SOCIAL SPENDING, PUBLIC GENERATION OF SOCIAL CAPITAL AND ECONOMIC GROWTH

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Why social approach to economic growth?

Why has a country a better economic growth?

Why is a region richer than other in the same country?

Is the answer its social capital?

The traditional economic growth theory need a new perspective: "there are
more that one million of regressions done" (Sala i Martin, 2003).

The social capital as new productive factor: the social interaction matters.

The government policy influence on economic growth

- Accumulation of physical capital: infrastructures,....
- Accumulation of human capital: education,....
- Accumulation of social capital: social expenditure....

Why some countries growth more than others?

- There are an important number of papers that find positive empirical evidence between social capital and economic growth.

- The estimated relationship is very stable and it situated in the interval (0,06-0,1):

  - Knack and Keefer(1999): Elasticity=0,08

  - Zak and Knack(2001): Elasticity=0,1

  - Taveres(2002): elasticity=0,06.

- This papers consider that capital social could explain some differences in economic growth (Putnam, 2000, introduce more socio and economic effects of social capital) .

What is social capital?

In the previous papers:

- Tavares (2002): he uses interpersonal trust as measure of social capital.

- Knack and Keefer (1997): they use interpersonal trust and associational activity.

- Zak and Knak (2001): they use interpersonal trust and institutional heterogeneity.

What is social capital?

- Paldam (2000): "there are three families of social capital concept: trust, ease of cooperation and network. The three families lead to different definitions, and thus to different measurement methods".

  - Thus the definition of social capital is not unique.

  - Cross-dsiciplinary study, multifaceted

  - The measure of capital social depend on the theoretical approach.

What is social capital?

Individual social capital:

- Joel Sobel (2002) says "S*ocial capital describes circumstances in which individuals can use membership in groups and networks to secure benefits*" .

Organizational perspective:

- Coleman (1988) defines social capital as *"The ability of people to work together for common purposes in groups and organizations"*

What is social capital?

Aggregate perspective:

- According to the World Bank: "Social *capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions. Increasing evidence shows that social cohesion is critical for societies to prosper economically and for development to be sustainable. Social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together*

http://www.worldbank.org/poverty/scapital/

Objective

Our approach to social capital concept is aggregrate.

We consider that social capital could be influenced by government policy.

The measure of social capital used is interpersonal trust.

We would like to answer two question:

- what is the relationship between twelfare states and social capital?

- what is the jointed effect of trust and welfare states on economic growth?

What is the relation between welfare states and social capital?

Rothstein (2001): "Social capital may be caused by how government institutions operate… The universal character of the welfare state have important implications of social trust.."

Trust (social capital) improve the economic performance.

- The welfare regime could affect on the influence of trust in economic performance.

- Redistribution policy is buying social consensus for growth orientated activities (Bellettini and Berti, 1999), consequently:

  - It increases the social cohesion.

  - It generates homogeneous and egualitary interpersonal relations

The four welfare states regimen

<u>Nordic regime:</u>

- Some authors say it affects negatively to social capital because people are no forced to rely on family and friends. But, this regime let a autonomous individual behavior that ensure more homogeneous society.

<u>The liberal regime (Anglo-Saxon countries):</u>

- The market is consedered as the better mecanism for distribution of resources, and the social security benefits are rather modest.

The four welfare states regimen

The conservative-corporatist regime (France and West Germany).

- This type of regime is likely to interfere in individual´s life course outcomes only in cases where the family´s resources to provide help have been exhausted: it then provides social securrity benefits related to previous earnings and status.

The Latin regime (Italy, Spain, Greece, Portugal).

- An underdevelopment system of social secutiry exists, accompanied by high degree of familialism.
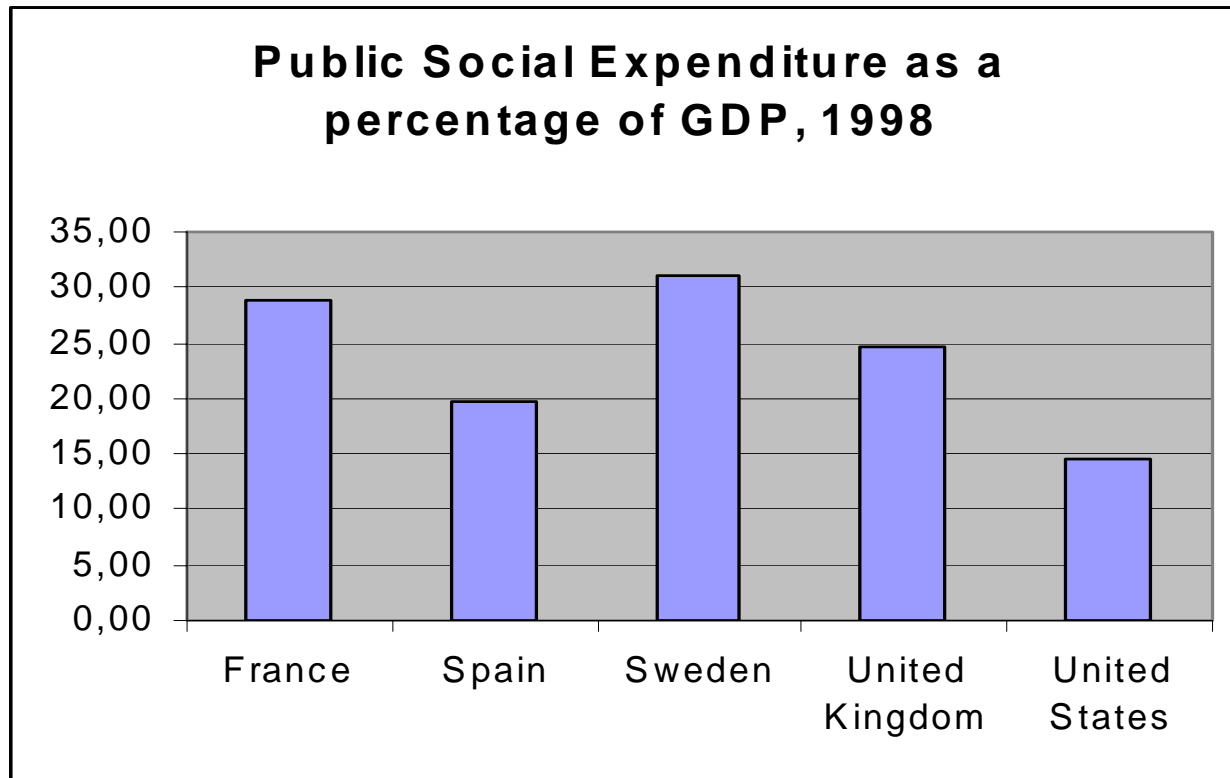
Our Hypothesis

The trust matters in economic growth.

The importance of trust depend on:

- The size of welfare states.

- The regime of welfare states.

- The type of expenditure:money transfer or services.

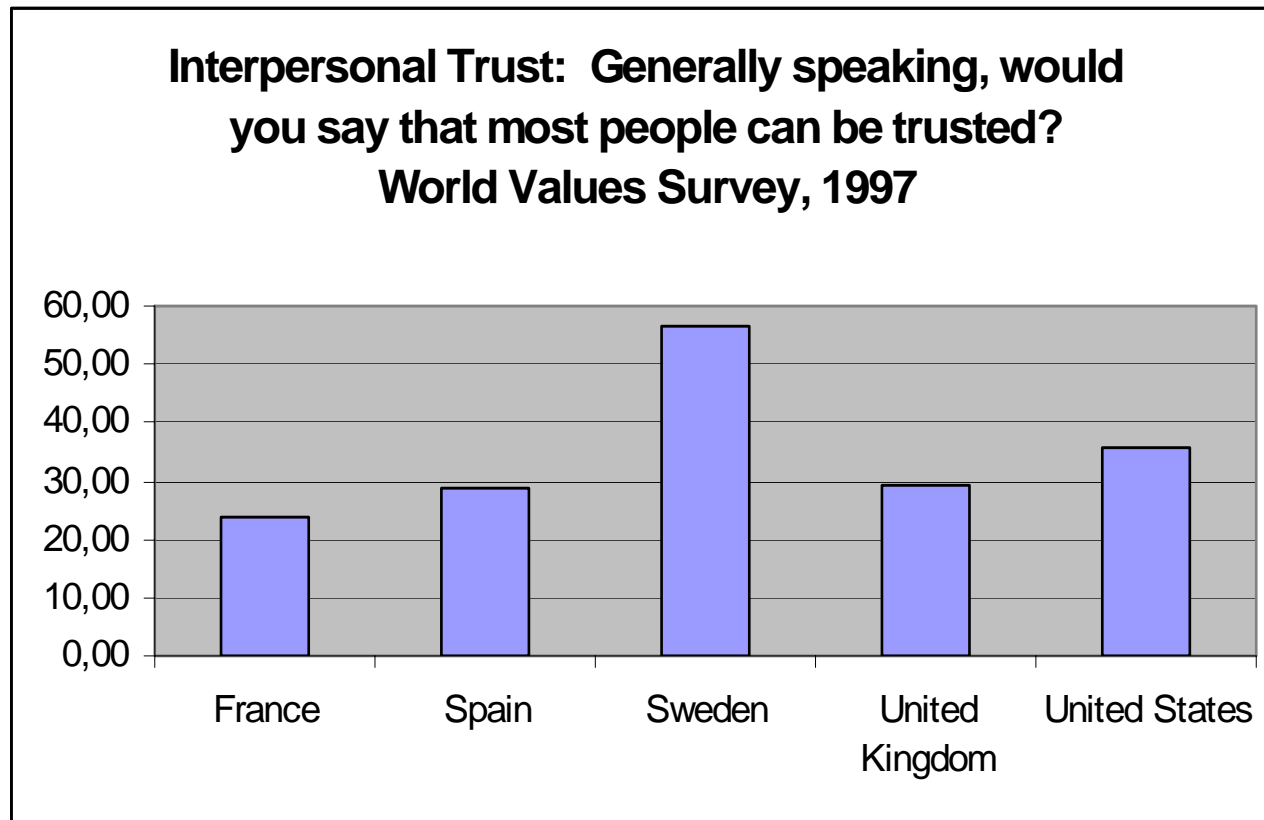# The data: Public social expenditure, OECD Social Expenditure data base.

Public Social Expenditure as a percentage of GDP, 1998

Bar chart showing values for France, Spain, Sweden, United Kingdom, United States with a y-axis from 0,00 to 35,00.

The data: Trust, World Values Survey

**Interpersonal Trust: Generally speaking, would you say that most people can be trusted?
World Values Survey, 1997**

The traditional growth model

$$g(y_t) = const + \beta' \frac{\alpha}{1-\alpha} \log s - \beta' \frac{\alpha}{1-\alpha} \log(n + \delta + x) - \beta' \log y_t + \beta' xt$$

- s: investment/income ratio

- n: population growth.

- d: depreciation rate.

- x: tecnical porgress rate.

- Y-1: initial icome

Our empirical approach

$$g(y_t) = const + \beta' \frac{\alpha}{1-\alpha} \log s - \beta' \frac{\alpha}{1-\alpha} \log(n + \delta + x) + \beta'\theta\chi \log conf +$$
$$+ \beta'\theta\upsilon \log G \log conf - \beta' \log y_t + \beta'xt$$

- s: investment/income ratio

- n: population growth.

- d: depreciation rate.

- x: tecnical porgress rate.

- Y-1: initial icome

- Conf: Interpersonal trust.

- G= government social expenditrue as % of GDP

Our empirical approach (I)

Social capital:

Social capital depends in a positive way on trust (*conf*) as well as on social expenditure as a percentage of GDP ($G_t = GS_t / Y_t$).

$$K_{St} = \phi(conf_t, \frac{GS_t}{Y_t}) = conf_t^{\chi} G_t^{\gamma_i} \left[conf_t G_t\right]^{\upsilon} . \tag{1}$$

a) $0 \leq conf_t \leq 1$, $0 \leq G_t \leq 1$ $\Rightarrow$ $0 \leq K_{St} \leq 1$,

b) *conf* and *G* are complementary variables: trust reinforces the influence of social expenditure, and vice versa,

c) $i = 1 \ldots 4$ corresponds to the different social expenditure regimes.

Our empirical approach (II)

Technology:

Technology *à la* Solow, with labour aumenting technical progress (A: labour productivity increasing over time):

$$Y_t = K_t^{\alpha}(A_t L_t)^{1-\alpha} \qquad (2)$$

Potential productivity with maximum social capital ($K_{St} = 1$): $\overline{A_t}$, increasing over time at an exogenous rate x.

Actual productivity (under its potential level when $K_{St} < 1$):

$$A_t = \overline{A_t} K_{St}^{\theta} \leq \overline{A_t} \qquad (3)$$

$\Rightarrow$ Social capital determines the extent in which the society extracts the productivity gains derived from technical change. The lower the social capital, the wider the gap between actual level of productivity and the potential one.

(2) + (3): $Y_t = \overline{A_t}^{1-\alpha} K_t^{\alpha} L_t^{1-\alpha} K_{St}^{\theta(1-\alpha)}$.

Our empirical approach (III)

Long-run equilibrium:

Constant social capital $\Rightarrow \dfrac{\dot{A}_t}{A_t} = \dfrac{\dot{\overline{A}}_t}{\overline{A}_t} = x_t$

Normalization: $\tilde{y}_t = \dfrac{Y_t}{A_t L_t}, \quad \tilde{k}_t = \dfrac{K_t}{A_t L_t} \quad \Rightarrow \quad \tilde{y}_t = K_{St}^{\theta(1-\alpha)} \tilde{k}_t^{\alpha}.$

Physical capital dynamics:

$$\dot{\tilde{k}}_t = s K_{St}^{\theta(1-\alpha)} \tilde{k}_t^{\alpha} - (n + \delta + x)\tilde{k}_t. \tag{4}$$

Steady state per capita GDP:

$$\tilde{y}^* = \left(\frac{s}{n + \delta + x} \right)^{\frac{\alpha}{1-\alpha}} K_S^{\theta}. \tag{5}$$

Our empirical approach: development (IV)

Dynamics:

From (4), after a log-linear approximation:

$$g_{\tilde{k}_t} = \frac{d \log \tilde{k}_t}{dt} \cong (\alpha - 1)(n + \delta + x)(\log \tilde{k}_t - \log \tilde{k}^*) =$$

$$= -\beta(\log \tilde{k}_t - \log \tilde{k}^*).$$

Given that $\tilde{y}_t = K_{St}^{\theta(1-\alpha)} \tilde{k}_t^{\alpha}$, the dynamics of per capita GDP is given by:

$$\Rightarrow \quad g_{\tilde{y}_t} \cong \beta'\left[\frac{\alpha}{1-\alpha}\log s - \frac{\alpha}{1-\alpha}\log(n + \delta + x) + \theta \log K_S - \log \tilde{y}_t \right], \qquad (6)$$

$$\beta' = 1 - \exp(-\beta T).$$

Our empirical approach: development (V)

Given that $g(\tilde{y}_t) = g(y_t) - g(A_t) = g(y_t) - x$ and $\log \tilde{y}_t = \log y_t - \log A_t$,

$$g(y_t) \cong \beta' \left[\frac{\alpha}{1-\alpha} \log s - \frac{\alpha}{1-\alpha} \log(n+\delta+x) + \theta \log K_S - \log y_t + \log A_0 + xt \right] - x,$$

By rearranging terms:

$$g(y_t) = const + \beta' \frac{\alpha}{1-\alpha} \log s - \beta' \frac{\alpha}{1-\alpha} \log(n+\delta+x) + \beta' \theta \chi \log conf +$$
$$+ \beta' \theta \gamma_i \log G + \beta' \theta \upsilon \log G \log conf - \beta' \log y_t + \beta' xt \qquad (7)$$

Empirical results: Total social expenditure and without health expenditure, 1980-1998

	Confiance				Total social expenditure				Without health expenditure			
	(1)Plain	T-sta.	(3)Ran. Eff.	T-sta.	(1)Plain	T-sta.	(3)Ran. Eff.	T-sta.	(1)Plain	T-sta.	(3)Ran. Eff.	T-sta.
L s	0,325	7,59*	0,321	6,43*	0,306	9,46*	0,299	8,44*	0,319	10,45*	0,303	8,65*
L $(n+\delta)$	-0,070	-2,74*	-0,093	-3,28*	-0,098	-5,05*	-0,104	-4,94*	-0,102	-5,24*	-0,108	-5,10*
L y_{t0}	-0,156	-5,50*	-0,168	-4,92*	-0,144	-5,78*	-0,164	-5,80*	-0,155	-6,87*	-0,174	-6,53*
L cf	0,050	1,76**	0,034	1,02	0,032	1,61***	0,031	1,34	0,033	1,62***	0,032	1,32***
LcfLpa1					NS	NS	NS	NS	NS	NS	NS	NS
LcfLpa2					-0,044	-4,99*	-0,041	-4,05*	-0,039	-6,02*	-0,035	-4,61*
LcfLpa3					NS	NS	NS	NS	NS	NS	NS	NS
LcfLpa4					0,021	1,96**	0,027	2,28*	0,018	2,03*	0,023	2,36*
F27	-0,180	-2,81*	-0,184	-3,56*	-0,167	-3,75*	-0,183	-4,54	-0,164	-3,66*	-0,182	-4,60*
F48	0,391	6,34*	0,365	6,82*	0,356	8,19*	0,362	8,96	0,354	8,12*	0,365	9,11*
F74	-0,170	-2,69*	-0,164	-3,15*	-0,144	-3,23*	-0,150	-3,71	-0,147	-3,29*	-0,152	-3,82*
Z24	0,077	4,22*	0,082	5,82*	0,078	5,86*	0,081	6,99	0,081	6,23*	0,083	7,50*
Z3	0,040	1,65**	0,043	2,15*	0,043	2,53*	0,047	3,09	0,045	2,58*	0,048	3,20*
C	0,378	1,28	0,454	1,32	0,248	1,04	0,448	1,58	0,299	1,30	0,516	1,87***
R^2	0,77		0,76		0,85		0,85		0,89		0,89	
Adj. R^2	0,73		0,72		0,82		0,82		0,86		0,86	
Lm test	4,12*		3,46		0,001		0.08		0,19		0,33	
Hau.test	6,86				18,73**				19,75*			

*, ** y ***: se rechaza la hipótesis nula al 5%, al 10% y al 20%

Empirical results: comments

First estimation:

- We estimated similar trust coefficients that previous papers and control variables have expected signs.

Second estimation:

- In general, we observed that direct effect of trust decrease when we include government social expenditure.
- However, in Nordic regime and Conservative regime there are not important changes
- Liberal regime: trust effect is anulated by the type of welfare regime and total value of social expenditure.
- Latin regime: an increase of government social expenditure increase the effect of trust.

Empirical results: comments

Third estimation:

- In this estimation we not include the health expenditure.

- The structure of the results are similar.

- There is an increase of explanatory capacity of the estimation

Conclusions

Social Capital is defined by Putnam (1999) as *"features of social life, networks, norms, trust that enable participants to act together more effectively to pursue shared objectives.''*

From an aggregate approach: social policy through government social expenditure could generated social capital.

Rothstein (2001): "The universal character of the welfare state have important implications of social trust."

Our perspective: social expenditure influences on the mecanism that trust generates economic growth.

Conclusions

Two dimensions of this influence:
  Intensity: the percentaje of GDP in social expenditure.
  Density: The regimen matters. Then, trust effect is not equal in different welfare system.

Empirical Approach:
  Traditional growth model with trust as measurement of social capital.
  The importance of the social security regimen in the empirical growth.

Conclusions

Trust is important for economi growth.

This importance is lower when social expenditure is included in some countries.

The welfare state regime changes the influence of trust in economic growth:

Anglo-saxon regime: the influence is null.

Latin regime: the influence is most important.

The consideration of health expenditure as social expenditure is not relevant in this context.

The distintion between tranfers and services is relevant in labour market because active labour market policies induce a higher influence of trust that unemployment benefits. In the case of house policies the oppossite holds.

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