

Comments on Markus Sigonius: Developments of automatic stabilisers in Sweden 1998–2022

Karl Harmenberg

1 Overview

The paper sets out to quantify the size of automatic stabilisers in Sweden by applying the Girouard and Andre (2005) method to estimate how much the fiscal balance is affected by the business cycle. Sigonius arrives at a headline number of 0.5, meaning that if GDP increases by SEK 100, the fiscal balance increases by SEK 50. The government thus dampens roughly half of the swings in disposable income. Further, Sigonius shows that this number has been relatively stable over time, despite significant changes to Sweden's tax-and-transfer system.

It is careful work on an important topic. Although the focus of the paper is the fiscal size of automatic stabilisers, not their potency, the paper serves as useful input to a broader literature on the efficacy of fiscal policy as a stabiliser of the business cycle.^[77] For example, it is beyond the scope of the paper to study whether the automatic stabilisers adequately target households with a high marginal propensity to consume.

In my comments, I first ask how we should think about the statement that there is, evidently, no trade-off between 'make work pay' and automatic stabilisers. Second, I argue that 'worker betas' provide a nice reduced-form way to embrace heterogeneity.

77. The literature includes research on the size of the fiscal multiplier (see, e.g., Ramey (2016) on the empirics, Auclert et al. (2023) and Hagedorn et al. (2019) for recent quantitative theory), the role of automatic stabilizers (e.g., McKay and Reis (2016)) and which fiscal policies most effectively stimulate output (e.g., Broer et al. (2023)).

2 The trade-off between incentives to work and automatic stabilisers

Despite a large decrease in taxes on labour (direct taxes on labour fell from 17% of GDP in 1998 to 10% in 2022), the size of the automatic stabilisers remained stable. Sigonius provides an interpretation of this result: "The findings show that it is possible to increase the incentives to work without substantial impairment of the automatic stabilisers." To contextualize this interpretation, I introduce a simple model where the progressivity of the tax system is the sole determinant of both labour supply and business-cycle stabilisation. In the simple model, there is a direct trade-off between incentives to work and automatic stabilisers, which appears to conflict with Sigonius' interpretation.

2.1 Model

Consider the following simple model of labour supply. In the long term, a household faces the labour-leisure problem:

$$\begin{aligned} \max_{c,n} \quad & \log c - v(n) \\ \text{s.t.} \quad & c = wn - T(wn) \end{aligned}$$

where c is consumption, n is hours worked, w is the wage and $T(\cdot)$ is taxes paid as a function of pre-tax income. The solution to this problem is given by

$$v'(n)n = \frac{1 - T'(wn)}{1 - T(wn)/(wn)} = \epsilon$$

Note that ϵ is a measure of the progressivity of the tax system: it is the ratio of one minus the marginal tax rate to one minus the average tax rate. In this simple model, we see, therefore, that labour supply n is determined by the progressivity of the tax system as summarised by ϵ .

Assume that in the short term, labour supply is fixed and think of the business cycle as a shock to w . It is then easily verified that the elasticity of disposable income to the business cycle is also ϵ . In this simple model, we thus conclude that incentives to work and the business-cycle stabilisation of disposable income are determined by the progressivity of the tax system. As a result, policy makers face a direct trade-off: providing incentives to work makes disposable income less stable over the business cycle.

Of course, the model outlined above is highly stylised. Nevertheless, it points to a fundamental trade-off between incentives to work (an effect of low progressivity) and business-cycle stabilisation (an effect of high progressivity). Heterogeneity may blur this trade-off but probably does not fundamentally alter it. For example, low-income

marginally attached workers have a high labour-supply elasticity so labour-market reforms may have more of an effect on them. This was the motivation behind the series of earned income tax credit reforms in Sweden. At the same time, these workers are also highly exposed to the business cycle, which motivates stabilising their disposable income.

The findings provided by Sigonius are thought-provoking – how much did incentives to work actually change? Sigonius points out that the earned income tax credit reforms actually increased the progressivity of the tax system, which suggests that incentives to work were reduced. One avenue for exploring this question further would be to set up a quantitative macroeconomic model with realistic extensive-margin frictions to study jointly both the incentives to work and automatic stabilisation.

3 The incidence of the business cycle

When computing the response of tax revenue to the business cycle, Sigonius in effect assumes that when labour costs increase, all wages increase proportionally. As he points out, this is not entirely innocent. "Labour costs are also affected by workers moving in and out of employment. Low-paid workers may be over-represented in this category. Since they face lower marginal and average tax rates, this might affect the elasticity." (p. 13) Here, I want to suggest an easily implementable way to improve the analysis in this aspect.

3.1 Worker betas

Guvenen et al. (2017) and Kramer (2022) run the following regression for the US and Germany respectively,

$$\Delta \log y_t^q = \alpha + \beta_Y^q \Delta \log Y_t + \text{controls} + \epsilon_t$$

for recent-earnings quantiles q where Y_t is GDP and y_t^q is the income of the quantile. The coefficient of interest, β_Y^q , is the "beta"/elasticity of a quantile q 's earnings with respect to GDP. A higher β_Y^q indicates that the earnings quantile is more exposed to the business cycle. If $\beta_Y^q = 1$, then a 1% increase in GDP translates into a 1% increase in earnings for the quantile.

Guvenen et al. (2017) and Kramer (2022) provide beta estimates for the entire earnings distribution and find that low-income workers are much more exposed to the business cycle, with the bottom quintile having a beta of approximately 3. The numbers from their regressions can be directly plugged into the methodology used by Sigonius and would improve the estimate of the size of the automatic stabiliser since it would correctly account for the fact that poor workers are more exposed to the business cycle.

As a side remark, it would be useful if someone ran this very regression for the Nordic countries. I suspect that the qualitative features from Germany and the US are transferable, but there may be some quantitative differences.

4 Conclusion

Signonius has presented a careful and well-written paper on an important topic. In addition, it contains many other interesting results (e.g., an analysis of the effect of COVID-19 policies). The paper highlights the importance of a deeper understanding of the trade-off (or lack of one) between incentives to work and automatic stabilisers in the design of policy.

References

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