AN ANALYSIS OF THE STABILIZATION EFFECTS OF SOCIAL SPENDING

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Abstract:
The macroeconomic literature on automatic stabilizers; smoothing and risk sharing mechanisms has mostly concentrated on the role played by taxes; transfers and unemployment benefits. In contrast; very few works have analyzed the role of total social spending and its categories in smoothing output fluctuations. This paper presents the results of several studies evaluating the stabilization effects of the various components of social spending on GDP variations.

Key words*: social spending, automatic stabilisers.*

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As a part of the Stability and Growth Pact (SGP), the European Commission has a mandate to survey the Medium Term Budgetary Forecasts of the member countries in order to check whether deficits have been accurately projected and the ceilings will be met. As the largest part of macroeconomic literature, the reports of the Commission to the European Council tend to downplay the automatic forces influencing the budget and to give discretionary fiscal policy too much credit for automatic movements in the net government surpluses.

Stabilisation policy relates to smoothing economic performance or keeping output close to potential, and consequently, the problem of fiscal policy is often seen as keeping the ratio of actual output to potential output close to one. Given this view, the critical fiscal policy variable becomes the ratio of the net budget balance to output, and the critical issue is to determine how the ratio responds to the cycle aside from any discretionary behaviour by the authorities. However, when the issue becomes one of ratios, it is fairly standard practice to continue using the official estimates of automatic stabilisation to correct the budget balance in levels for non-discretionary responses and then to simply divide the derived discretionary response by output in order to obtain the ratios of cyclically adjusted figures to output or potential output. The European Commission adopts this approach in its annual surveys of country members' adherence to the Stability and Growth Pact.

The official method of estimating automatic stabilisation used by the European Commission, distinguishes 5 different elements of the government budget balance and then studies each of them independently. These are: household direct taxes, business direct taxes, social security contributions, indirect taxes and unemployment compensation (see Giorno et al. (1995)). The official practice is to estimate the cyclical response of the 5 respective bases on which these 5 tax and spending items rest, and then to apply the national tax code or else to assume a unitary elasticity of response to the base in order to derive the 5 items, whichever seems more appropriate. Van den Noord (2000) offers a clear and detailed review of the method (used by the EC as well). To quote from his summary:

"First, the elasticities of the relevant tax bases and unemployment with respect to (cyclical) economic activity, i.e. the output gap, are estimated through regression analysis. Next, the elasticities of tax proceeds or expenditure [unemployment compensation] with respect to the relevant bases are extracted from the tax code or simply set to unity in cases where proportionality may be assumed. These two sets of elasticities are subsequently combined into reduced-form elasticities that link the cyclical components of taxes and expenditure to the output gap."

As shown, the plans that are submitted to the Council by the Member States and the reports to the Council by the Commission pay increasing attention to other social payments and transfers besides unemployment compensation, particularly in the context of the discussions of pension reform. This is then reflected in the Council's assessments. However, the focus of this attention is on sustainability or the long run. In the view of more and more authors, the implications for the short run adjustment process are of crucial importance too. Lately, some of them have argued that the neglect of the cyclical implications of other social spending besides the unemployment compensation, especially in evaluating alternative reform packages, could be storing up problems for the control of budgets in the future.

This paper presents certain opinions and several research results proving the stabilisation effects of social spending like: pensions, health expenditure, disability pay, active labour market policies, family, survivors (the social spending subcategories are defined like in the OECD databases).

A focus on taxes and unemployment compensation simply pervades the current textbook literature in macroeconomics in discussing automatic stabilisation. There may be an occasional vague reference to counter-cyclical income support coming from other government spending besides unemployment compensation. However, with the outstanding exception of Hall and Taylor (1991, chapter 13, which subsequently became Hall and Pappell (2005), chapter 13), unemployment compensation is the only spending item that receives mention. The textbooks are representative. In defending the exclusive consideration of unemployment compensation as a counter-cyclical spending category (except for small items like food stamps), Auerbach and Feenberg (2000), for example, say: "The logic is straightforward: discretionary spending is, after all, discretionary, not automatic, and interest payments and the most important mandatory spending programs, Social Security and Medicare, are based on longer-term factors" (p.52). Likewise, Gali and Perotti (2003) maintain: "Among primary expenditures [apart from interest payments], only unemployment benefits probably have a non-negligible built-in response to output fluctuations." Perotti (2002) is more explicit: "Items like old age, disability and incapacity pensions – the bulk of transfers to households – do not have built-in mechanisms that make them respond automatically to changes in employment or output contemporaneously.

The macroeconomic literature on automatic stabilisers; smoothing and risk sharing mechanisms has mostly concentrated on the role played by taxes; transfers and unemployment benefits. In contrast; very few works have analyzed the role of total social spending and its categories in smoothing output fluctuations. The first work on this issue is Arreaza et al. (1998). Using a panel of OECD countries; the authors assess the ability of several components of government spending (including total social spending) in absorbing GDP shocks. Using the same approach for European countries; Afonso and Furceri (2008) assess the ability of different fiscal variables to provide stabilisation in an enlarged monetary union. However; Darby and Melitz (2008) are the

first to deeply analyze the pattern of government social spending over the cycle. The authors; using detailed and disaggregated data of government social spending for OECD countries; find that several components of social spending (government expenditure on health, retirement benefits, incapacity benefits and sickness pay as well as unemployment compensation) works as automatic stabilisers. The results go sharply contrary to the idea that unemployment compensation is the sole element of social expenditure that responds to the cycle. It has been found that expenditures on health, retirement and incapacity also react prominently to the cycle. Furthermore, these spending categories do so in a stabilising manner. Thus they enhance total automatic stabilisation. The policy implications of this finding are broad since much previous analysis of discretionary fiscal policy rests on official figures for automatic stabilisation. If those figures ignore some sources of automatic stabilisation, automatic stabilisation is higher and the results of those studies concerning discretionary fiscal policy fall into question. In addition, the danger that members of the European Union would violate the 3 percent limit on deficit spending of the Stability and Growth Pact during recessions is greater.

Darby and Melitz(2008) have studied automatic stabilisation with a specification expressed both in levels and ratios. That is, they considered both the automatic impact of an extra euro of output gap on extra cents of budget surplus, and the automatic impact of an extra percentage-point of output gap on an extra fraction of a percentage-point of the budget surplus as a proportion of GDP. However, unlike the rest of the literature, they have estimated both specifications separately. This is an important point. With one exception, others have estimated automatic stabilisation strictly in levels, even though they have often gone on to reason in ratios. The one exception is Arreaza, Sorensen and Yosha (1999), who reason and estimate strictly in ratios. With regard to automatic stabilisation, regardless of levels or ratios, all things considered, their results imply larger numbers than suggested in the previous literature. The usual estimates of aggregate automatic stabilisation in the OECD are expressed in levels and about 0.5. Darby and Melitz (2008) obtain about 0.61 as principal result. In light of their wider definition of automatic stabilization and the greater number of stabilizing influences, this may not be surprising. Stabilisation also comes mostly from the tax side in their estimates for levels, in accordance with usual views. In fact taxes are the source of 0.44 of the 0.61 total, and the rest is dominated by social expenditure. In the case of ratios or percentage-points of output, they find less automatic stabilisation – close to .4. However, taxes contribute nothing and social spending explains around half the estimated response. Broadly speaking, these results in ratios agree well with Arreaza, Sorensen and Yosha (1999), who were to our knowledge the first to estimate automatic stabilisation in ratios to output. They too found taxes to be of little importance and spending to be the basic stabilising force.

Coming back to the way of determining automatic stabilisations, Darby and Melitz present estimates obtained from specifications both in levels and ratios. The argument of the study resides in the following observations: Take a simple case where taxes move proportionately with output but expenditures stay fixed, and suppose there is a contraction in output. Some automatic stabilisation would result from the fall in taxes and some would result from the failure of government spending to decline with the fall in output. Suppose we measure automatic stabilisation in levels. In that case, we will attribute all of the automatic stabilisation to taxes since taxes fall while output stays the same. Suppose we measure automatic stabilisation in ratios. Then we would attribute all of the automatic stabilisation to government spending since the ratio of government spending to output rises while the ratio of taxes to output stays the same. Some mix of

the two assessments would be correct. However, only a general structural model would tell us the right mix. However, since one estimate favours the tax contribution while the other favours the spending contribution, there would seem to be a case for examining both estimates rather than only one. Darby and Melitz follow the general practice in using a common linear approximation to all of the equations in a reduced form, but having done so, there are two prevalent sorts of linear approximations to consider in the literature: one in levels and one in ratios. The one in levels corresponds closely to the habits of official bodies in estimating automatic stabilisation. The one in ratios is quite close to Arreaza, Sorensen and Yosha (1999) and Aghion and Marinescu (2007), but also to Gali and Perotti and Taylor after they have corrected for automatic stabilisation. They think that these two linear approximations do not reflect any fundamental opposition about the right underlying structural model. In these circumstances, they only found it right to present results for both approximations.

The results obtained by Darby and Melitz using a common linear approximation in a reduced form, only studying the dependency of social spending variables and fiscal receipts on the output gap in values or ratios, have analyzed the size of coefficient β_1 in the following equations:

$$\Delta x_{it} = \alpha_o + \beta_1 \Delta (Y_t - Y_t^*) \quad \text{or} \quad \Delta x_{it} = \alpha_o + \beta_1 \Delta Y_t / Y^*_t$$

The x_i variables refer to individual sorts of receipts and expenditures, Y is output, Y* is potential output.

The results have been obtained by processing 344 data and comparing the 20 country averages over the study period 1982-2001 (either in levels or per capita). **Revenues** are: Household Direct Taxes, Other Direct Taxes, Social Security Contributions and Indirect Taxes and the **expenditure:** Current Spending, Health Expenditure, Pension Related Cash Benefits, Incapacity Related Cash, Benefits, Unemployment Compensation, Sickness Pay and Subsidies.

A positive output gap produces 44 cents more tax collection per dollar in levels. Direct household taxes (constituting 0.28 of total government revenues) are the most important, business taxes (constituting 0.07 of the total revenues) are much less but still notably so, social security taxes (0.23) far less still and indirect taxes (0.29) not at all. On the spending side, government purchases of goods and services do not respond to the cycle, but there is 13.5 cents less social spending on persons per dollar of output gap, and pensions, health and unemployment compensation each account for around 4 cents of this total. Incapacity benefits drop by about one cent per dollar of output gap while sickness benefits do not respond significantly at all.

In the case of ratios, taxes contribute nothing to stabilisation: *all of the significant contributions come from the spending side*. In other words, no category of taxes proves to be either progressive or regressive. On the other hand, government spending on goods and services exclusive of spending on health shows up as highly stabilising. Since this spending does not emerge as significant in levels, the stabilising response in ratios can only be interpreted as coming from inertia or, more generally, a failure of to keep up with the cycle. With regard to social spending, including health, all of the influences that were stabilising in levels remain significantly so. However, now the contribution of social spending on pensions becomes notably more important than either health or unemployment compensation. This spending contributes 7.4 percentage points to stabilisation as opposed to 4.7 for health and 5 for unemployment compensation. In

addition, incapacity benefits become somewhat more significant and sick benefits remain insignificant.

Based on all of the significant social spending influences, the total contribution of social spending is the single most important factor in automatic stabilisation, accounting for more than half of the total(Darby and Melitz, 2008). Total automatic stabilisation from all significant sources is 0.61 in levels and 0.38 in ratios.

Starting from this result; the paper of Davide Furceri (2009) provides additional evidence on the connection between social spending and the economic cycle, quantifying the amount of shocks to GDP smoothed by social spending. Data are taken from OECD databases, for an estimation period from 1980 to 2003. He also quantify the amount of risk sharing provided by government spending in nine different social policy areas: Old Age; Survivors; Incapacity Related; Health; Family; Active Labour Market; Unemployment; Housing and Others social policy areas. The paper proves that overall social spending is able to smooth about 16 percent of a shock to GDP. Among its subcategories; social spending devoted to Old Age and Unemployment are those that provide more smoothing (5 percent respectively). Regarding the other components; while spending in Housing and in Other policy do not provide any significant smoothing; spending devoted to Health (2.6 percent); Active labour market policies (1.6 percent); Incapacity related (1.4 percent); Family (1.1 percent); and Survivors (0.3 percent) contributes to smooth overall an additional 7 percent of income fluctuations.

Looking at the results it can be seen that the ability of social spending to smooth income fluctuations has declined over time. This is reflected in the decreased ability of all items of social spending in providing insurance against GDP shocks. The only exception is represented by Unemployment benefits; for which the associated coefficient increased and we must bare in mind that the significance of the contribution of unemployment compensation to automatic stabilisation is more uniform than that of other social spending programs. This result is in line with the empirical evidence in Afonso and Furceri (2008); which suggests that the ability of government spending to smooth income fluctuations has generally decreased in the last decade.

In principle; the efficiency of automatic stabilisers can be a function of soundness of balance sheet positions in each country. For example; large government deficits may render government consumption smoothing more difficult since cross-country borrowing maybe very expensive due to a lower credit rating. For this purpose; we want to assess whether the ability of social spending in smoothing GDP shocks is different between countries with large and small deficits. From data tables it can be seen that for total social spending; unemployment benefits and old age; the amount of smoothing is larger in a situation of high deficits; while for the other items it is higher during period of low deficits. However; even in this case Furceri (2009) suggests that the difference in the estimated coefficients is never statistically significant and the size of the deficit has little or negligible effects on the efficiency of social spending in providing income smoothing.

The economic literature on automatic stabilizers has pointed out that those countries with larger government shares benefit from more effective automatic stabilizers (Gáli; 1994; Fátas and Mihov; 2001; Balassone and Kumar; 2007). Furceri (2008) confirm the hypothesis; i.e. the amount of smoothing provided by total social spending; and its sub-categories are significantly higher in countries with higher government size. His result

also suggests that the ability of social spending to absorb shocks to GDP could vary considerably among countries, conclusion shared by Darby and Melitz too.

In this paper we want to present new studies that have changed the opinions on elements acting as automatic stabilisers, presented in earlier macro studies, such as those we quoted from Auerbach and Feenberg (2000), Galí and Perotti (2003), Perotti (2002), that unemployment benefits are the only current expenditures that contribute significantly to automatic stabilisation. The new approach is that *several components of social spending works as automatic stabilizers* like: Old Age; Survivors; Incapacity Related; Health; Family; Active Labour Market; Unemployment; Housing; and Other social policy areas Moreover; it is interesting to point out that government spending in social areas has a more stabilizing effect than total government spending as a whole, the stabilization effects of social spending are significantly larger in those countries where the size of social spending is higher (Furceri (2009)) and seem to be similar during upturns and downturns; between countries with large and small deficit; and countries with low and high discretionary spending volatility. Finally; among its sub-categories; social spending devoted to Old Age; and Unemployment are the most effective in providing income stabilisation. This result has some important policy implications. In fact; population ageing is likely to increase Old age spending in the new future for most OECD countries. While there is a justified concern that this increase will have negative effects on the sustainability of the public finances for many countries; our results point out that the amount of stabilisation provided by government spending is likely to increase as well.

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