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Public investment in ageing societies: rethinking fiscal stimulus in structurally tight labour markets

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ABSTRACT

Ageing populations and persistent labour shortages are challenging traditional assumptions about the role of fiscal policy in supporting economic growth. As the link between unemployment and economic slack weakens, the effectiveness of stimulus spending becomes increasingly uncertain. Understanding the functioning of public investment under these new structural conditions therefore requires examining not only demand-side effects but also the supply-side constraints that shape how economies absorb fiscal impulses.

This brief evaluates how labour market tightness interacts with public investment across EU countries and finds that fiscal stimulus is substantially more effective when paired with labour market reforms. Under these circumstances, the fiscal multiplier – the increase in GDP generated by each additional unit of government spending – rises sharply and can exceed 1.5 even in tight labour markets. These findings imply that in ageing economies, effective fiscal policy increasingly depends on integrating public investment with structural reforms to expand productive capacity and prevent crowding out of private sector activity.

Introduction

Permanently tight labour markets are challenging traditional assumptions about how government spending boosts employment and output. As ageing populations and structural rigidities weaken the link between unemployment and economic slack, the effectiveness of expansionary fiscal policies becomes less predictable. This raises broader questions about how fiscal policy should operate in economies where labour supply, rather than demand, increasingly constrains growth.

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Understanding this shift is essential because ageing societies face major investment needs related to the climate transition, digitalisation, and security while their labour supply becomes more limited. In such operating environments, conventional fiscal stimulus may fail to deliver expected gains, making it necessary to reassess the mechanisms through which public investment affects output.

This ESM brief finds that public investment is substantially more effective when combined with labour market reforms, especially when employment is already high. Examining this relationship is particularly relevant from a financial stability perspective: sovereign borrowing conditions can deteriorate when fiscal stimulus in tight labour markets leads to higher inflation, stronger monetary tightening, or weaker growth outcomes. These concerns are amplified when additional public investment is debt-financed, a dimension that we acknowledge but do not analyse econometrically.

Policy challenge: Why traditional fiscal policy may be failing

Fiscal policy interventions have historically relied on a direct mechanism. During cyclical downturns, rising unemployment and stagnating wages created clear conditions for government stimulus to raise or sustain aggregate demand and employment. However, as labour markets in ageing societies become less sensitive to regular cyclical fluctuations, this linkage has weakened. Since the Eurozone crisis – when unemployment in the European Union (EU) peaked at around 11.7% in April 2013 – labour market tightness has increased markedly in many European countries, despite prolonged periods of sluggish GDP growth. The trend decline in unemployment continued even after the extraordinary stimulus measures associated with the COVID-19 pandemic were withdrawn. As a consequence, today, unemployment in most countries is lower than before the pandemic – for the EU as a whole the rate fell to about 6.0% by late 2025. This raises the question of whether government spending and expansionary fiscal policy can still effectively boost output in cyclical downturns.

Previous empirical research shows that government expenditure multipliers in advanced economies are typically much smaller in tight labour markets – often below unity – and are significantly larger (sometimes 2.0 or more) during slack periods. Studies that are using macro-level causal estimation strategies to determine the specific impact of labour market tightness find that multipliers can come close to zero in the euro area (Amendola, 2022) and tend to remain below unity in the US (Ramey & Zubairy, 2014; for non-causal macro studies see Bragoudakis & Panas, 2021; Linnemann & Winkler, 2016). These studies find that labour market tightness tends to induce crowding-out effects, upward wage pressures, and the emergence of capacity constraints.

Key mechanisms of public investment in tight labour markets

When labour, rather than demand, is the main constraint on growth, government spending interacts with the economy through competing channels. Public investment can raise productivity and crowd in private investment by improving infrastructure and technology, but it can also crowd out private activity by increasing wages, borrowing costs, or taxes. The balance between these effects depends primarily on available productive capacity.

In tight labour markets, additional government demand competes directly with firms for scarce workers, driving up wages and production costs. This can lead to the central bank raising interest rates to contain inflation, which further suppresses private investment. Therefore, labour market tightness, best captured by the vacancy-to-unemployment ratio, plays a crucial role. The higher the ratio, the more severe the constraints on growth. Under such conditions, fiscal stimulus initially boosts demand because wages and prices are “sticky” and do not adjust immediately to changing economic conditions, but it eventually fuels persistent wage and price increases, which can erode the effectiveness of policy measures.

Monetary conditions amplify the dynamics described above. When interest rates remain low, private investment can expand alongside public investment, allowing short-term output effects to be strong. Conversely, if central banks raise rates to counter inflationary pressures from government spending, borrowing costs rise and the output response fades. In monetary unions, these effects are more pronounced because a single interest rate cannot reflect national labour market conditions for all member states.

Labour market reforms can fundamentally alter the public investment environment. By expanding effective labour supply and easing wage pressure, reforms that improve job matching, reduce hiring rigidities, and improve workforce skills create additional productive capacity.[1] This can allow public investment to translate into real output gains rather than just pushing up wages and prices.

Public investment and growth under tight-labour market scenarios

The fixed effect panel analysis of 27 EU countries (2000-2020) presented in Table 1 evaluates how the effectiveness of public investment varies across different macroeconomic and institutional environments. The different policy scenarios described below summarise the key settings assessed and provide illustrative multiplier ranges from the literature to frame the mechanisms described in the scenario analysis.

i) Absence of labour market reforms
When unemployment is very low and institutions remain rigid, public investment produces only small increases in output. The economy is already operating near full capacity, so additional demand mainly increases wages and prices, while private investment is lowered. In this scenario, the fiscal multiplier is potentially below 0.5. (Amendola 2022)

ii) Low-interest rate environment
When monetary policy remains highly accommodative, government investment can generate larger and longer-lasting output gains. The fiscal multiplier can exceed 1.5 (Klein &Winkler 2021), but the risks of overheating and sudden policy reversals that disrupt the output increase are substantial.

iii) Rising interest rates

[1] Welfare state reforms can further reinforce these positive supply-side effects, but assessing such reforms lies beyond the scope of this ESM brief.

When monetary policy tightens in response to inflationary government spending, higher borrowing costs crowd out private investment, and the fiscal multiplier can approach zero or even turn negative (Cloyne et al. 2020). This pattern can be observed in monetary unions if fiscal and monetary stances are misaligned.

iv) Simultaneous labour market reforms

When public investment occurs alongside structural labour market reforms, government spending can generate real economic growth. Private investment gets support from reduced wage pressures and improved productivity, minimising the crowding-out problem. The fiscal multiplier rises sharply and can exceed 1.5 even in tight labour markets (Topal 2014).

Fixed effect results of public investment on economic growth in EU countries

To examine whether public investment helps economic growth under different labour-market conditions, the empirical analysis in Table 1 estimates how changes in public investment in one year affect economic growth in the following year. The table compares four regression models. All models control for country-specific characteristics (through fixed effects) and for other standard drivers of growth, such as consumption, government spending, private investment and trade.

Table 1: Fixed effect results of public investment on economic growth in EU countries

	(1)	(2)	(3)	(4)
Real GDP(-1)	-0.045***	-0.046***	-0.048***	-0.052***
	(0.014)	(0.015)	(0.016)	(0.016)
Public investment(-1)	-0.294	-0.134	0.811**	1.072***
	(0.324)	(0.265)	(0.330)	(0.318)
Low unemployment(-1)		0.023**		0.030***
		(0.010)		(0.009)
Low unemployment(-1) x Public investment(-1)		-0.407		-0.656**
		(0.300)		(0.284)
Substantial labour market reforms(-1)			0.065***	0.065***
			(0.012)	(0.011)
Substantial labour market reforms(-1) x Public investment(-1)			0.014***	0.014***
			(0.002)	(0.002)
Low unemployment(-1) x Substantial labour market reforms(-1) x Public investment(-1)				0.023*
				(0.012)
Countries	27	27	27	27
Observations	540	540	540	540
F-test	23.2***	23.6***	23.8***	23.0***
adjusted R^2	0.56	0.62	0.59	0.60

Sources: Authors' estimation based on the data provided by the European Commission's LABREF database.
Notes: Panel Least Squares (with country fixed effects and White cross-section robust standard errors) results for the effects of public investment on economic growth with different economic environments. Other control

variables (consumption, government expenditure, private investment and trade) and constant omitted to conserve space. Sample consists of EU countries for 2000–2020. *** = significant at 1% level, ** = significant at 5% level, * = significant at 10% level.

Column 1 establishes the baseline relationship (without considering labour-market conditions or reforms) between lagged public investment and real GDP growth, which is statistically insignificant. Column 2 adds a measure of whether unemployment is low by incorporating cyclical labour market conditions and includes an interaction term to test whether the effect of public investment on growth changes when unemployment is low. Low-unemployment environments, defined as unemployment below the country-specific non-accelerating wage rate of unemployment (NAWRU), show positive direct growth effects, but the coefficient on public investment remains statistically insignificant. This suggests that tight labour markets substantially lower the effectiveness of public investment.

Column 3 adds information on whether a country implemented substantial labour-market reforms. Incorporating institutional factors reveals that substantial labour market reforms have positive direct effects on growth, and that the interaction between public investment and reforms is also positive and significant.

The critical finding is in column 4, which tests whether public investment works differently when both unemployment is low and substantial labour-market reforms occur. In this three-way specification, the coefficient on the interaction between public investment and low unemployment is significant and negative, whereas the interaction between public investment and labour market reforms is significant and positive. The three-way interaction between public investment, low unemployment and labour market reforms is positive and significant at the 10% level. This supports the view that structural reforms are essential for effective fiscal policy, enabling the economy to benefit from additional public spending more productively, even under capacity constraints.

The empirical analysis confirms that the relationship between public investment and economic growth in EU countries is highly contingent on labour market conditions and reforms.[2] Taken together, the four models show that public investment has the strongest positive impact on growth when it is undertaken in parallel with major labour-market reforms, particularly in countries where unemployment is already low.

Conclusions and policy implications

These results have important implications for EU fiscal policy coordination. In advanced economies facing ageing populations and tight labour markets, public investment appears most effective either during periods of economic slack (when spare capacity exists) or if accompanied by substantial structural reforms that enhance supply-side flexibility.

[2] While the dataset ends in 2020, labour market tightness has been particularly pronounced in the post-COVID period. Extending the analysis could provide additional insights into fiscal policy effectiveness under extreme short-term shocks, but is beyond the scope of this study, which focuses on longer-term structural dynamics.

This finding suggests that the timing and sequencing of reforms and investment are crucial, as reforms require time to reduce long-term unemployment and create capacity. Structural reforms, for example to improve job matching, reduce excessive employment protections, and enhance workforce skills, must precede or accompany public investment to maximise growth impacts and avoid overheating the economy.

In permanently tight labour markets shaped by long-term structural factors rather than temporary economic cycles, government spending and public investment are less likely to boost employment and output in the long run. Without reforms that improve the functioning of labour markets and affect the allocation efficiency of resources, public investment may even reduce overall economic welfare by crowding out more productive private investment. If countries with structurally tight labour markets want to increase low-multiplier public investment related to climate or defence alongside other public investment, the need for parallel structural reforms is even more vital.

Policymakers should use the vacancy-to-unemployment ratio, alongside the unemployment rate, to assess capacity constraints. When this ratio rises to high levels, public investment becomes less effective unless structural reforms are simultaneously implemented. When labour markets are permanently tight, the long-term structure of labour markets matters more than cyclical economic conditions.

Japan offers a cautionary tale in this respect. Decades of substantial infrastructure investment have produced only modest growth, even under favourable monetary conditions. Despite large infrastructure spending and prolonged monetary easing, fiscal multipliers remained limited as demographic and capacity constraints restricted resource allocation. Many European countries may soon face similar dynamics as the accelerating ageing of populations reduces the size and adaptability of their labour force. This can have substantial economic and fiscal effects unless sufficient pre-emptive policy action is taken (Kotamäki & Lehtimäki, 2025).

The path forward requires political courage to implement labour market reforms and new institutional arrangements to better coordinate fiscal policy with monetary policy, particularly in the euro area. The alternative of continuing traditional stimulus spending in structurally tight labour markets risks wasting public funds while failing to deliver on expected economic benefits. This study provides a basis for recognising the fundamental shift in how fiscal policy works in ageing economies with structurally tight labour markets.

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