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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.

Policy challenge: Why traditional fiscal policy may be failing

Fiscal policy interventions have historically relied on a direct mechanism. During economic downturns, rising unemployment and stagnating wages created clear conditions for government stimulus to raise or sustain aggregate demand and employment. Presently, unemployment remains low in many advanced economies even during periods of slow growth. This raises the question of whether government spending and expansionary fiscal policy can still effectively boost output.

Japan's experience illustrates how structural rather than cyclical factors dominate in tight labour markets. Despite large infrastructure spending and prolonged monetary easing, fiscal multipliers remained modest because demographic and capacity constraints have limited 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).

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.

Moreover, 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 in the annex 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. The fiscal multiplier values cited in this section are illustrative ranges drawn from the literature and serve 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.

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

iii) Rising interest rates
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

The empirical analysis in Table 1 in the annex confirms that the relationship between public investment and economic growth in EU countries is highly contingent on labour market conditions and reforms.[2] Public investment is effective in low-unemployment environments only when major reforms are implemented concurrently.

Column 1 establishes the baseline relationship between lagged public investment and real GDP growth, which is insignificant. Column 2 introduces cyclical conditions through unemployment interactions: low unemployment environments, defined as unemployment below the country-specific non-accelerating wage rate of unemployment (NAWRU), show positive growth effects, but public investment is statistically insignificant. This suggests that tight labour markets substantially lower the effectiveness of public investment. Column 3 incorporates institutional factors, revealing that substantial labour market reforms have positive direct effects on growth, and the interaction between public investment is also positive and significant. The critical finding is in column 4, which includes a three-way interaction: 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 and 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.

Conclusions and policy implications

These results have important implications for EU fiscal policy coordination. In advanced economies facing ageing populations and tight labour markets, relying on a conventional approach to cyclical policies can be counterproductive. Under such

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.

conditions, 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.

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.

Under contemporary economic conditions, structural reforms and fiscal policy are not uniformly complementary across all EU national contexts. The complementarity between structural reforms and fiscal stimulus is conditional; it is strongest when labour markets are tight and reforms enable better resource allocation.

As advanced economies face demographic challenges that reduce the available labour force, the approach to fiscal stimulus measures requires a fundamental reassessment. 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. The key message of this study is that structural reforms have become a precondition for effective government spending in tight labour markets. Without reforms that improve the functioning of labour markets and affect the allocation efficiency of resources, public investment generates limited growth and 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.

Effective policy requires careful coordination of public investment with central bank policies, attention to fiscal sustainability, and – especially in a monetary union – improved labour market efficiency.

Policymakers should use the vacancy-to-unemployment ratio, alongside the unemployment rate, to assess capacity constraints. When this ratio rises to very 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. European policymakers should learn from this experience. As population ageing accelerates, decisive and pre-emptive action is critical to maintain fiscal effectiveness. Countries that delay such reforms may find their tools increasingly useless when demographic pressures intensify.

The path forward requires political courage to implement labour market reforms and new institutional arrangements to better coordinate fiscal policy and 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.

ANNEX:

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

	(1)	(2)	(3)	(4)
Real GDP(t-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.

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