Is Social Protection Expenditure or an Investment? A Cross-Country Comparison in the European Union

Authors: **Santiago Álvarez-García**, University of Oviedo Avda. del Cristo s/n. 33071 Oviedo (Spain), santiag@uniovi.es; **Marta Pascual Sáez**, Faculty of Economics and Business. University of Cantabria. Avda de los Castros s/n. 39005 Santander (Spain), marta.pascual@unican.es; **Daniela Castañeda**, Faculty of Economics and Business. University of Cantabria. Avda de los Castros s/n. 39005 Santander (Spain), danielamadacas@gmail.com

The relationship between social protection, growth and income inequality is an important issue in modern societies. However, there exists no consensus about these relationships because government activity could be carried out inefficiently, due to excessive burdens or even because it can reduce the productivity of the system. In this paper, the correlation between social expenditure, economic growth and income inequality is studied. The analysis is based on data for the European Union countries and panel data techniques are used. The empirical results suggest that social government spending is not clearly related with economic growth in most of the European countries over the period 1994-2012.

Keywords: *Government spending, social protection and income inequality.*

Introduction

Since the seminal papers of Solow [1] and Romer [2], economists have become progressively more interested in cross-country comparisons of

short-term and long-term growth [3] and in those factors which are correlated with growth [4, 5, 6, 7, 8]. Thus, the study of government expenditure, globalization and economic growth has experienced a remarkable interest since the last years. In this sense, some authors have found a strong negative statistical relationship between economic growth and measures of public expenditures and tax burdens [9].

However, other studies defend the contrary hypothesis [4, 10]. Agell et al. [7] review the theoretical and empirical evidence on the relationship between growth and public sector in the OECD. These authors conclude that it is not possible to prove that there is a clear-cut causal connection from observations of public sector size to economic growth. Hsieh and Kon [11] do not find that government expenditure can increase per capita output growth. However, Lin [12] concludes that government size is estimated to have positive impact on economic growth in the short-run but not in the intermediate-run (25 years in the study). Barro [13] found that the ratio of real government consumption expenditure to real GDP had a negative association with growth and investment. The argument used was that government consumption had no direct effect on private productiviy but lowered saving and growth through the distorting effects from taxation or government-expenditure programs. The major controversy has been on whether or not the public sector increases economic growth. In fact, many people think that any increase in social spending must be financed through higher taxes or by cutting on other relevant spending.

In 2013, in the European Unión (EU) countries, government social expenditure accounted for 40.2% or total general government expenditure followed by health (14.8%), general public services (14.1%), education (10.3%) and economic affairs (8.8%). However, these weights varied across EU member states [14] taking special attention to those countries with more percentage of older, sickness and disability people. Bearing in mind these results, the objective of this paper is to study the relationship between government social expenditure and economic growth in the EU. The analysis is based on historical series for the EU-15 countries over the period 1994-2012. The paper is organized as follows. Section two describes economic growth and social protection in the EU countries. In section three, we examine the empirical evidence and finally, section four gives a summary and conclusion.

Economic growth and the public sector in the European Union

Over the last decade most of the EU-15 countries have seen steady gains in employment, GDP per capita and cohesion [15]. In particular, in 2001, social protection expenditure in the European Union increased in most of the countries as percentage of GDP. Thus, the largest share of social protection expenditure was assigned in the old age followed by the sickness function.

Government activity affects private sector, labour force productivity, trade balance, population health, etc. However, their relationship with economic growth is controversial. Economic theory provides different arguments to justify why the size of public sectors can be expected to vary over time and across countries [16]. In fact, wealthier nations expand the demand for public goods as well as increase public sector wages. Thus, from a political point of view, the size of the public sector can reflect political choices and different social models related with income distribution, education grants, health care services, etc.

However, the Public Sector has to guarantee a minimum level of life for all the individuals of the society. In this context, the social protection systems have been sophisticated and generalized during the last fifty years [17]. Hence, we will focus now on economic growth and social protection, including income maintenance, healthcare, social services and unemployment protection in the European Union.

Spite of the importance of Social Protection expenditures, the viability of these programs has been questioned [18]. However, there are enough arguments for public intervention in the economy, ranging from distributional concerns to market failures. So, the globalisation process is questioned because of the negative effects on the welfare states [19] The term "globalisation" includes an important controversy. Although some people consider it means abuse, inequality and human exploitation, for other ones, it represents a completely integrated world and generalized prosperity [20]. In fact, the globalisation can be understood as a process of international economic integration influenced by decreases of costs in transport and communications with important flows of trade and capital among nations [21].

Atkinson [22] showed the extended idea that the Welfare State is one of the factors which leads to lower levels of economic growth and it is necessary to cut down social protection expenditure to reactive growth in Europe. Following Dreze and Malinvaud [23], the main critical to the Welfare State can be synthesized as:

- The social protection programs have generated important deficit levels and public debt.
- The social protection programs have led to an increment of the size of the public sector until an inefficient level.
- The Public Health and redistribution programs have introduced undesirable rigidities in the operation of the work markets.

However, contradictory arguments exist, that is, other authors defend the contribution of social expenditure to economic growth. If we classify the social expenses in those dedicated to income transfers and those that have for object the provision of preferable goods, it seems obvious that these last ones, particularly those dedicated to education and health will increase the capacity of growth of the economy. Sala-I-Martin [24] considers that the programs of reduction of the poverty, income redistribution pensions can contribute to increase economic growth.

Thus, is social protection an expenditure or an investment? The term "government expenditures" refers to spending by the government sector including both the purchase of final goods and services, or gross domestic product, and transfer payments. Government expenditures are used to face education, health, national defence, etc. They are financed by a combination of taxes and borrowing. However, in finance, investment is buying or creating an asset with the expectation of capital appreciation, profit, interest earnings, rents or some combination of these returns.

Also, it is important to note that social protection includes twelve main areas of social protection: financing, healthcare, sickness, maternity, invalidity, old-age, survivors, employment injuries and occupational diseases, family, unemployment, guaranteed minimum resources and long-term care. On the other hand, year 2010 has marked a new beginning for Europe [25]. Europe 2020 Strategy puts forward three priorities:

- Smart growth: developing an economy based on knowledge and innovation.
- Sustainable growth: promoting a more resource efficient, greener and more competitive economy.

- Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.

Hence, the relationship between government social spending and economic growth continues being an important field of interest.

Empirical analysis

In this paper, rate of increase of GDP is taken as a proxy for economic growth and GDP per capita in US$ purchasing power parity is used for the aggregate output measure *Y*. Firstly, we have considered an easy approximation for the growth equation:

$\dot{Y} = \alpha + \beta \, \dot{G}(G/Y)$, where a dot over the variable denotes its rate of growth. $\dot{Y}$ denotes dY/Y or its discrete equivalent $\Delta Y/Y$. *G* represents government spending and $\dot{G}(G/Y)$ equals $\Delta G/Y$. A constant term and a random stochastic disturbance term with the usual properties have been included.

As pointed out by the OECD statistics, GDP per capita is based on Purchasing Power Parity (PPP). GDP is gross domestic product converted to international dollars using PPP rates. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2011 international dollars.

Table 1 shows the results from cross-section data. The estimates are given for each country from 1994 to 2012. The relationship is negative and significant for Austria, Denmark, Finland, Germany, Netherlands and Sweden, at least at the 7 percent level. The best result is found for Sweden where the estimated coefficient is -6.3517, the variable is significant at 1% and *R*-square is equal to 0.81.40. In contrast, it is positive and significant for Portugal and France. However, the relationship is not significant for Belgium, Greece, Ireland, Italy, Luxembourg and Spain.

In order to deep in these relationships, the standard panel techniques for the econometric estimation have also been used [26]. The fundamental advantage of this panel data set over a cross section is that it

allows us great flexibility in modelling differences across European countries. The basic framework is a regression model of the form:

$$\dot{Y}_{it} = \alpha_i + \beta X_{it} + \varepsilon_{it} \tag{1}$$

where i refers to the country (i=1,..., 15 member states), t is the year, $\dot{Y}$ denotes Economic Growth for each country and X is a vector of variables. Firstly, we have only considered social government spending as explanatory variable and later we have included other variables as population over 65 years and Gini coefficient (see Table 2).

The results of the estimation are given in Table 3. Also, we have used Hausman's specification test for the random effects model. This specification, which was devised by Hausman [27], is used to test orthogonality of the random effects and the regressors. Besides, a Wald test is included to evaluate the joint significance of the variables.

First of all, we test the significance of the group effects with an F-test. In our models we reject the hypothesis that the country effects are the same. Secondly, we can use the fixed-effects approach or the random-effects approach. The Hausman test value shows that fixed effects should be used. Total government spending (growth rate) is significant and the level of explanation, as measured by R^2, is acceptable ($R^2 = 0.3042$). Also, sign of variable indicates that social government expenditure is negatively related with economic growth.

Table 1. Estimated linear relationships between per capita growth rate $(\dot{Y})$ and government social expenditure $(\dot{SG})$. European Union countries (1994-2012). Dependent variable: Economic Growth

Country	Coef.	Std. Err.	t	P>t	R-square
Austria	-7.4088	2.7747	-2.6700	0.0170	0.3222
Belgium	1.9539	2.1105	0.9300	0.3680	0.0480
Denmark	-3.2697	0.9475	-3.4500	0.0030	0.4119
Finland	-3.7507	0.9847	-3.8100	0.0020	0.4751
France	2.6301	1.3376	1.9700	0.0680	0.2049
Germany	-5.5094	1.6657	-3.3100	0.0040	0.4061
Greece	-1.4758	1.4548	-1.0100	0.3340	0.0933
Ireland	-0.6720	1.4221	-0.4700	0.6430	0.0138
Italy	-0.0236	1.1563	-0.0200	0.9840	0.0000

Luxembourg	2.8979	2.7025	1.0700	0.2990	0.0670
Netherlands	-4.5796	1.3650	-3.3600	0.0040	0.4287
Portugal	2.2542	0.5885	3.8300	0.0010	0.4784
Spain	-0.2075	1.5240	-0.1400	0.8940	0.0012
Sweden	-6.3517	0.7591	-8.3700	0.0000	0.8140
United Kingdom	1.8726	2.0387	0.9200	0.3740	0.0568

Source: Authors´ calculations from OECD Data.

Table 2. Variables and definitions

Variable	Definition	Source
GDP	Economic Growth: GDP per capita, constant prices.	OECD Data.
SGS	Social government spending: Total, % of GDP	OECD Data.
POP65	Population over 65 years: Total, % of population.	OECD Data
GINI	Gini coefficient (scale from 0 to 100)	Eurostat

Source: Authors' elaboration.

Table 3. Estimates of the determinants of Economic Growth in the European Union countries (1994-2012). Dependent variable: Economic Growth

	Random Effects			
	Coef.	Std. Err.	t	P>t
Social Government Spending	-0.5496	0.2511	-2.1900	0.0290
Population over 65	2.3225	0.3256	7.1300	0.0000
Gini	-0.5675	0.2259	-2.5100	0.0120
R-square	0.2786			
	Fixed Effects			
	Coef.	Std. Err.	t	P>t
Social Government Spending	-1.1878	0.3516	-3.3800	0.0010
Population over 65	5.6680	0.6117	9.2700	0.0000

	- 0.4075	0.3696	-1.1000	0.2720
Gini				
R-square	0.3042			
Wald Statist. And Prob (Wald)	58.51 (0.000)			
Hausman Statistic and Prob (Hausman)	49.97 (0.000)			
F Statistic and Prob (F)	30.61 (0.000)			

Source: Authors' elaboration

Therefore, it can be observed that there does not exist a clear relationship between economic growth and government spending (social expenditure) in EU countries. However, we can not conclude anything about income inequality because the relationship is not significant although signs are those expected. This fact can be justified because of data limitation (we have only homogenous information for a reduced number of years).

Conclusions

Governments can adjust their level of spending in order to influence their economy. However, the relationship between economic growth and government spending continues being controversial and in some cases ambiguous. This paper provides new evidence of the impact of social government spending on economic growth in the European Union countries. In fact, the relationship between both can be positive or negative depending on the countries included in the sample, the period of estimation and the variables which reflect the size of the public sector. Thus, some of the problems are based on the measurement of the size of the public sector and the available statistics.

Nevertheless, it is very difficult to identify clear relations between growth and social protection expenditure in the European Union countries. Certain similarities are observed among some countries. In this way, the Scandinavian countries are characterized by bigger Public Sectors than those in Southern European ones and those in Ireland and United Kingdom. If we observe the changes in total expenditures from 1992 to 2012, it exists a descending tendency.

Obviously, the social protection systems success is based on economic growth. However, the demographic evolution forces to limit the

reach of these benefits. In fact, the results obtained in this paper show that social government size is estimated to have negative impact on economic growth in most of the EU countries over the period studied (in particular in Austria, Denmark, Finland, Germany, Netherlands and Sweden).

Lastly, keeping in mind that one of the fundamental objectives of the Welfare State is the reduction of income inequality, we should consider the relationship between growth and inequality taking into account that higher inequality tends to reduce economic growth. So, governments can improve income distribution although the redistributional effects over economic growth will depend on the impact of the transfers and taxes for their financing.

Although a lower income inequality (smaller value of Gini index) can be related with a higher economic dynamism, the reduced number of countries (15), the atypical situation of Ireland and the number of years considered make that the obtained results should be interpreted very careful. Obviously, further research about this topic during the next years is required.

References

[1]. Solow, R. (1956). "A Contribution to the Theory of Economic Growth", Quarterly Journal of Economics, 70(1), 65-94.

[2]. Romer, P.M. (1986): "Increasing Retourns and Long-Run Growth". Journal of Political Economy, 98 (5), 71-102.

[3]. Lucas, R.E. (1988). "On the Mechanics of Economic Development". Journal of Monetary Economics 22, 3-42.

[4]. Katz, C.J., Mahler, V.A. and Franz, M.G. (1983). "The Impact of Taxes on Growth and Distribution in Developed Capitalist Countries: A Cross National Study". American Political Science Review 77, 871-886.

[5]. Saunders, P. (1985). "Public Expenditures and Economic Performance in OECD Countries". Journal of Public Policy, 5, 1-21.

[6]. Barro, R.J. (1991). "Economic growth in a Cross Section of Countries". Quarterly Journal of Economics, 106, 407-444.

[7]. Agell, J., Lindh, T., Ohlson, H. (1997): "Growth and the public sector: a Critical Review Essay". European Journal of Political Economy, 13 (1), 33-52.

[8]. Bergh, A.; Henrekson, M. (2011). "Government Size and growth: A Survey and Interpretation of the Evidence", IFN Working Paper, No. 858

[9]. Marlow, M.L. (1986). "Private Sector Shrinkage and the Growth of Industrialized Economies". Public Choice, 49, 143-154.

[10]. Ram, R. (1986). "Government Size and Economic Growth: A New Framework and some Evidence from Cross-Section and Time-Series data". American Economic Review 76, 191-203.

[11]. Hsieh, E., Kon, S.L. (1994): "Government Spending and Economic Growth: the G-7 Experience". Applied Economics, 26, 535-542.

[12]. Lin, S.A. (1994): "Government spending and Economic Growth". Applied Economics, 26, 83-94.

[13]. Barro, R.J. (1990): "Government Spending in a Simple Model of Endogenous Growth". Journal of Political Economy, 98 (5), 103-125.

[14]. EurostaT (2015). Government expenditure in the EU. Eurostat News release, 112/2015.

[15]. European Commission (2010). Communication From The Commission Europe 2020. A strategy for smart, sustainable and inclusive growth, Brussels, 3.3.2010, COM(2010) 2020 final

[16]. Barrios, S.; Schaechter, A. (2008). The quality of public finances and economic, European Economy. Economic Papers 337. September 2008. Brussels.

[17]. González Páramo, J.M. (1994): "Gasto Social y Crecimiento Económico en el Estado de Bienestar". Hacienda Pública Española, 2, pp. 135-153.

[18]. Castles, F.G. (2003): "El Futuro del Estado de Bienestar: Mitos y Realidades de la Crisis". En A.M. Guillén, S. Álvarez (Coord.): Viejas y Nuevas Desigualdades: Retos para la Protección Social. Madrid: Cívitas, 23-52.

[19]. Rhodes, M. (1996). "Globalization and west european welfare states: a critical review of recent debates". Journal of European Social Policy, 6, 305-327.

[20]. Toribio, J.J. (2003): Globalización, desarrollo y pobreza. Madrid: Círculo de Empresarios.

[21]. Albi, E. (2003): "Estado y globalización". Moneda y Crédito, 216, 39-91.

[22].   Atkinson, A.B. (1995): "Is the Welfare State necessarily an obstacle to economic growth?". European Economic Review, 39, pp. 723-730.

[23].   Dreze, J.H. and Malinvaud, E. (1994): "Growth and employment: the scope for a European Initiative". European Economy, 1, 77-106.

[24].   Sala I Martin, X. (1992): "Trasfers". NBER Working Paper 4189.

[25].   European Commission (2004). The Social Situation in the European Union. European Commission.

[26].   Greene, W.H. (2003) Econometric Analysis. 5th Edition, Prentice Hall, New York.

[27].   Hausman, J.A. (1978) Specification Tests in Econometrics, Econometrica, 46, 1013-1029.