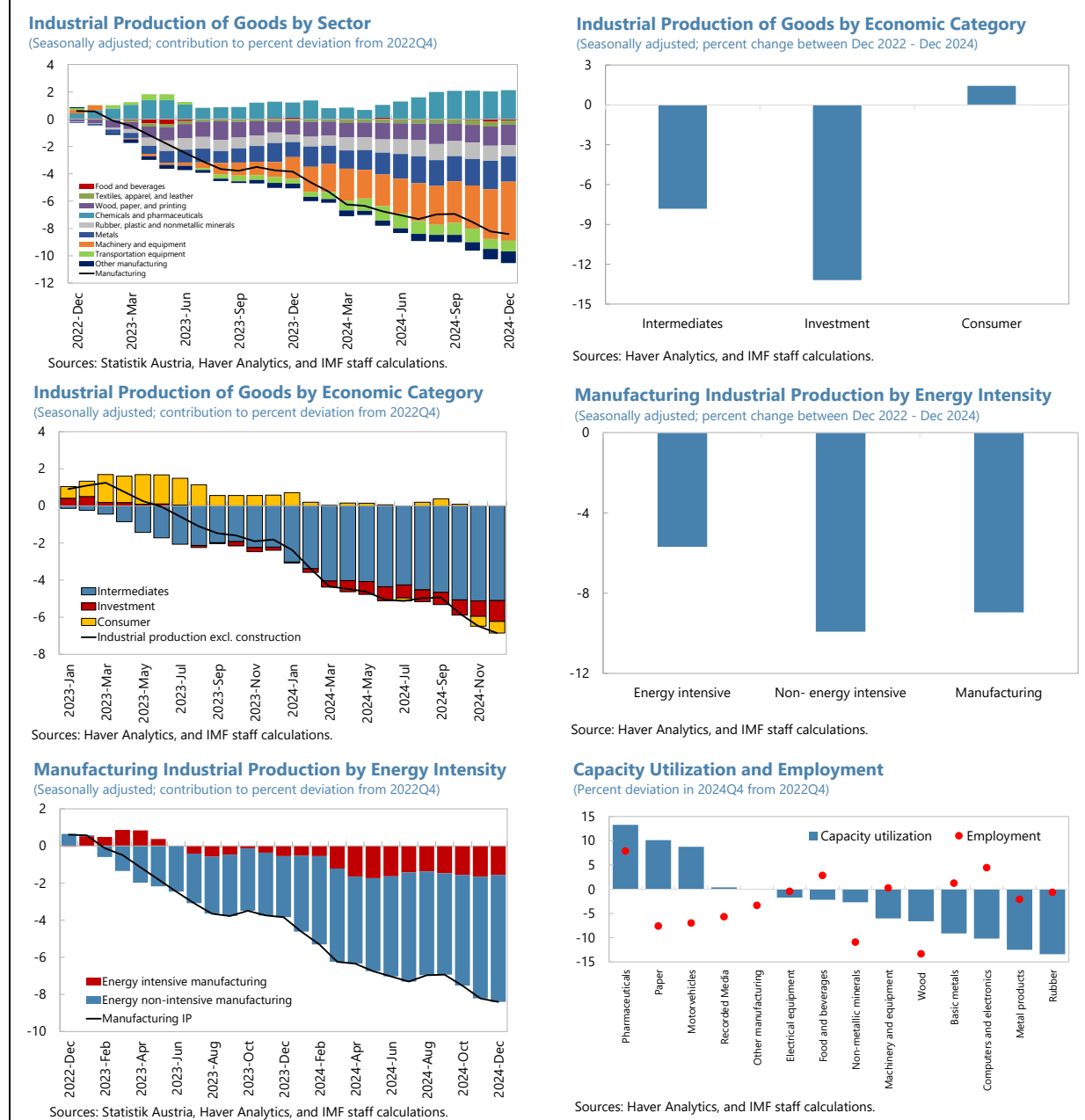
12. Capacity utilization and employment have also fallen across most manufacturing sectors. With the exception of pharmaceuticals, paper, and motor vehicles, the data show lower capacity utilization in all other manufacturing industries (Figure 5, panel 6). In most manufacturing sectors, employment has also declined or stayed relatively flat.

13. In sum, trends in IP, capacity utilization, and employment within manufacturing sectors point to a broad-based decline this is not heavily concentrated in specific sub-sectors. This finding points to likely drivers of the downturn in manufacturing being broad economy-wide factors, such as weak domestic and external demand and higher interest rates depressing investment.



⁷ Interestingly, this stylized fact differs from Germany, where manufacturing GVA has [performed better than manufacturing IP](#).

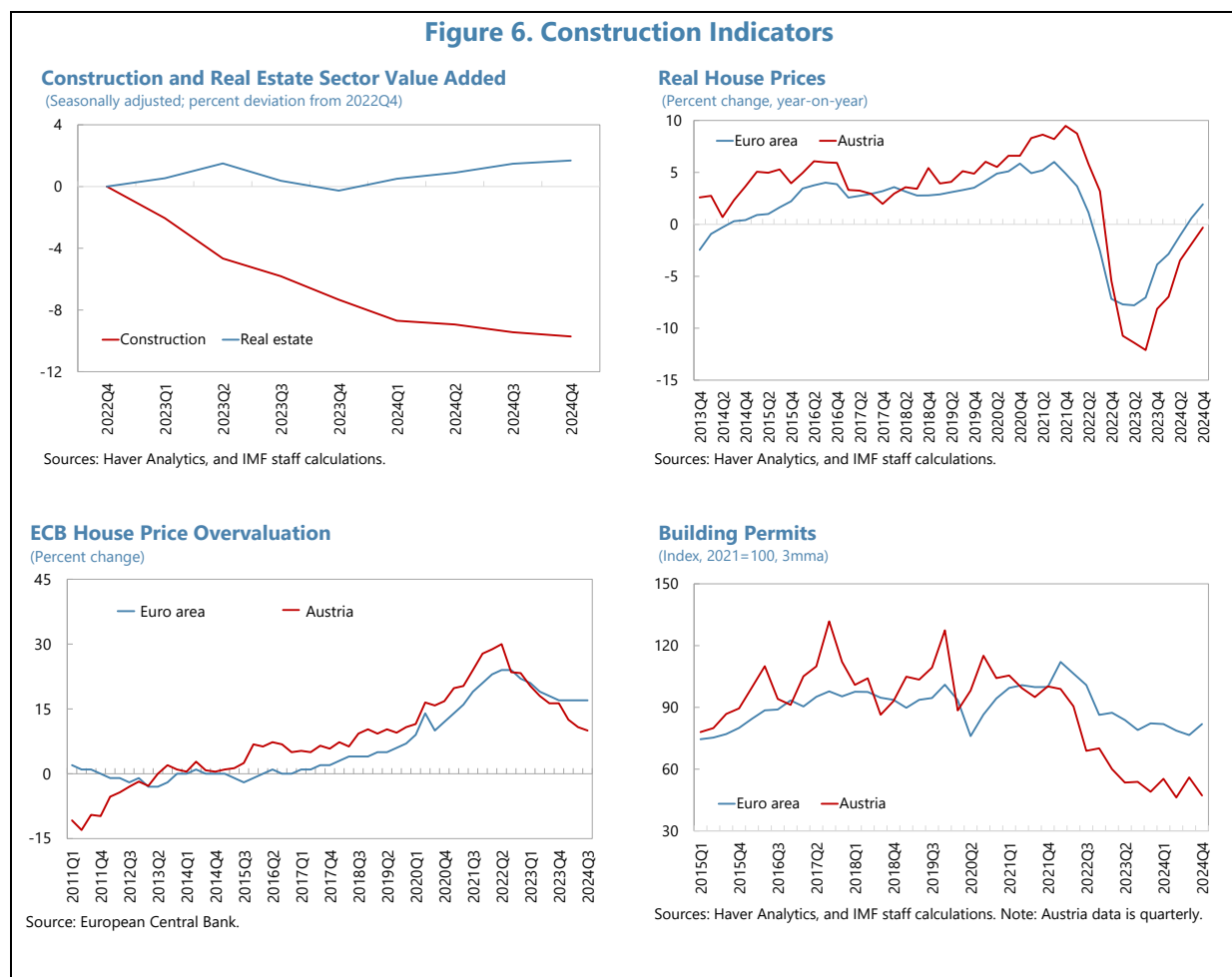
⁸ The following sectors are defined as energy-intensive manufacturing: paper and paper products, petroleum refining and coke, chemicals and chemical products, nonmetallic mineral products, and manufacture of basic metals. Using input-output tables for Austria, these sectors are estimated to have a larger-than-average share of energy inputs (defined as output of the electricity, gas, steam, and air conditioning sector consumed as intermediate input) in total intermediate inputs than other Austrian industries. These sectors account for 26 percent of Austrian IP.

Figure 5. Industrial Output, Capacity Utilization, and Employment

Construction and Real Estate Services

14. The decline in construction and real estate services value added is mainly driven by the construction sector. Real estate activities value added has stagnated since the beginning of the contraction (Figure 6, panel 1). The decline in construction sector value added since 2022Q4 may be related to the cooling in the housing market that has been observed since mid-2022 (Figure 6, panel 2). The more rapid cooling of Austrian real house prices and larger decline in construction GVA than in the euro area may reflect the larger assessed overvaluation in house prices leading up to the decline, with the ECB assessing Austrian house prices to have been more overvalued than in the

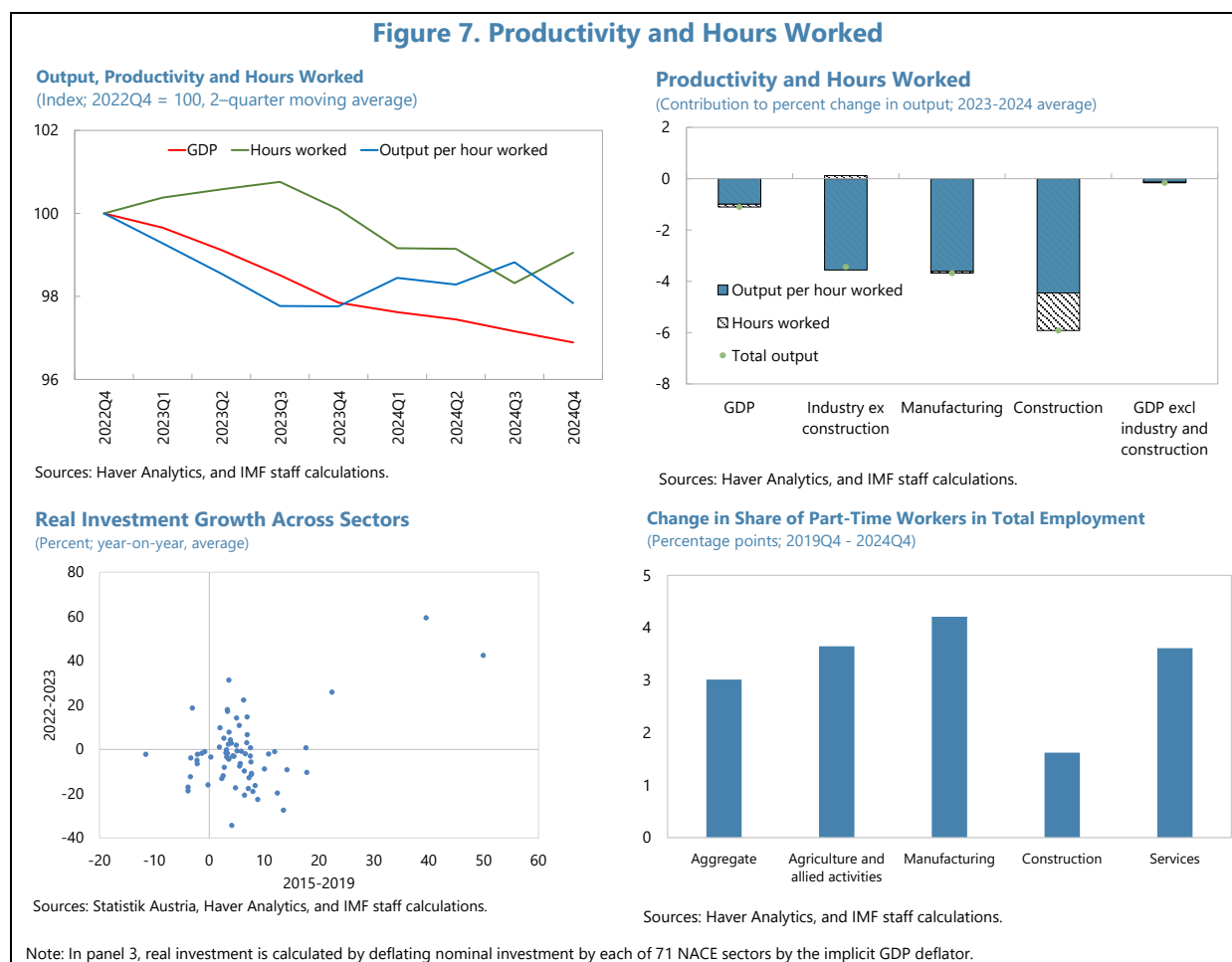
euro area by about 8 percentage points on average in 2021 (Figure 6, panel 3). The stronger historical house price growth in Austria also seems to have produced a somewhat stronger supply response (as proxied by building permits), which has subsequently fallen sharply (Figure 6, panel 4) as house prices fell. However, data from recent quarters indicates that the housing market may be recovering with real house prices appearing to have bottomed out and building permits leveling off late in 2024.



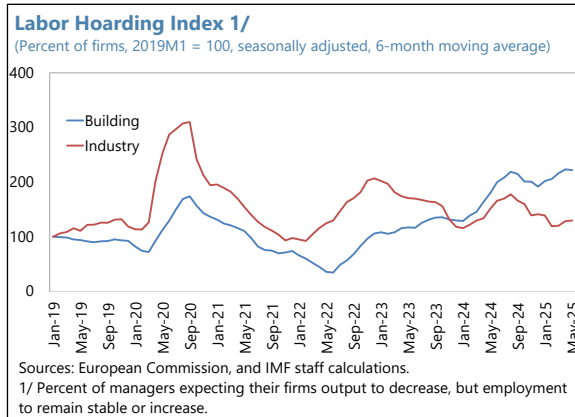
D. Productivity vs. Hours Worked

15. The decline in output has been reflected mainly in falling productivity—especially in manufacturing and construction—rather than in a decline in hours worked. The decline in GDP since 2022Q4 was accounted for initially by falling productivity (measured as output per hour worked) while aggregate hours worked increased through most of 2023 (Figure 7, panel 1). Hours worked then fell during most of 2024 before rebounding at end-2024 while productivity remained at

a low level. Overall, lower hourly productivity accounts for most of the decline in GDP,⁹ with the decline in productivity concentrated in the construction and manufacturing sectors (Figure 7, panel 2).



16. Reasons for weak productivity growth are difficult to discern with certainty. The concentration of the decline of both output and productivity in the manufacturing and construction sectors, together with declines in capacity utilization, suggest that weak demand in these sectors may have led to some labor hoarding, causing productivity to decline. Survey data suggest that labor hoarding in industry remains a bit above pre-COVID levels though below the peak



⁹ This calculation is against a counterfactual of no change in hours worked or productivity. Hours worked had previously been a rising trend, with hours worked during 2024 below this trend. This deviation, together with low-capacity utilization, indicates a non-negligible negative output gap for 2024. See the accompanying report, *Austria: Staff Report for the 2025 Article IV Consultation* for further discussion.

in 2022, while it has continued to rise in the building sector (text figure). The sharp decline in investment could also have adversely affected productivity growth. Indeed, only 15 out of 71 NACE sectors recorded stronger real investment growth in 2022-23 than during the 5 years prior to the pandemic while for most sectors it fell sharply (Figure 7, panel 3), contributing to lower capital-labor ratios and hence lower productivity. In addition, there is a notable increase in the share of part-time workers in total employment across sectors (Figure 7, panel 4). This shift could have also affected productivity if these workers represent a compositional shift in the type of workers in the labor force. However, evidence on the impact of more part-time work on productivity is scarce for Austria.

E. Conclusion

17. While Austria's downturn has been the result of multiple causes that are difficult to isolate, the analysis in this chapter sheds light on some of the recession's main characteristics.

The broad picture that emerges is a downturn that has been especially large in the manufacturing and construction sectors as higher interest rates and weak confidence have sharply depressed investment and inventory accumulation. Identifying reasons for the growth underperformance in manufacturing is complicated by the fact that the downturn is broad-based and not limited to specific sub-sectors of manufacturing. However, the decline may partly reflect a reversal of unusually high manufacturing growth during 2019-22. The larger drop in construction activity than in the rest of the euro area may be due in part to somewhat higher house price overvaluation leading up to the decline. Other contributors to Austria's growth underperformance include (i) higher household saving rates due to weak confidence amid the continued downturn and (ii) a reduction in real spending per tourist arrival, among other factors. The GDP decline is also reflected in a large drop in productivity in manufacturing and construction, perhaps as a result of lower investment and labor hoarding amidst weak demand.

References

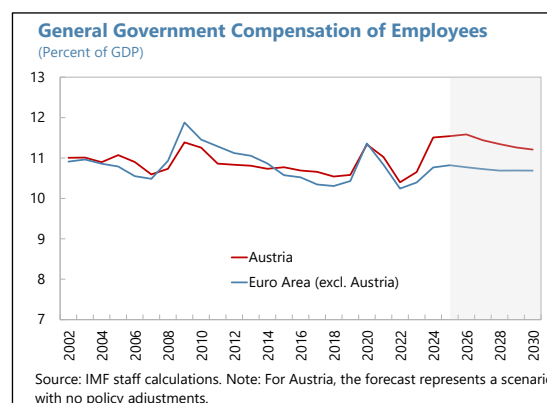
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REFORM OPTIONS TO IMPROVE THE EFFICIENCY OF THE PUBLIC WAGE BILL

This chapter analyzes the characteristics of public sector wages in Austria, given its weight in public expenditure and the necessity to improve spending efficiency to reduce the fiscal deficit. Containing public-sector wage increases and improving the multi-level government structure could help lower the public wage bill in Austria.

1. Austria's public wage bill has increased in recent years. In 2024, Austria's public wage bill amounted to 11.5 percent of GDP, an increase of 0.9 percentage points compared to 2019. While it has been historically aligned with the euro-area average, Austria's public wage bill exceeded this benchmark by 0.7 percentage points in 2024 (text chart).¹



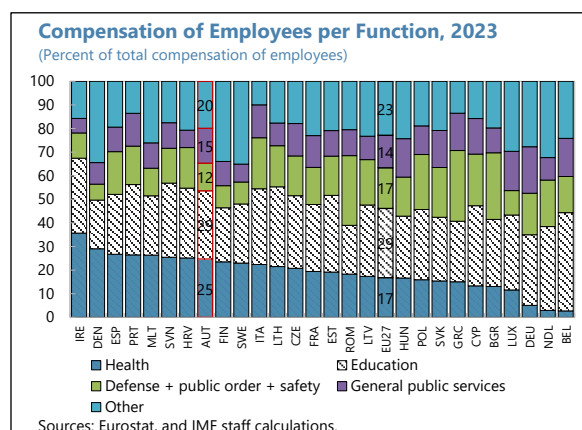
2. Austria's fiscal adjustment needs have also increased. Austria's overall general government balance has fallen from 0.5 percent of GDP in 2019 to -4.7 percent of GDP in 2024 while the debt-to-GDP ratio has risen from 71.0 to 81.2 percent of GDP. As a result, Austria faces substantial fiscal adjustment needs over the medium term to stabilize the debt ratio and comply with EU fiscal rules.

3. Against this background, this chapter explores possible cost drivers of Austria's public wage bill and options to increase its efficiency. Section A discusses key factors affecting Austria's wage bill and its evolution in recent years. Section B concludes with policy recommendations.

A. Parameters Influencing the Wage Bill in Austria

Government Functions and Number of Employees

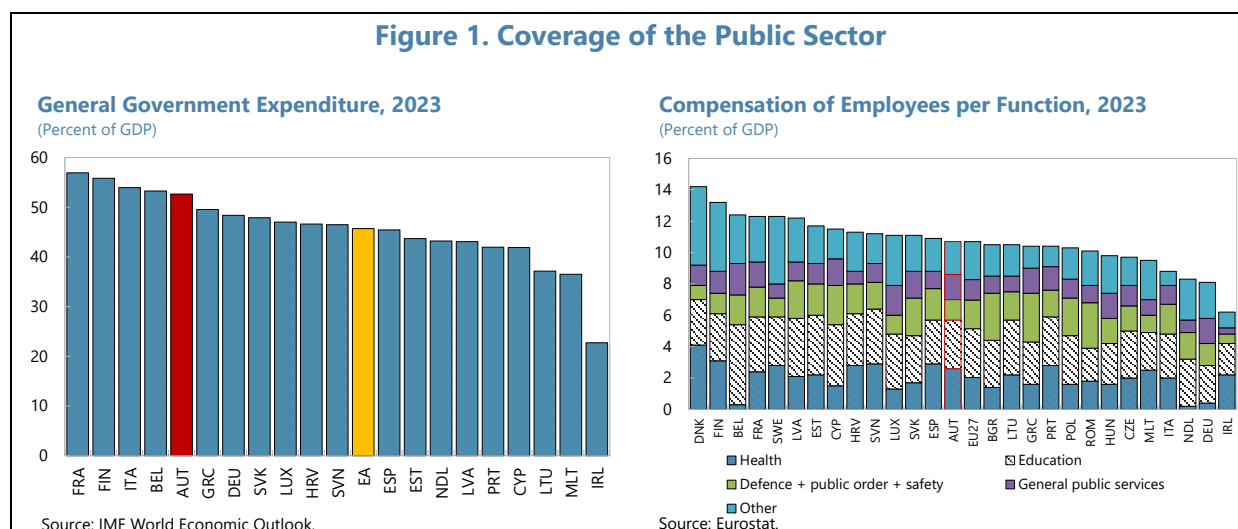
4. Social sector employment accounts for much of the wage bill. Compensation for employees in the education and healthcare sectors accounts for about half of the total public wage bill. While the share of compensation allocated to education employees is similar to the EU27 average (text chart), the share allocated to



¹ Part of this gap may reflect Austria's temporarily low GDP due to a wider negative output gap than in the rest of the euro area. However, adjusting for this does not fundamentally change the result—Austria's wage bill as a percent of potential GDP in 2024 was still 0.6 percentage points higher than in the rest of the euro area.

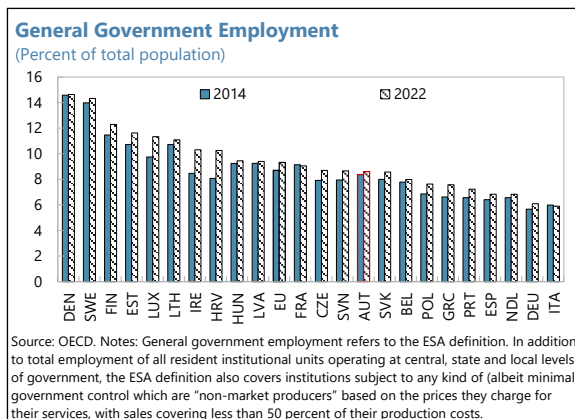
healthcare employees is significantly higher (24 percent versus 17 percent). However, this difference may reflect variations across countries in the degree to which healthcare employees are mainly in the public versus private sector. More generally, one factor contributing to the public wage bill is the extent of public sector coverage, as countries in which more activities are handled by the public sector rather than the private sector (e.g., countries in which education and healthcare are mostly provided directly by the government) or which have higher spending needs on activities typically produced by the public sector (e.g., defense) typically have more government employees and hence larger public wage bills.

5. Indicators suggest that Austria's public sector has a somewhat broader coverage compared to other EU countries. A lack of comparable cross-country data on public sector coverage poses challenges in benchmarking Austria against other EU nations. Using general government expenditure as a share of GDP as a proxy for public sector coverage, Austria ranks among the highest in Europe (Figure 1, left chart). By sector, Austria's wage bills for healthcare spending and general public services are both above the EU average as a percent of GDP while Austria's defense wage bill is below the EU average (Figure 1, right chart).



6. Nonetheless, the number of government employees does not appear to be a major driver of cost differences relative to the EU average.

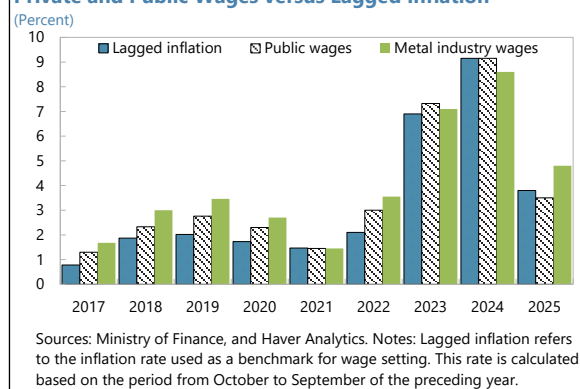
The proportion of general government employees relative to the total population is close to the EU average and has increased only marginally since 2014 (text chart).



Wage Growth and Compensation Levels

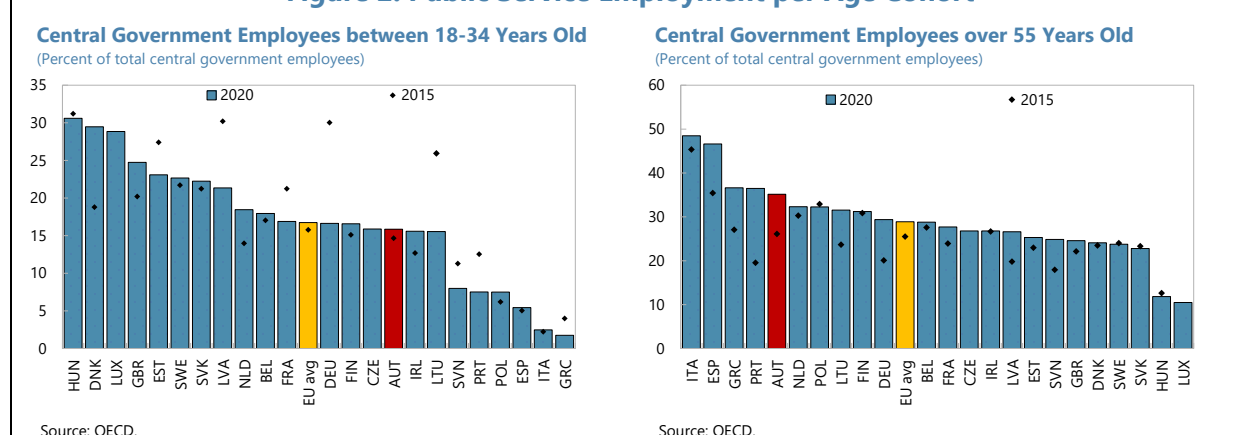
7. Both public and private sector wages have risen in real terms in Austria in recent years. On average, public sector wages have risen by 0.4 percentage points per year above reference inflation (the inflation rate used as the benchmark for wage setting in Austria) since 2017 (text chart). This increase is part of a broader trend of wage increases in Austria. Notably, wages in the metal industry—one of Austria's most significant wage agreements—grew on average by 0.7 percentage points per year above reference inflation. The [2024 General Income Report](#) from the Court of Auditors indicates that the median gross annual income of employees increased by 61 percent from 2004 to 2023, while it increased by 55 percent among public servants.

Private and Public Wages versus Lagged Inflation



8. Unfavorable demographic trends have placed upward pressure on the public wage bill. The aging of civil servants mirrors broader demographic shifts in Austria. Between 2015 and 2020, the proportion of employees aged 55 and older in the public workforce rose by 10 percentage points, while the share of employees under 35 remained virtually unchanged (Figure 2). This demographic shift has added to the wage bill burden due to the system of automatic salary increases linked to years of accrued experience.

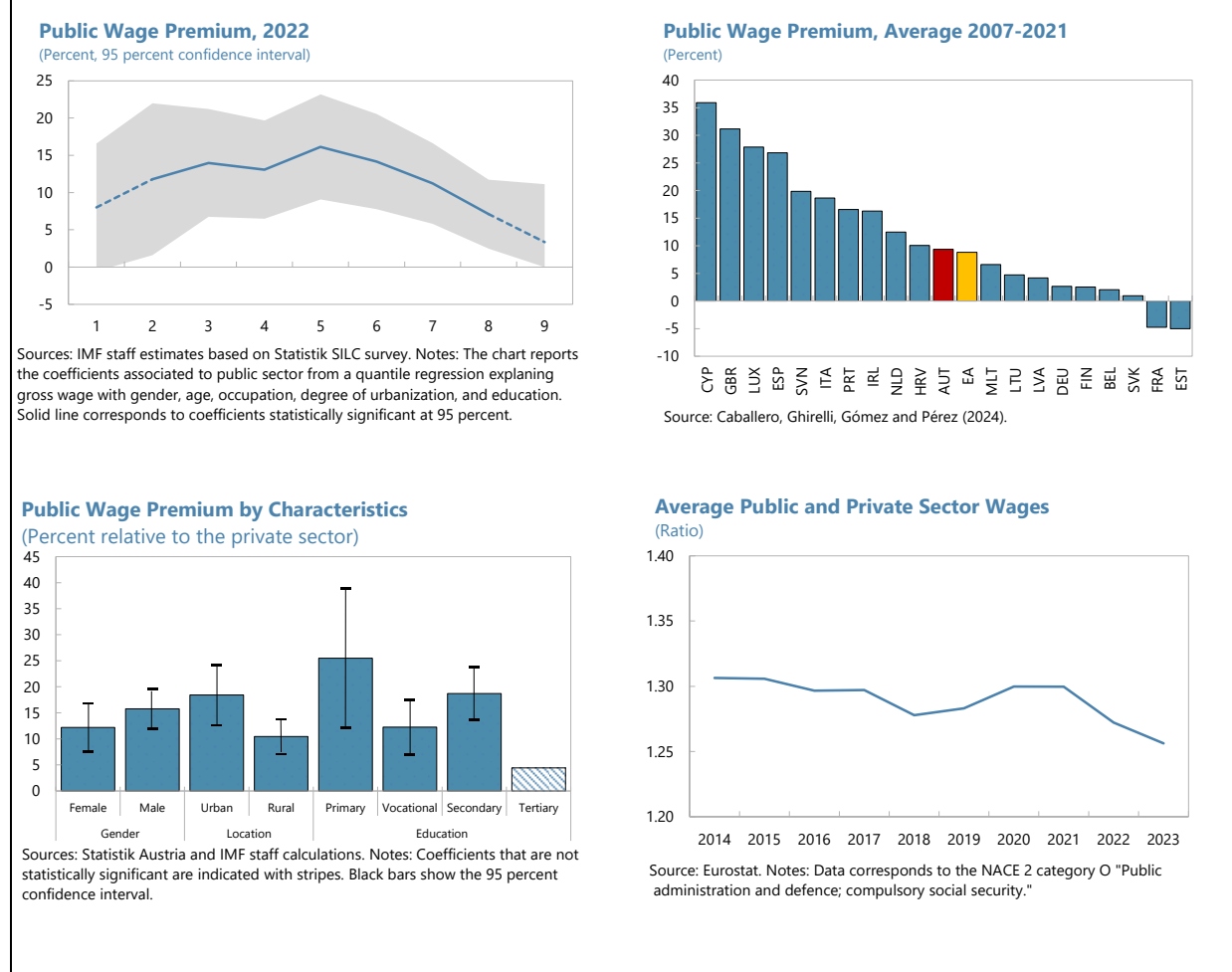
Figure 2. Public Service Employment per Age Cohort



9. Individual-level survey data on compensation suggest a public wage premium in Austria of around 14 percent in 2022 after controlling for individuals' observable characteristics. On average, public sector hourly wages were 23.5 percent higher than those in the private sector in 2022 if no adjustment is made for differences in employee characteristics, such as differences in average education levels between the public and private sector employees. After adjusting for factors such as education, gender, age, hours worked, part-time status, urbanization, and occupation, the estimated public wage premium decreases to 13.8 percent, which is close to the

euro-area average (see Appendix 1 for technical details). The public wage premium remains broadly stable across most of the wage distribution but is smaller and statistically insignificant for the lowest and highest deciles (Figure 3, top left chart). Similarly, the public-sector wage premium is statistically insignificant for public employees with a tertiary education (Figure 3, bottom left chart). The declining trend in the ratio of public to private sector wages suggests that the public wage premium may have decreased in 2023 (Figure 3, bottom right chart; comprehensive data for 2024 are not yet available). More generally, limitations of the analysis warrant some caution in interpreting these results (see Appendix 1 for further discussion).

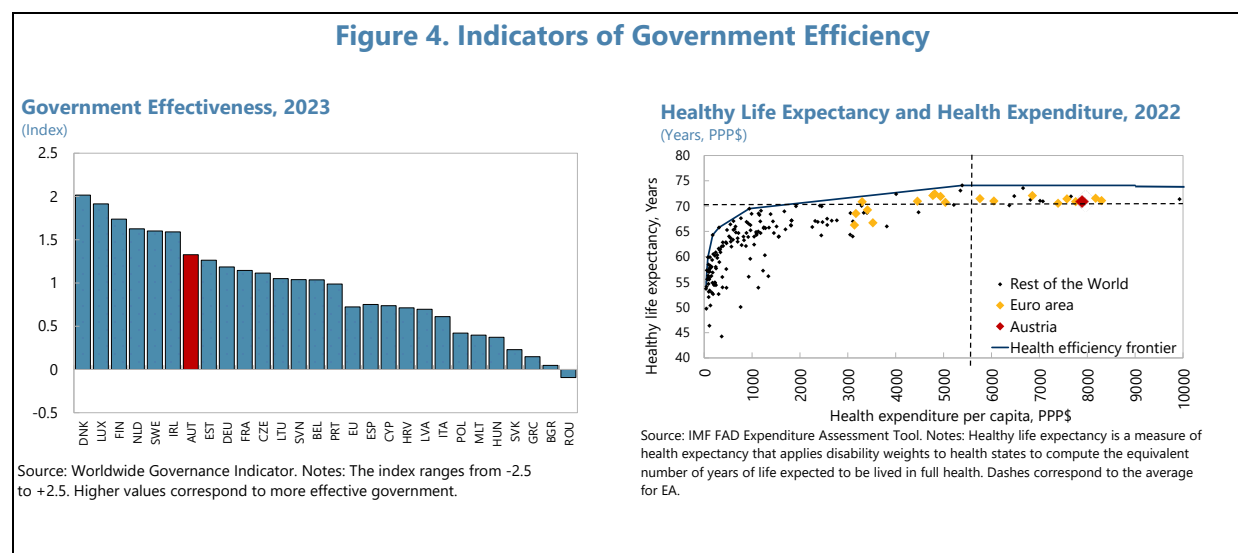
Figure 3. Public Wage Premium



Institutional Arrangements and Government Efficiency

10. Austria benefits from strong institutions, but some indicators highlight inefficiencies in public spending. These inefficiencies are particularly relevant in the context of the public wage bill, as the efficiency of public spending is a key determinant of its level. Austria performs strongly on governance indicators, reflecting its robust institutional framework and effective public administration (Figure 4, left chart). Nonetheless, certain areas of spending point to inefficiencies that could contribute to a higher public wage bill, all else being equal. For example, while Austria's

healthy life expectancy exceeds the EU average by less than one year, its health expenditure per capita is 50 percent higher and below the efficiency frontier, indicating potential scope for efficiency improvements (Figure 4, right chart).



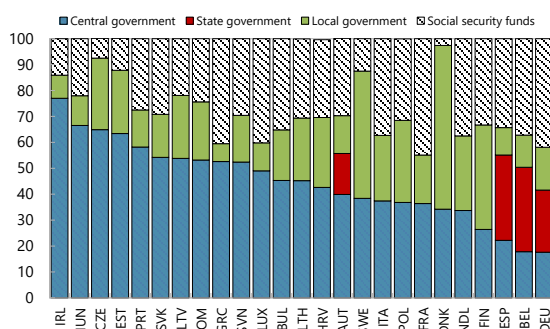
11. Austria's government structure is complex and lacks sufficient coordination. Austria is a federal state with an increasing number of employees in municipalities (Figure 5). This structure is affected by long-standing issues that contribute to the rising public wage bill, including the following factors:

- *Fragmentation of responsibilities.* The distribution of powers among the various levels of government in Austria is highly fragmented ([European Commission, 2018](#)). The Austrian federal constitution does not systematically organize government tasks, resulting in unclear competencies ([WIFO/Fiscal council/IHS press release, 2024](#)). The coexistence of multiple regulatory regimes leads to significant efficiency losses ([Austrian Court of Audit 2023](#)).
- *Lack of clarity regarding the responsibilities.* There is a significant lack of clarity regarding the allocation of responsibilities between the federal government and the state governments (Länders). Numerous policy fields, such as social welfare and education, are governed by different levels of authority, complicating the understanding of responsibilities and increasing the potential for duplication. Furthermore, the competence ascertainment procedures add to this complexity, involving approximately 50 constitutional laws and over 500 laws with constitutional requirements ([European Commission, 2018](#)).
- *Lack of transparency.* The hierarchical structure of governance is complicated by informal relationships and negotiations between federal and state executives. In particular, the fiscal equalization process is fairly complicated and opaque, hindering transparency and efficiency in public service delivery ([European Committee of Regions, 2024](#)).

Figure 5. Spending Across Different Levels of Government

Expenditure Across Level of Government, 2022

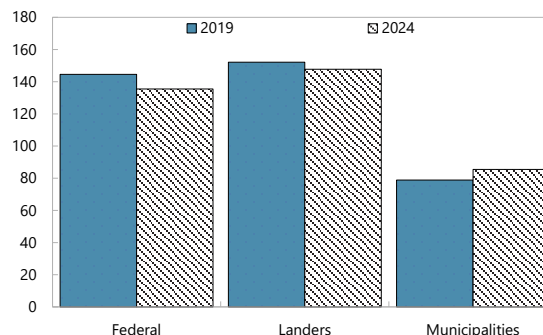
(Percent of total general government expenditure)



Source: OECD.

Employment per Government Level

(Thousands of civil servants)



Source: Ministry of Public Administration.

B. Policy Recommendations

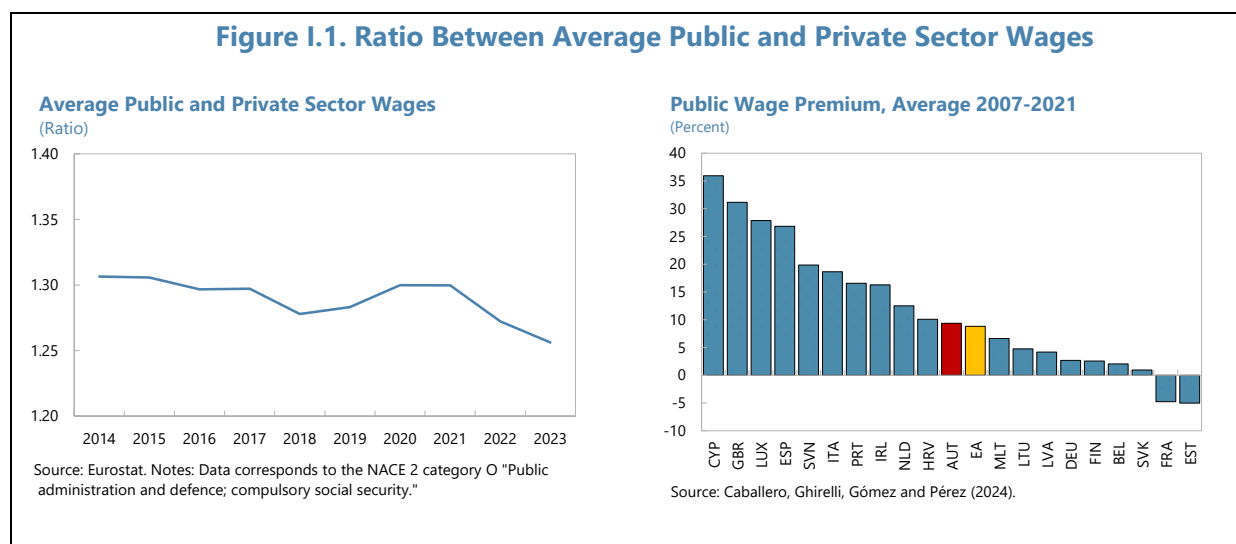
12. There may be scope to reduce the public wage bill by restraining wage increases and enhancing the efficiency of Austria's multi-level government structure. Analysis suggests a public sector wage premium of around 14 percent in 2022 after controlling for observable characteristics. While this result is subject to some limitations and possible biases in both directions, it suggests potential scope for savings by moderating annual public sector wage increases over time. At the same time, the setting of public sector wages should take into account the degree to which it is relatively easy or difficult to fill necessary positions, such that somewhat higher-than-average (lower-than-average) wage adjustments may be needed for positions that are especially difficult (easy) to fill with qualified personnel. In parallel, efficiency savings could be achieved by optimizing the government's multi-level structure, including by eliminating redundancies in tasks and responsibilities, strengthening intergovernmental coordination, streamlining regulatory frameworks, addressing fiscal equalization backlogs, and improving transparency and accountability. Additionally, the non-replacement of retiring civil servants in positions suited to automation could be considered as part of efforts to enhance operational efficiency and reduce costs.

Appendix I. Wage Differences Between the Public and Private Sectors and the Wage Premium

1. Comparability of public and private sector earnings is one of the principles of wage policy. As noted by [IMF \(2024\)](#), government compensation-setting should be informed by the monitoring of trends in recruitment and retention and benchmarking against the private sector. Unduly high compensation is an inefficient use of resources, while insufficient compensation can hinder efforts to recruit, retain, and motivate the workforce needed to deliver adequate public services. Analyzing these factors at a granular level can help to identify specific challenges.

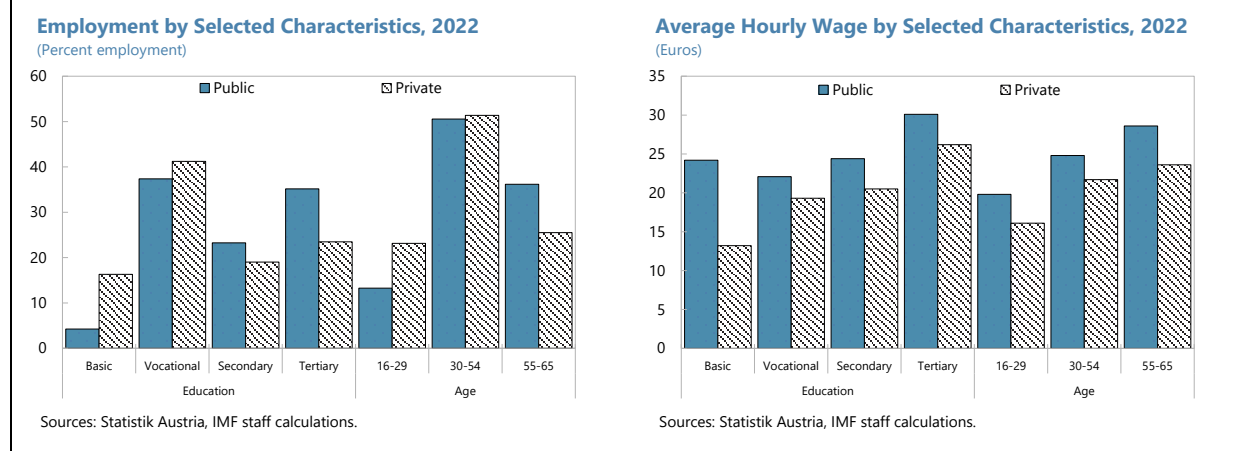
C. Factors underlying the differences between public and private sector wages

2. Similar to many other EU countries, Austria exhibits a higher average wage in the public sector compared to the private sector. In 2022, the average hourly wage in the public sector was 23.5 percent above that of the private sector. This trend has remained relatively stable over time, with only a moderate decline between 2021-2023 (Figure I.1., left chart). The wage gap aligns closely with the euro-area average observed between 2007 and 2021 (Figure I.1., right chart).



3. The gap between average wages in the public and private sectors is partly attributable to differences in the demographic and occupational composition of employees. The public sector employs a significantly higher proportion of individuals with higher education compared to the private sector (35 percent versus 23 percent, respectively), which contributes to higher average wages, as earnings generally rise with educational attainment (Figure I.2., left chart). Additionally, the public sector has a larger share of older and more experienced employees, which also contributes to higher salaries, driven by longer service durations and potential seniority bonuses, including bonuses for years of service and promotions (Figure I.2., right chart).

Figure I.2. Level of Average Gross Wage in the Public and Private Sectors by Selected Characteristics



B. The Public Wage Premium

4. To assess the appropriateness of public sector wages relative to the private sector, this chapter examines the public wage premium after adjusting for observable characteristics. The public wage premium represents the difference in average wages between the public and private sectors that cannot be explained by employment and demographic factors. A positive public wage premium suggests that the public sector offers higher wages for comparable work, potentially attracting workers from the private sector and increasing pressure on public finances. Conversely, a negative wage premium may impede the public sector's ability to attract and retain top talent, thereby adversely affecting the quality of public services.

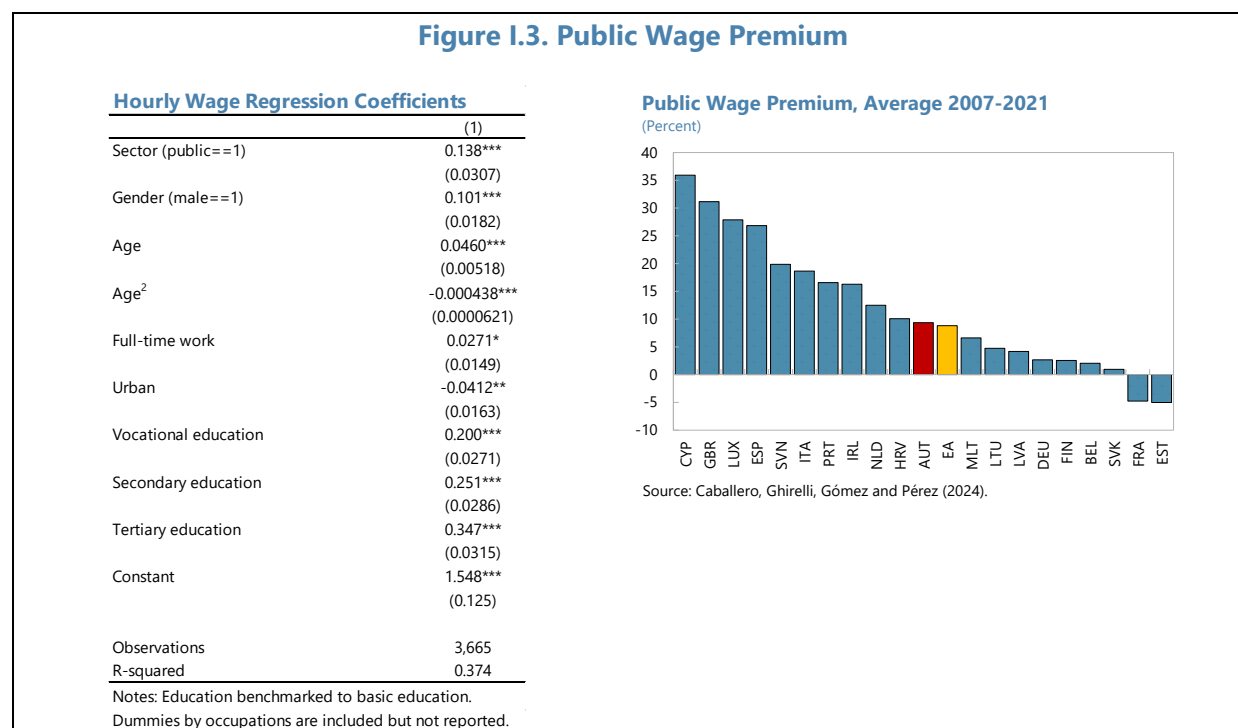
5. The public wage premium in Austria is assessed using a regression analysis at the individual level. To estimate the portion of the wage gap that cannot be accounted for by (observable) individual characteristics, we use a standard OLS regression. The dependent variable corresponds to the average hourly wage. The explanatory variables include gender, education, age, age squared, type of employment contract, occupation, urbanization, and a dummy variable indicating whether the individual works in the public or private sector.² The estimated coefficient associated with the dummy variable reflects the wage premium of the public sector compared to the private sector. This assessment utilizes microdata from the Statistics of Income and Living Conditions survey (Austria EU-SILC survey from Statistik Austria), focusing on a sample of comparable occupations.

6. The results should be interpreted with caution given some limitations of the analysis. Despite the inclusion of several explanatory variables, the public wage premium may also reflect

² Public sector workers are defined as individuals who answered "Civil servants" in response to the question "Last professional position" (question P008010) in the Personal Austria EU-SILC survey.

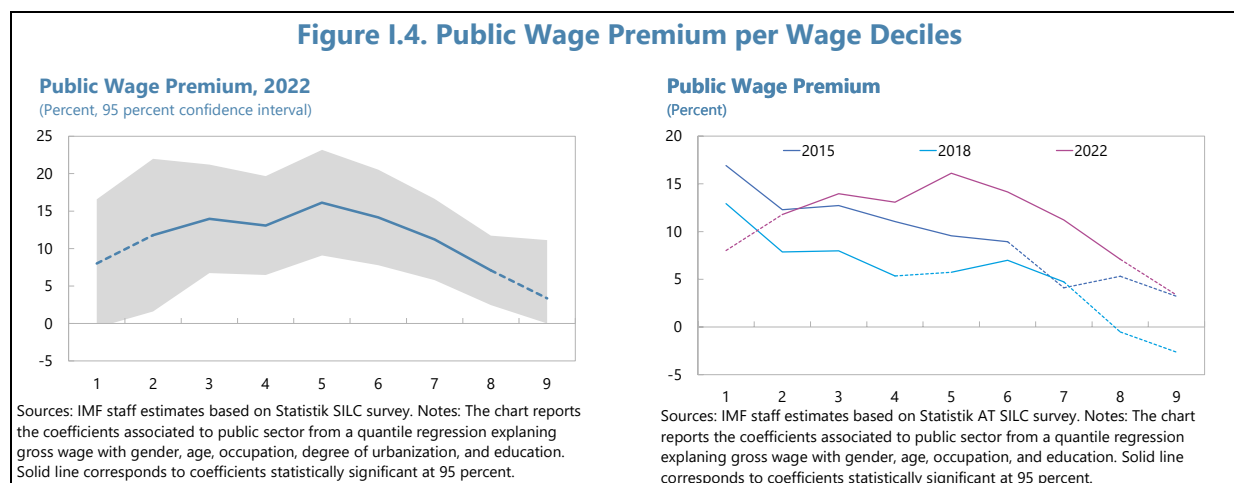
unmeasured factors such as individual skills, productivity, motivation, and work organization. These limitations may bias the results to the degree that unobserved factors affecting skills and productivity are correlated with being employed in the public sector. In this regard, this chapter only compares monetary wages, and total compensation (including not only monetary wages but also non-monetary rewards such as employer-provided benefits, paid time off, flexible work arrangements, and job security) are often more generous in the public sector than in the private sector (ETUI, 2024), which would tend to cause the estimates in this chapter to understate the compensation premium associating with the public sector. On the other hand, Caballero, Ghirelli, Gómez and Pérez (2024) find that wages tend to be underreported in EU-SILC surveys compared to national income surveys and suggest that this underreporting is more significant in the private sector. Such underreporting of private sector wages relative to public sector wages would tend to cause the estimates in this chapter to overstate the actual public sector wage premium. In addition, at the time of this chapter's publication, the most recent survey available was from 2022, and the declining trend in the ratio of public to private sector wages suggests that the public wage premium may have moderately decreased in 2023. For all of these reasons, these results should be treated with some caution. Nonetheless, they may be helpful in providing some indication of the public wage premium and how it differs across different types of employees.

7. The public sector wage premium is estimated to be positive and statistically significant. In 2022, the estimated wage premium was 13.8 percent (Figure I.3.), in line with the euro-area average.



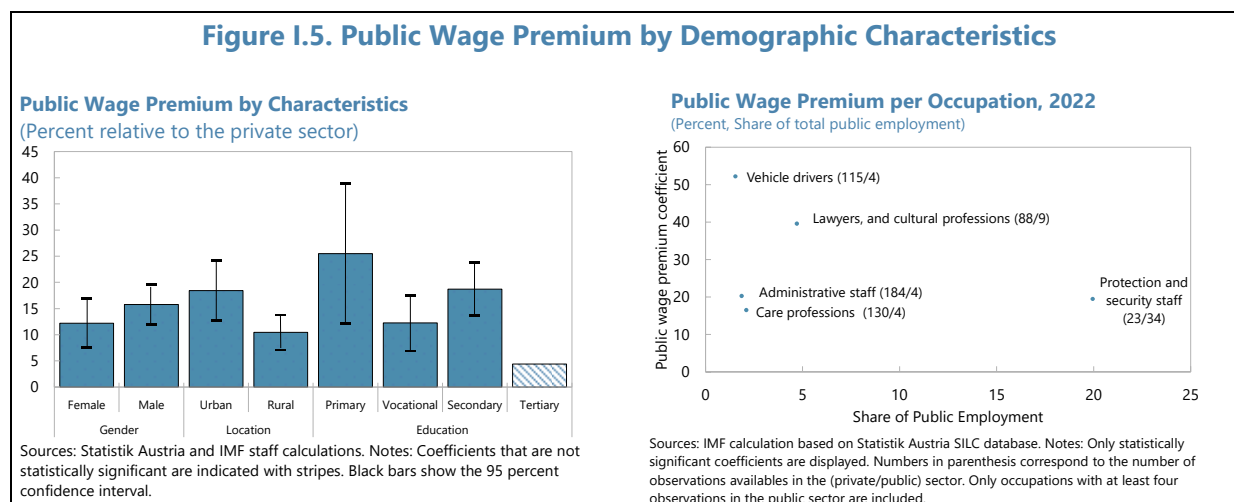
8. The public sector wage premium is positive and statistically significant across most of the wage distribution. Estimates indicate that, in 2022, the wage premium remained relatively

consistent across different wage levels; however, it was smaller and statistically insignificant for the lowest and highest deciles (Figure I.4., left chart). Evaluations over various periods suggest a shift in the wage premium for lower wage groups, changing from positive in 2015-2018 to statistically insignificant in 2022, while the wage premium rose somewhat during 2018-22 for middle deciles (Figure I.4., right chart).



9. The public wage premium varies according to the characteristics of civil servants.

Males and urban employees benefit from a larger estimated public wage premium compared to females and rural employees, respectively, though these differences are not statistically significant (Figure I.5., left chart). Estimates of the wage premium by education indicate a positive premium for the public sector for individuals with primary education, vocational training, and secondary education; however, the coefficient associated with tertiary education is not statistically significant. Some occupations also exhibit somewhat higher public wage premiums than other occupations (Figure I.5., right chart), though the limited number of observations for some occupations warrants caution in interpreting these results.



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STRENGTHENING THE GROWTH POTENTIAL OF STARTUP FIRMS IN AUSTRIA

This chapter analyzes ways to strengthen the growth potential of startup firms in Austria. It looks at this issue along three dimensions: (i) the availability of financing for such firms; (ii) the regulatory and tax environment for starting new firms and scaling them up; and (iii) the ecosystem around research and startups, which is important for transforming innovative ideas into new products and firms. A key theme is that the environment for innovative startup firms could be enhanced by the adoption of EU-wide initiatives, such as a well-designed 28th corporate regime and Savings and Investment Union, that aim to streamline and harmonize across the EU the legal, regulatory, and supervisory environment facing startups and other firms. At the Austrian level, measures could include continuing to foster innovation ecosystems centered around research institutions and reviewing tax legislation relating to startups.

A. Introduction

1. Policymakers in Europe are increasingly exploring ways to boost potential growth by creating a more supportive environment for innovative start-ups. Like many advanced economies, Austria faces substantial headwinds to medium- and long-term growth from weak productivity, an aging labor force, and increasing global geoeconomic fragmentation. Recent diagnostics, such as the 2024 “[Draghi Report](#)”, have proposed reforms that could be taken at the European level and in individual member states to address these growth challenges. One area of focus is improving the environment for innovative startup firms.

2. In line with this objective, the authorities in Austria along with others in Europe have taken steps to strengthen the operating environment for startups. The focus has been on ensuring the availability of adequate financing for startup firms, given that venture capital (VC) investments are generally much smaller as a share of GDP in Austria and in the euro area compared with the United States (Figure 1, top two charts showing VC flows). Relatively low firm dynamism in Austria is also seen in relatively low entry and exit rates (Figure 1, bottom charts). Efforts to boost financing for startups include investments by the European Investment Bank (EIB), which in 2024 invested more than €14 billion through the European Investment Fund (EIF) in support of SMEs and startups through equity and loan guarantees¹. In Austria, the Austria Wirtschaftsservice (AWS), a promotional bank owned by the Austrian federal government, has similar investments in startup firms amounting to [€0.9 billion](#). In addition, Austria improved the legal environment for startups in 2021 by introducing a revised insolvency framework that makes it easier for startup firms facing debt-servicing challenges to restructure prior to insolvency, allows more flexibility in restructuring options, permits a quicker discharge of debt in 3 years rather than 5 years as was the case previously, and limits the personal liability of entrepreneurs. In 2024, the Austrian authorities

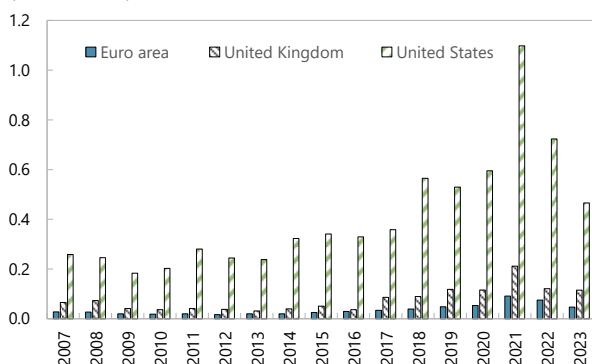
¹ See Nadia Calviño presentation of 2024 EIB annual results, Brussels, January 2025
<https://www.eib.org/en/press/speeches/calvino-eib-group-annual-results-2024>

introduced a new form of a legal corporation called FlexCo, short for Flexible Company, which allows more ways to raise capital, simplifies governance, and lowers entry barriers, making it especially appealing to startups and early-stage companies, though it is available to all types of businesses. The EU's passage of Solvency II reforms in January 2025 has also reduced limitations on investments in startup firms by insurers using standard risk models (insurers using internal models already faced no such limitations).

Figure 1. Risk Funding and Firm Dynamism

Venture Capital Investment

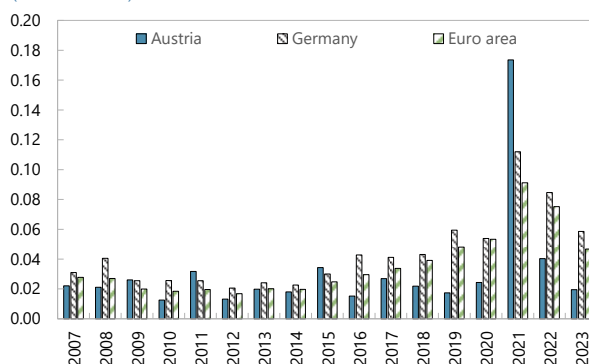
(Percent of GDP)



Sources: OECD, Haver Analytics, and IMF staff calculations.

Venture Capital Investment

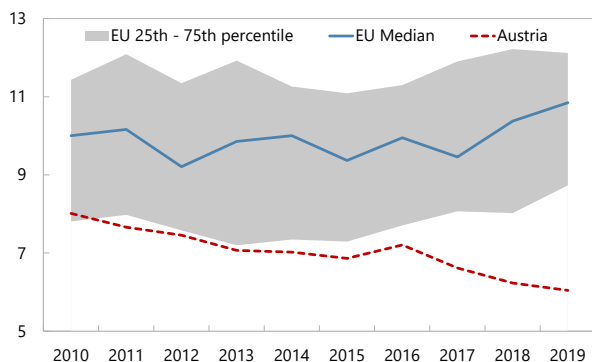
(Percent of GDP)



Sources: OECD, Haver Analytics, and IMF staff calculations.

Entry Rate

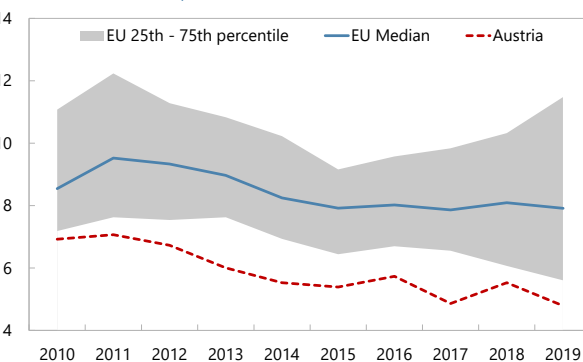
(Percent of active enterprises)



Sources: Eurostat Business Demography Database, and IMF staff calculations.

Exit Rate

(Percent of active enterprises)



Sources: Eurostat Business Demography Database, and IMF staff calculations.

3. These are all positive steps, but more could be done at the European level and the national level in Austria. The rest of this chapter explores options for assisting this objective, including possible avenues to improve the availability of financing for startups, their regulatory and tax environment, and the ecosystem translating innovative ideas into successful firms.

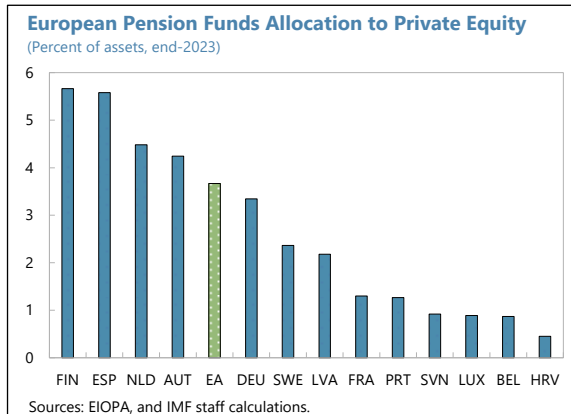
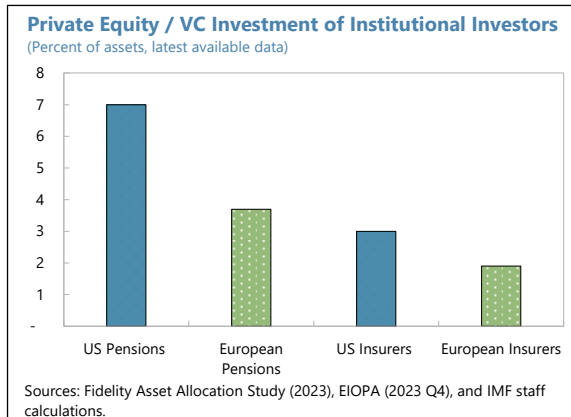
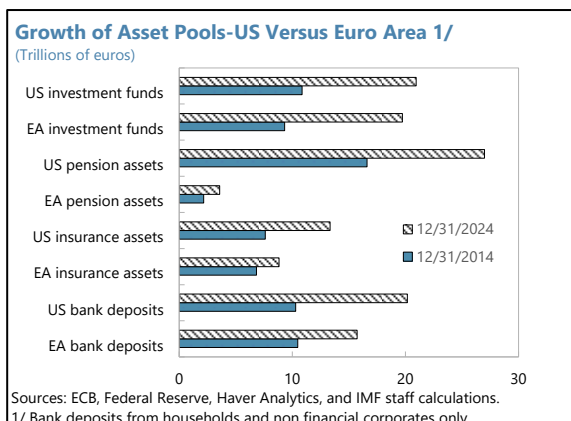
B. Availability of Financing

4. There are large pools of savings in Europe that could potentially increase their investment in startups. Europe has a substantial amount of savings: Assets of European insurers

and pension funds add up to over €12 trillion as of 2024. European bank deposits of households and non-financial corporates are a further €15 trillion. European investment funds, which could also include assets of European insurers and pensions, amount to almost €19 trillion (text chart). However, only a small portion of these savings are ultimately directed into equity financing for start-ups.

- While recognizing that investment objectives and risk preferences might be different for investors in Europe versus the United States (Holzmann 2024), it is worth noting that European insurers allocate about 2 percent of assets to private equity/VC, which is about 1 percentage point less than US insurers.² Similarly, European pensions allocate slightly less than 4 percent of assets to private equity/VC, or about 3 percentage points less than US pensions (text chart).
- If these allocations in Europe were comparable to those in the US, they could free up about €215 billion in funds for private equity/VC. If these additional funds were allocated among euro-area member states in proportion to their GDP, this would imply about €6.9 billion in additional equity financing for Austrian firms, some of which could be directed towards startups.³ By comparison, there have been VC investments of €1.6 bn in Austria over 10 years through end-2023.

- A slight increase in such investment might also bring some diversification benefits to the portfolios of institutional investors. That said, the optimal asset allocation of any specific



² Sources: EIOPA (2023 Q4). https://www.eiopa.europa.eu/tools-and-data/insurance-statistics_en and https://www.eiopa.europa.eu/tools-and-data/occupational-pensions-statistics_en

³ See Annex I for details of calculation. The shift toward private equity/VC would, however, result in less funding for investment classes from which insurers and pension funds reduce their allocations. Negative effects on these sectors could partially offset and even outweigh positive effects on start-ups. Policies should thus aim not at forcing investment into certain sectors, but rather at removing distortions (e.g., regulatory and tax policies—see subsequent sections of this chapter) that may distort investments decisions in a way that hinders investment in start-ups.

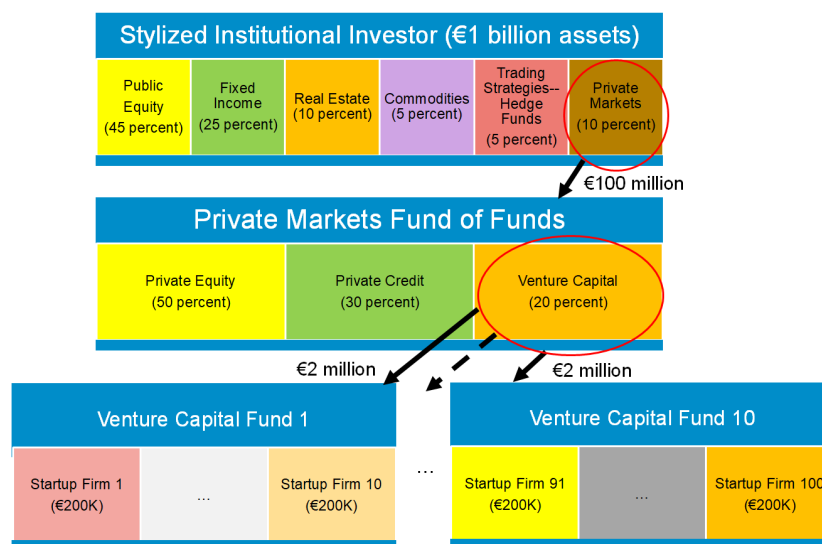
institutional investor should depend on its individual return, risk, and liquidity preferences.
optimal asset

Funds of Funds

5. Funds of Funds (FOF) are one approach that has been used to make VC investments more attractive to the needs of institutional investors. As the name suggests, a VC FOF is an investment fund that pools capital from investors and invests that capital into a portfolio of different VC funds.

6. FOFs potentially offer several benefits to institutional investors. Assuming that an investor has already decided to allocate capital to private markets, based on the overall return, risk, and liquidity objectives of its portfolio, the FOF structure could offer the following benefits:

- **Scaling of investment.** FOFs could help overcome the mismatch in scale between the desired size of institutional investment in the private equity/VC asset class and the financing need of the target startup firm. For example, if an institutional investor with €1 billion in assets decides to invest 10 percent of its portfolio in private markets, the €100 million available for investment would not need to find a startup firm or firms with that much need. It could simply allocate that capital to an FOF, which would then distribute those additional funds to VC investment funds, each one passing these onto startup firms that they have chosen as good investments (Figure 2).
- **Scaling for middle-stage financing.** A difficulty that frequently arises when startup firms grow is that the scale of financing they need to get to the next level also increases and this may not be available from the original source of financing. An advantage of the FOF structure is that it can also have an allocation specifically targeting middle-stage VC funds, or indeed much larger private equity funds.
- **Expertise in VC allocation.** FOF professionals, whose job it is to identify and allocate capital to top-performing VC funds, could help overcome potential lack of in-house expertise at an institutional investor to evaluate such VC funds or to assess the business potential and risks of small startup firms, which would still be small portions of an institutional investor's overall investments and hence not worth large expenditure on developing in-house VC expertise.
- **Liquidity management.** An FOF could provide better management of liquidity than direct VC investments because of the FOF's size and ability to stagger the maturities of investments with individual funds. With VC investment funds typically requiring lockups of investor liquidity for as long as 7-10 years, this could help to improve the liquidity of the private markets sleeve in the portfolio of an institutional investor. VC investments need to lockup investor capital because investments need to be in place for some time until projects start to deliver returns.
- **Risk diversification.** An important benefit of an FOF is that it can diversify investment risk across private equity and credit funds as well as between funds that invest at different stages of company growth. It can also reduce operational risk by diversifying across different funds.

Figure 2. Stylized Illustration of Fund-of-Funds Benefit 1/

1/ Asset allocation is illustrative only and not meant to be a recommendation. Institutional investors should evaluate individual return, risk, liquidity, and investment horizon objectives for asset allocation.

Source: IMF staff.

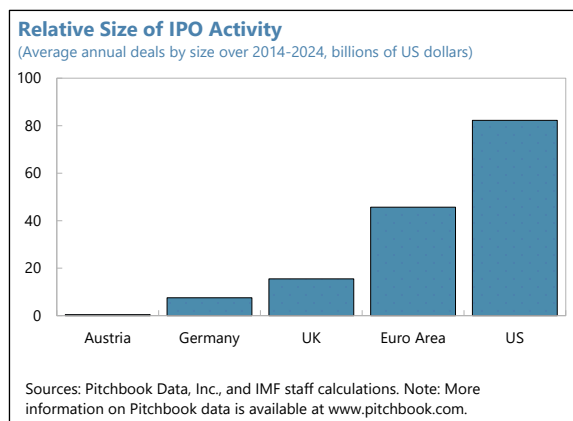
7. Some countries have begun encouraging FOFs to help channel more European savings into VC. For example, in recent years Germany launched a [“Germany Growth Fund”](#) (*Wachstumsfonds Deutschland*) as a central element of its broader [“Zukunftsfonds,”](#) a package of measures launched in 2021 aimed at strengthening Germany’s VC ecosystem. While the German Federal Government and KfW Capital (a national, state-owned VC fund investor) are anchor investors in the *Wachstumsfonds Deutschland*, it is primarily funded by more than 20 major institutional investors, including insurance companies, pension funds, foundations, asset managers, and large family offices. Unlike direct government grants and equity injections into companies, this approach is consistent with European state aid rules. To better leverage economies of scale and benefits of diversification, efforts have also been made to foster more pan-European VC FOFs, such as the [European Tech Champions Initiative](#), which was launched in 2023 by the European Investment Bank, the EIF, and five EU member states and is managed by the EIF. More generally, public financial institutions such as the EIF can play a role in helping to jumpstart Europe’s VC financing ecosystem (Arnold and others 2024). At the same time, such initiatives need to be well-designed, including to limit fiscal risks, and aim mainly to catalyze larger amounts of private-sector financing. A focus on pan-European FOFs may also help realize economies of scale, liquidity, and diversification that FOFs at the national level may have difficulty achieving, especially in smaller countries.

8. Timely adoption of a well-designed Savings and Investment Union could magnify the benefits of VC investment vehicles. A well-designed Savings and Investment Union could better harmonize European investment regulation, supervision, and infrastructure, generating increased efficiencies and economies of scale that could further facilitate cross-border investment flows to European start-ups and the effectiveness of European VC investment vehicles.

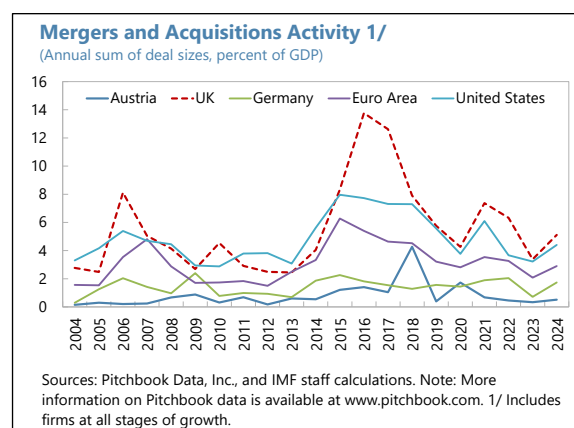
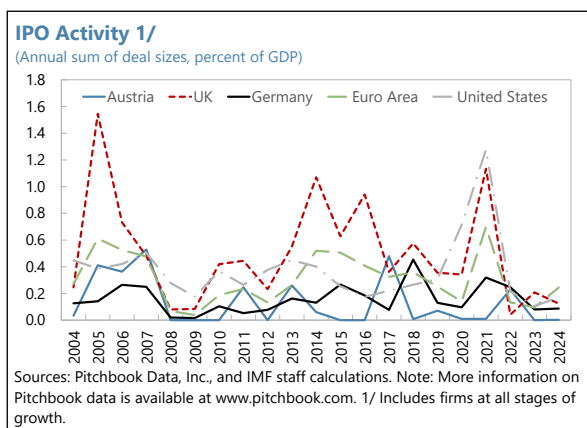
9. Improved information on VC asset characteristics could further support investment in VC. Development of benchmark information on European VC investments regarding their returns, liquidity, volatility, and correlation with other investments could make VC investments more attractive to institutional investors by reducing the uncertainty surrounding the characteristics of this asset class. Such information could also help institutional investors better calibrate their optimal levels of VC investment. VC benchmarks could be developed in consultation with the private sector and with public support, as such statistics are a public good.

Exit Options

10. Viable exit options for entrepreneurs are important for incentivizing the creation of new startups. One motivation for founders of startup firms is to be able to exit their companies when they have become sufficiently mature. This can happen, for example, through Initial Public Offerings (IPOs) or corporate buyouts via mergers and acquisitions (M&A), either of which could lead to significant payouts for founders of firms.



11. IPO and M&A activity in Austria and the broader euro area is somewhat limited. Activity in IPO and M&A markets in Austria is well below that in the U.S., U.K, or the overall euro area as a percent of GDP (text charts). In absolute terms, IPO activity in Austria is very small (text chart), which matters because scale is important for attracting investor interest and liquidity.



12. Reforms could facilitate a better environment for IPO activity. In particular, efforts to harmonize securities market regulation and supervision across the euro area could make European securities and IPO markets more efficient and better able to leverage economies of scale, including by fostering consolidation of exchanges (Arnold and others 2024).

C. Regulatory and Tax Environment

13. A well-designed common 28th corporate regime could significantly simplify the regulatory environment for startups and other firms, but implementation details will matter.

In January 2025, the European Commission announced that it will propose a 28th legal regime that aims to introduce an alternative, optional EU-wide legal framework related to areas of corporate, insolvency, labor, and/or tax law. The idea is that opting into this framework (in lieu of national frameworks and laws in these areas) should make it easier for innovative firms to form and scale-up across the EU by reducing the transaction costs associated with navigating 27 distinct national legal frameworks. If implemented in a well-designed manner, such a framework could improve the regulatory environment for start-ups, including by making it easier to scale operations across Europe and thus better realize economies of scale.

14. One possible area for review by the Austrian authorities concerns tax legislation relating to startups. One issue that has been raised by potential investors in startup firms is that in Austria private individuals, unlike corporates, cannot carry forward capital losses under Austria's personal income tax. They can only offset capital losses against gains realized within the same calendar year.⁴ As startup firms typically incur losses at early stages of growth, such a requirement could discourage investment activity in innovative ventures by private individuals (Haunstein and others, 2024). This tax treatment could thus be reviewed against international best practices while also considering fiscal constraints. Another issue is to explore ways to reduce the tax code's bias in favor of debt over equity financing (Breyer and others 2021).

D. Innovation Ecosystem

15. Efforts should also continue to promote collaboration in innovative research between academic institutions and the private sector, building on existing links. Innovation "hubs" can foster the development of startups by realizing the benefits of network externalities, as successful startups help create templates for others to follow, generate experience with the startup process that individuals involved can then transfer to new startup firms, and improve the chance of a risk culture taking hold. Once a hub is established, it also attracts relevant service providers, including firms, lawyers, and accountants with expertise in VC work. Areas with large academic research institutions are natural locations for such hubs, as academic institutions develop new ideas that can often be translated into successful startups. Some fostering of such hubs is being done in Austria, for example, around TU Wien, TU Graz, and the Institute of Science and Technology (ISTA), but there may be scope for further encouragement of interactions between academic research and VC activities in Austria.

16. While the authorities have recently undertaken reforms in several areas affecting the startup environment, there may be scope for further communication with the public.

⁴ Individuals can carry forward capital losses by setting up a company for investment purposes. However, this adds to the complexity of making such investments.

- Dissemination of information on business formation, the revised insolvency framework, debt discharge, fresh start from a failed business, options for voluntary closure of firms, IPO processes and other information relevant for startups could help to reduce risk aversion among potential entrepreneurs.
- Fostering financial literacy among start-up founders could also enhance access to finance. Targeted education and advisory services (e.g., via specialized workshops) could help founders make more informed decisions, including on the range of financing options available.

Appendix I. Estimation of the Financing Benefit for Startups from Alignment of US and European Institutional Investor Allocation to Private Equity/VC

1. This appendix describes the calculation of the financing benefit that could occur if European institutional investors had the same proportionate allocation to private equity and venture capital (PE/VC) as US institutional investors. Based on a Fidelity Asset Allocation Study (2005), the allocation of pensions and insurers in the United States to private equity and venture capital assets is about 7 percent and 3 percent of their total assets respectively. By comparison, EIOPA reports that European pensions and insurers allocate about 3.7 percent and 1.9 percent of their assets to private equity funds. If European institutional investors were to allocate the same proportion of their assets to private equity and venture capital, they would have to increase these allocations by 3.3 ppt and 1.1 ppt respectively. Applying these allocation shortfalls to the assets of European pensions and insurers reported by the ECB at end-2024 suggests that pensions and insurers could make additional investments of €97 billion and €118 billion respectively in PE/VC for the euro area overall, or €215 billion in total. Allocating a portion of this to Austria on the basis of Austria's 2024 weight in euro area GDP, of about 3.2 percent, implies an allocation of 6.9 billion in additional funds for private equity and venture capital in Austria, assuming that there are limited impediments to cross-border investment flows across Europe. In principle, these additional funds could be fully allocated to startup firms.

	Insurance	Pensions	Total
Assets (millions of euros) as of end-2024	8,835,665	3,585,607	12,421,272
US allocation to PE/VC (percent of assets)	3.0	7.0	
European allocation to PE/VC (percent of assets)	1.9	3.7	
To match US allocation (ppt)	1.1	3.3	
Additional funds available (millions of euros)	97,192	118,325	215,517
Sources: ECB, Haver Analytics, Fidelity Asset Allocation Study, and IMF staff calculations.			

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