The determinants of public spending: a survey in a methodological perspective

Facchini, Francois

University of Paris Sud, Faculté Jean Monnet, Sceaux (France), Associate, Centre d'Economie de la Sorbonne (Paris 1, France)

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SURVEY: *This article shows that applied econometric is not a way of selecting, from among a plethora of possible explanations of public spending evolution. It lists 19 explanations and 73 explanatory variables and provides evidence of the great confusion in this field and the relative emptiness of quantitative economics. Then it sustains the Mayer's idea that "given all the weakness of econometric techniques, other ways of testing, such as appeals to qualitative economic history, should not be treated as archaic".*

1. Introduction

The general growth of government spending in the last hundred and fifty years and in industrial societies is a fact established (Borcherding 1977, Flora et al. 1983, Mitchell 1998). The explanation of the growth of government size has also received numerous theoretical explanations (Larkey, Stolp, and Winner 1981, Borcherding 1985, Mueller 1987, Hosley and Borcherding 1997; Mueller 2003; Bergh and Henrekson 2011).

This article lists 19 explanations and 73 explanatory variables. It shows also that the "covering law model" (Hempel 1942) fails when it is applied to explain the evolution of public spending. The "covering law" model is based on mathematical physics. Taking physical sciences as a model, economics deals with efficient causes i.e. A (say, a billiard ball) strikes B (another ball) and causes it to move (Hoover 2008, p.719). In Wagner's Law economic development, for instance, is the shock which causes public spending. This physical approach has a lot of problems. These are the traditional problems of regressions parameter heterogeneity, outliers, omitted variables bias, model uncertainty, measurement error, endogeneity (Rodrik 2012, p.319), and ecological inference. There is, also, the fact that the results of regressions are often un-conclusive

and it is always difficult to know if A strikes B or B strikes A. It is important also to recall that journals do not publish papers that find statistically insignificant results. That limits our knowledge of correlations between the variables and our ability to evaluate their qualities.

Therefore beyond the necessary work to know the literature on this topic, this paper inserts in the controversy around the ability of quantitative analysis to learn us something. There are no law, no generality in this literature. Econometric' literature seems only a way to tell the history of public finance with statistic. Quantitative would not useless, but would promise more than it could be deliver.

The article is composed of twenty sections organized into a theoretical and an empirical part. The last section concludes with a table summarizing all the theories proposed, the explanatory variables used and the presence or absence of a consensus on the proposed explanation. This will provide evidence of the great confusion in this field and the relative emptiness of quantitative economics.

2. Income and Wagner's Law

The first explanation is by the incomes. It is the result of inductive approach. The economists give *ad hoc* explanation. They observe a correlation between the two events and try to explain why. This section is the longer because income has been the variable more tested by the literature. The tests of Wagner's hypothesis accumulated evidence are unsupportive the law.

2.1 Theoretical approach

When in an economy, the incomes increase the public spending rise also. This explanation is either an empirical generalization (Laskey et al. 1981) or it is micro-founded on a theory of demand or supply. Income *per capita* and/or Wealth *per capita*

operate similarly (Pryor 1968, p.53). They affect not only demand but reflect taxable capacity and the cost of government services as well (Pryor 1968, p.53). That explains why there are two interpretations of the correlation income- public spending. 1) Wagner's law argues that in a society where the income progresses, government involvement in fiscal-budgetary matters rises even faster (Borcherding 1985, p.365). 2) In the leviathan fiscal theory the government is viewed as a malevolent revenue maximizer rather than a benevolent public goods provider. The size of State is a function of the capacity of citizens to limit the revenues of government to a given amount.

2.1.1 Wagner's Law

In Wagner's law perspective income *per capita* (Biehl 1998) is a variable affecting primarily demand for public consumption expenditures. It is an empirical generalization (Larket et al. 1981, p.176, Peacock and Scott 2000) or a theoretical perspective, using inductive methodology. Wagner sustained that growing population and economics demand an increasingly larger state sector to service them with collective goods. He saw three main reasons for the increased of public spending: industrialization i.e. urbanization, the rise of population and economic development. Urbanization and increased population density would give more social frictions and more expenditure on law and order. The growth in real income would facilitate the relative expansion of expenditures on certain income elastic demands (Henrekson and Lybeck 1988, p.217). Then the empirical question is "*whether the income elasticity of demand for public consumer goods is in excess of unity*" (Musgrave 1969, p.78).

Indeed, Wagner's Law assumes an elasticity of demand for public goods superior to one; $\epsilon > 1$. With an elasticity equal to one if the income doubles the demand for public goods

doubles. With an elasticity superior to one the demand for public good increases more than proportionally than the incomes.

2.1.2 The government as Leviathan

In Fiscal Leviathan hypothesis government is perceived as revenue-maximizing entities which seek to exploit the citizen through excessive rates of taxation. The degree of exploitation depends 1) on the number of competing governments and citizen mobility and 2) on the level of incomes. The rise of income *per capita* is an opportunity for Fiscal Leviathan to capture a rent. Economic development increases the table capacity of Government and *in fine* its size.

2.1.3 Causality and Keynes's Effect

It is possible also that more prosperity does not lead to higher size of State but that more size of State does lead to more prosperity. The causality is the other problem. Keynesian school considers public expenditure as a determinant of aggregate income, invoking a reverse causality, running from public expenditure to GDP. It is not a proposition about short-run co-variation. In short or long run public spending supports economic growth (Keynes's effect) and in long run economic growth explains the rise of government size (Wagner' law). Meltzer and Richard (1981) justify also a reverse relationship. When economy grows, incomes of skilled workers might increase much more than the income of unskilled workers, leading to increased inequality. Then, there are more voters for redistribution and a higher level of government spending (Oxley 1994, p.288).

2.2 Empirical Tests

Empirically, different interpretations of the Wagner's Law have been tested for many different countries (Tarschys 1975, Afxentiou and Serletis 1992, Peacock and Scott 2000, p.7):

-1- $G=f(Y)$ i.e.Peacock-Wiseman's interpretation (1961),

-2- GC=f(Y) i.e. Pryor's interpretation (1968),

-3- G=f(Y/N) i.e. Goffman's interpretation (1968),

-4- G/Y=f(Y/N) i.e. Musgrave's interpretation (1969),

-5- G/N=f(Y/N) i.e. Gupta (1967) or Michas's (1975) interpretation

and -6- G/Y=f(Y) i.e. Mann's interpretation (1980) "modified Peacock-Wiseman version

where G = total government expenditure[1], GC = (total) government consumption expenditure[2], Y = gross domestic product and N = population.

2.2.1 The great confusion around Wagner's Law
There is a great confusion in the results (Table 1).

2.2.1.1 Diversity of Methods
Bohl (1996) attributed the conflicting findings to the different econometric methodologies used. Firstly there is the traditional conflict between cross section analysis and time series studies. Bird (1971) argued that given cultural and institutional differences across countries, cross-sectional multi-country studies do not necessarily prove or disprove Wagner's Law. Secondly, before 1985 mostly studies used Ordinary least squares method for stochastic modeling (Wagner and Weber 1977).

Beginning with Henrekson (1993) all the studies employed unit root and co-integration methodologies, although not in a panel data because many studies of Wagner's law used inappropriate estimation techniques when confronted with non-stationary time series data. Co-integration approach is a mean to examine if there is any long run relationship between spending and national income (Henrekson 1993, Ansari 1997). Early studies

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[1] Total general government expenditure is defined in ESA-95 §8.99 by reference to a list of categories: intermediate consumption, gross capital formation, compensation of employees, other taxes on production, subsidies, payable property income, current taxes on income, wealth, etc., social benefits, some social transfers, other current transfers, some adjustments, capital transfers and transactions on non-produced assets.

[2] General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation.

using co-integration used the Engle and Granger methodology whereas more recent works apply the Johansen (1988) technique (Magazino 2012). The majority of the recent studies used econometric techniques such as co-integration analysis and Granger causality test (Biswal et al. 1999, Sideris 2007). However, despite the more rigorous methods Table 1 does not show a break or convergence after 1993 i.e. the treatment of spurious regressions. So it is may be not a good explanation of the diversity of results.

Table 1. No consensus around Wagner's law
(Bibliography in Appendix Table A.1, 105 articles)

Developed countries (105 developed countries have been studied in the 105 papers published between 1967- 2012)	Developing Countries (66 developing countries have been studied in the 105 papers published between 1967- 2012)	Mix Sample (15 countries have been studies in the 105 papers published between 1967-2012)
50.47% valid Wagner's Law	46.96% valid Wagner's Law	40% valid Wagner's Law
32 developed countries studied between 1967-1992 46.87% 73 developed countries studied between 1993-2012 52.05% valid Wagner's Law	12 developing countries studied between 1967-1992 50% valid Wagner's Law 54 developing countries between 1993 - 2012 46.29% valid Wagner's Law	6 mix sample between 1967-1992 33.33% valid Wagner's Law 9 mix sample between 1993-2012 44.44% valid Wagner's Law

2.2.1.2 The causality

There is also a great confusion in the analysis of the causality. At beginning Singh and Sahni (1984, Karavitis 1987) deployed the Granger method to determine the directions and patterns of causality and suggested that confirmed neither Wagnerian nor the Keynesian view. However Table 2 does not show a clear result about causality. Modern tries to limit these un-conclusive results to using instrumental variables[3] to create a variation in government size that ideally can be used to properly identify the causal effect (Bergh and Henrekson 2011, p.11). Afonso and Furceri (2010) or Fölster and

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[3] Informally, in attempting to estimate the causal effect of some variable *x* on another *y*, an instrument is a third variable *z* which affects *y* only through its effect on *x*. For example, suppose a researcher wishes to estimate the causal effect of political ideology on economic growth. Correlation between political ideology (statistically) and economic growth does not imply that ideology causes a weak economic growth because other variables may affect both economic growth and political ideology, or because political ideology may affect economic growth in addition to economic growth causing ideological variations. The researcher may proceed to attempt to estimate the causal effect of political ideology from observational data by using the effect of North American political ideology on french political ideology as in intrument. If North American political ideology affect economic growth only because they affect french political ideology, correlation between political ideology and economic growth is evidence that political ideology causes changes in economic growth.

Henrekson (2001) used as instrument the share of government and revenue by its lagged value. Then instrumental variables gives a causal interpretation rather favorable at the Keynes' Effect but with a negative sign.

However the use of an instrumental variable simply produces additional evidence of a statistical relationship (in this case between 'instrumental variable' and 'G'), without providing evidence of what type of relationship it is, and without providing evidence for the type of relationship between 'GDP' and 'G'. Moreover the instruments are not plausibly all predetermined (Sims 2010, p.61). In a world where people learn, it is also always very hard to establish the sense of the causality. If the facts of the social sciences are what people think and believe then social scientists have to explain how people learn (Storr 2010, p.35). If the learning process is central then quantitative approach is not sufficient. It is obvious, for instance, in a learning process perspective, than the rise of public spending can have a negative effect on economic growth, and people knowing that can try to limit this growing. The evolution of income *per capita* is both the cause and the consequence of government size. The new methods can improve the quality of causality tests using discontinuity design and more generally quasi experiment, but if the causal relationship is circular or dialectic it is a bad question.

2.2.1.3 The diversity of interpretations

There are multiple interpretations of the relationship GDP or income *per capita* and public spending. "*Because economics is not an experimental science, economists face difficult problems of inference. The same data generally are subject to multiple interpretations*" (Sims 2010, p.60). In Fiscal Leviathan hypothesis government is perceived as revenue-maximizing entities which seek to exploit the citizen through excessive rates of taxation. The degree of exploitation depends on the number of

competing governments and citizen mobility and on the level of incomes. The falsification of Wagner's Law challenges this reasoning and impact also the *Laffer curve*. Indeed the *Laffer curve* is a good example of an economic constraint on the government's ability to collect taxes (Holcombe and Mills 1995, p.449).

2.2.1.4 Econometric theory promises more than it can deliver

The main reason to use econometric method was to define a structural model through an equation; $G = \alpha + \beta X + \varepsilon$. In Wagner's Law G denotes total government spending and X denotes GDP or total personal income (Higgs 2007, p.34). If β=0.3 then every additional dollar of personal income gave rise to an additional thirty cents of government spending (Higgs 2007, p.34). In average there is a negative effect between size of government and economic growth, but in some countries high taxes seem able to enjoy above average growth.

There are outliers. Bergh and Henrekson (2011) discuss two explanations of this phenomenon. One hypothesis is that countries with higher social trust levels are able to develop larger government sectors without harming the economy. Another explanation is that countries with large governments compensate for high taxes and spending by implementing market-friendly policies in other areas. These outliers add at the confusion. Durevall and Henrekson (2011) and our survey of literature show, nonetheless, that this structural relationship is localized in a very short time, 30 or 40 years, and in space. Each country has its own coefficient. Durevall and Henrekson (2011) show also that there are structural breaks and no regularity. Each period of public finance history has its own characteristics. It is futile, in these conditions, to look for the determinants of size of government. There are determinants for each country and each period. Wagner's Law is true but not all the time.

Table 2. Wagner's Law *versus* Keynes' Effect: the results stay ambiguous
(Bibliography in Appendix Table A.2, 40 papers)

Neither nor	Keynesian view	Wagnerian View	Short run/long Run	Bi-directionnal
Granger Test. Singh and al. 1984): Indian (1950-1981) Ram (1986): 63 countries. Demirbas (1999): Turkey (1950-1990); Bagdigen and al. (2003): Turkey (1965-2000); Dogan and al. (2006): Indonesia, Malaysia, Philippines, Singapore and Thailand.	Granger Test Ghali (1999); Biswal and al (1999); Tan (2003); Chimobi (2009)	Magazzino (2012): confirmsfor developing countries. Granger Test. Ram (1988 [4]): USA (1929-1983) Park (1996): South-Korea. Cletsos and al. (1997[5]): Greece Abizabeh and al. (1998): South Korean		
Granger Test and Homes-Hutton test Ansari and al. (1997): Ghana, Kenya and South Africa (1961-1992) Cointegration Anwar et al. (1996 [6]): 88 Countries		Engle-Granger error correction approach Islam (2001): USA (1929-1996)		Abu-Bader and al. (2003); Dritsakis and al. ((2004); Loizides and al. (2005); Samudran and al. (2009); Kucukkale and al. (2012)
Afxentiou et al. (1992) Sinha (1998) Muhlis and al (2003) Lyare (2004) Halicioglu (2006) Sinha (2007) Afzal and al. (2010) Courakis et al. (1993[7]): Portugal and Greece.	Multivariate cointegration *Via* money stock and budgetary deficits Ahsan and al. (1992) *via* money supply. Ying-Foon and al. (2002) Chandran and al. (2011)	Co-integration and Granger Test Oxley (1994): UK (1870-1913); Thornton (1999): Europe (XIX century); Yuk (2005): UK (1830-1993); Aregbeyen (2006); Richter et al. (2012): Greece (1833-2010) Multivariate and co-integration test Chow and al. (2002) Al-Faris (2002): Gulf countries.	Johansen multivariate cointegration Tang (2001): Malaysia (1960-1998), short run but not in long run. ARDL, VECM, Granger test Akpan (2011): Nigeria (1970-2008), Wagner Law in long run and Keynes' effect in short run.	Asymetrical relationship Government expenditure react asymmetrically conditional on the state of economic growth (Wahab 2004, Kolluri and al. 2007)

So it is not a law. There is neither necessity nor regularity. It is an answer to Lewis-Beck

and Rice (1985, p.26) who saw no reason why their model of government growth,

although developed out of the United States' experience, would not be applicable in its

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[4] In general it seems that causality runs mainly from revenue to expenditure in the federal data, but predominantly from expenditure to revenue in data for the state and local government sector.

[5] Chletsos and Kollias's (1997) study examines the validity of Wagner's law in the case of Greece by considering disaggregated public expenditure and found support for the law only in the case of defense expenditure.

[6] The majority of countries do not exhibit causality running from GDP to public spending. The causality can be bidirectional (8 countries), or unidirectional (23 countries).

[7] Courakis et al.'s (1993) study examined 2 countries (Greece and Portugal) and found significant differences in responses to some determinants of public expenditure and between the two countries.

essentials to other advanced capitalist democracies. We know now that there are problems because each period and each country (Higgs 2007, p.40) have their own determinants. Therefore, econometric theory promises more than it can deliver (Leamer 2010, p.36).

3. The costs of public goods and Baumol's Law

Wagner's Law seems therefore a bad explanation of the rise of public spending. Let's see if Baumol's Law (1967, Baumol and al. 1985) or Baumol's cost disease theory is better. It is an explanation by the costs without microeconomic foundation. It suggests that the increases in the marginal cost of government relative to that for private goods, due to the public sector's relatively intensive use of labor and slower productivity advance, will decrease the size of government (West 1991, p.368, Winer et al. 2008, p.418).

3.1 Theory

Baumol's disease is the hypothesis that productivity improvements in services sectors are less likely than in the goods-producing section of the economy because of the inherent nature of services. To understand the cost disease starts with an observation. In 1913 Ford introduced assembly line to move cars between workstations. This allowed workers, and their tolls to stay in one place which cut the time to build a model T car from 12 hours to less than two. In some sectors of the economy, however, such productivity gains are much harder to come. Performing, for instance, a Mozart quartet take just as long in 2012 as it did in the late 18th century. Employers in such sectors nonetheless have always needed to increase the wage of their workers to limit their defection. The result is that the costs of production in stagnant sectors rise, firms are forced to raise prices. These increases are faster than those in sectors where productivity is improving and faster than inflation. So prices of goods from stagnant sectors must rise in real terms (Baumol 2012). Health spending or education spending

must rise as a share of GDP. The implications for government spending are important, because many of the public services provided by governments like health, education, national defense, justice suffer cost disease (Baumol 1993). Cost disease explains why the size of government increases. The theory means that cutting costs without reductions in quality may not be possible.

Figure 1: Baumol's Law and X-inefficiency of bureaucracy

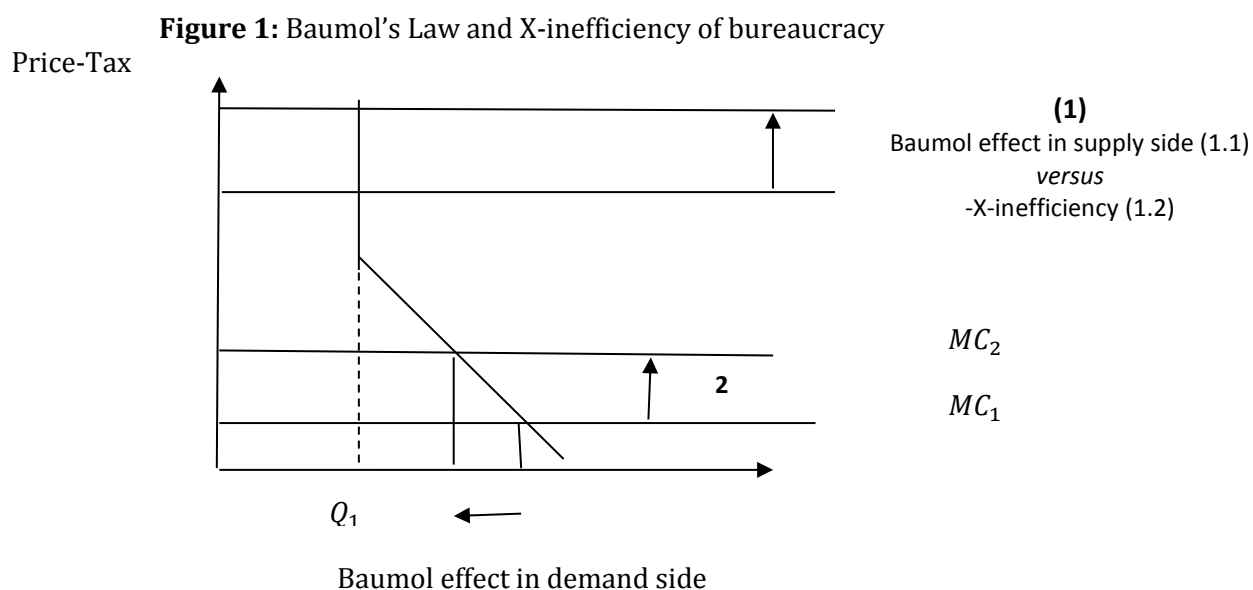
Baumol effect in demand side

Figure 1 describes cost disease. If demand is inelastic the public spending increases mechanically (effect 1 Figure 1). If the demand is elastic, the costs of public expenditure increase and the demand decrease (effect 2, Figure 1). There is an upward shift of MC curve which leads to a decrease in the quantity of public goods. Baumol's Law is very sensible to the assumption done about the elasticity of demand.

3.2 Empirical Tests

Since Beck (1976) the usual variable to test Baumol's law is the relative price of public goods to GDP as measured by the ratio of the implicit deflator for public consumption[8] to the GDP deflator. It is used as an approximation for the relative cost of public

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[8] Implicit deflators are calculated by dividing an aggregate measured in current prices by the same aggregate measured in constant prices.
Source: http://www.insee.fr/en/methodes/default.asp?page=definitions/deflateur.htm

production or Baumol's Disease effect (Lybeck and Henrekson 1988; Katsimi 1998, p.130). Bradford et al. (1974) or Ferris and West (1999) use rather a differential of wage between public and private sector (Bradford, et al. 1974).

3.2.1 Baumol's law is validated?

The explanation of government size by the cost disease would have received an empirical support (Holsey and Borcherding 1997, p. 569, or p. 574, Table 3), but the 1) the public goods are only a part of public spending beside social transfer and public redistribution and 2) the indicator which measures the cost of public goods and the causality between the variables are not clear. The measure of public productivity is difficult and may be not possible under the Mises's Theorem.

Table 3. Baumol's Law: a strong empirical support
(Appendix A.3, bibliography 20 articles)

Authors	Sample	Periods	Result
Bradford et al. (1969	USA	1925-1965	Rising unit costs have been a major source of recent increases in local public budgets
Tussing et al. (1974)	USA	1900-1969	Support
Beck (1976)			
Spann (1977)			Support
Delorme/André (1978)	France	1872-1971	No support (primary education)
Beck (1979)	13 OECD	1950-1977	
Peltzman (1980)	USA	1929-1974	Support (ratio of price deflators)
Pommerhen et al. (1982)	Switzerland		
Berry et al. (1983)			
Berry et al. (1984)	USA	1948-1979	Support (Beck's indicator)
Lybeck (1986)	12 OECD		No support in France, Sweden, and USA but support for Australia, Austria, Belgium, Canada, West Germany, Italy, Norway? Netherland, and UK.
Henrekson/Lybeck (1988)	Sweden	1950-1983	Support (Beck's indicator)
Henrekson (1988)	Sweden	1950-1983	Support (Beck's indicator)
Neck et al. (1988)	Austria		
Ferris and West (1996)	USA	1959-1989	Mix. Relative productivity hypothesis is not sufficient (Beck's indicator) but relative wages explain large proportion of the change.
Ferris and West (1996)	USA	1959-1984	No support (one third of the increase in the relative costs of government services was due to increases in wages in the public sector relative to the private sector.
Ferris and West (1999)	USA	1947-1979	Support (Real wage rate in manufacturing)
Katsimi (1998)	19 countries	1961-1987	No support (Beck's indicator, opposite sign)
Borcherding, et al.(2004)	OECD	1970-1997	Support (Beck's indicator)
Neck and Getzner (2007)	Austria	1924-2002	Support (Beck's indicator)

3.2.2 Theoretical argument is not completely convincing

Moreover theoretical argument is not perfectly convincing. In Baumol's cost disease perspective the nature of public activity explains the increase in Government size. The famous example of the string quarter illustrates the operation of the cost-disease but does not recognize, nonetheless, the role of innovations in the process. In 1780 four quartet players required forty minutes to play a Mozart composition: today forty minutes of labor are still required. However, the technology of electronic reproduction has improved the productivity of the string quartet. Even if the number of musical performances does not rise, the quantity of performance output, measured in consumption units has skyrocketed (Cowen 1996, p.208). If public sector blocks innovative process, then the lag between productivity in public and private sector is more result of inefficiency than the cause of government growth (Mueller 2003, p.510). Moreover it is not sure that cost disease has not been cured. Triplett and Bosworth (2003), for instance, find that labor productivity in services industries has grown as fast recently as it has in the rest of the economy. Baumol's disease for them will be cured. It is always difficult to determine the net result (Nordhaus 2006).

The interpretation of the correlation is moreover not obvious, because we do not know precisely if cost disease is the result of the nature of public good. Katsimi (1998, p.118) gives three interpretations. Firstly, the public sector is more labor intensive (Baumol 1967) and therefore less affected by technological progress than the private sector. Secondly, the public sector assumed to be less volatile than the private sector because the public sector does not generally aim at profit maximization, is less dependent on relative price shocks and productivity shock. Public employment is more stable. These assumptions suggest that countries with more volatile output will have a higher

"*demand-driven*" size of the public sector. Katsimi (1998, p.127) called the mechanism the insurance effect on the size of public sector.

Thirdly the productivity differential may result from the absence of markets for public sector products that allows for inefficiencies. We do not know, then, if the rise of public costs is linked at the nature of public activity or at the inefficiency of public bureaucracy.

4. Bureaucracy
4.1 Theories

Indeed bureaucrat inefficiency is another explanation by the costs. In Figure 2, the price-tax rise is the result -1- of a direct attempt by bureaucrats to maximize their budget, -2- of their incompetence (X-inefficiency), -3- the self-interest on the part of public servants and/or -4- of a lack of competitive pressure. Buchanan/Tullock pointed to a disproportionate increase in the salaries of civil servants and to the transfer that is thereby effected (Cullis and Jones 1984, p.198, Figure 2, effect 1.2). Public employees have preferences for larger budgets (Niskanen 1975, 1994) and constitute a sizable share of the electorate (Mueller and al. 2010, 16.6.2).

Tullock (1972), Craswell (1975) and Buchanan and Tullock (1977) have hypothesized that when the number of employees of a government program or the number of beneficiaries grow, there will be an increasing percentage of the population in favor of even further growth in the level of spending for these programs. This makes it more likely that higher levels of expenditures will be voted for by the people's representatives (Green and Munley 1979, p.92).

Buchanan and Tullock (1977) explained also the rise of public spending by the voting power of bureaucrats (Courant and al. 1979). This increased voting power has enabled appointed public officials to extract higher wages from elected public officials. Voting

power of bureaucrats has increased in the postwar era and leads a rise of bureau wages relative to private sector wages.

4.2 Empirical Tests

It is commonplace to consider the voting propensities of bureaucrats when testing for the validity of the others explanations by the costs (Frey et al. 1982). Bush and Denzau (1977) and/or Bennet and al. 1983) find that voter participation is higher for bureaucrats than for private sector voters. Jaarsm and al. (1986) for Netherlands do not support the assumption of a higher electoral power of bureaucrat. In general the direct empirical evidence would not very supportive of this explanation (Courant, Gramlish and Rubinfield 1980, Kau and Rubin 1981, Lowery and Berry 1983, Garand 1988).

However, Cuzan and Heggen (1985, p.31) found that fiscal expansion erodes the political support of the incumbents in the United State (1928-1980) and Great Britain (1935-1983). In USA and UK it does not follow that more spending yields greater support (Cuzan and Heggen 1985, p.32). When size of State rise, for every vote gained in the bureaucracy and interest group, more than one vote is lost in the electorate at large (Cuzan and Heggen 1985, p.32). Therefore, the results are mixed.

5. Interest Group

Public sector employees can act as interest groups. Special interests do have substantial influence over legislative decisions. They try to beneficiary of public spending (Tullock 1959, Marlow and Orzechowski 1996). Becker (1983) developed a model of the influence of interest groups on the rise of public spending. Interest groups expand either the redistributive or the public good expenditure components, or both. The demand of redistribution will be a function of interest group strong. Each interest group demand lower taxes and higher subsidies (Mueller 2003, p.521). Special interests are Medical

association, Airplane owners and Pilots association, Labor Unions, farmers, unemployed, old and retirement, young and their families, union of civil servant, and/or the big firms. They will be highly consumer of public spending (Lewis-Beck and Rice 1985, Rice 1986).

5.1 Civil servant

Public sector employees are a strong interest group. Buchanan and Tullock (1977) predict that public sector employees will be commonly believed to favor an expanding role for the public sector. This view predicts that public sector unionism exerts a positive influence on demand for public programs through their voting and lobbying efforts (Marlow and Orzechowski 1996, p.3). Summers, Gruber and Vergara (1993) argue that corporatism increases the size of the public sector. Calmfors and Driffill (1988) constructed a corporatism index. They find some empirical evidence to support the hypothesis that a tax increase will reduce labor supply by less in a more corporatist economy. This is explained by the fact in corporatist economies the level of labor supply is controlled by a small group of decision-makers who perceives the linkage between taxes and benefits better than individual workers do. Garrett and Way (1999) or Crouch (1990) supports the hypothesis that a positive relationship exists between corporatism and public spending.

5.2 The poor and unemployed

The second group often successful in securing government funds is composed of individuals disadvantaged by unhealthy economic conditions. It is not only the poor but the unemployed and underemployed people who regularly pressure government for immediate relief from their plight.

5.3 Young and old

The third group the most prominent is the young and old. The young (and their parents) make demands for educational needs and old press for increased income assistance and

medical benefits (Rice 1986, p.242, Shelton 2008). Both labor tax rates and *per capita* transfers in advanced economies are historically positively correlated with the ratio of retirees to the working age population and negatively correlated with the ratio of children to the working-age population (Shelton 2007, 2008). This result obviously depends strongly of institutions. Social security increases mechanically the social spending of government. There is *a priori* no relationship between ageing and public spending.

Nonetheless, this literature is limited and the proxy variables constructed to measure the influence of interest group is not yet stabilized. There are: the number of consumer and business interest groups, the union membership, the number of trade union, number of political parties, the share of farm population, number of government employees, etc. There is no consensus. There is also a problem in the definition of interest groups. It is difficult to assimilate old and young at labor union or political party. The interests of farm population is likely more homogeneous than the interests of young. The empirical results are not clear because the definition are not completely stabilized and the theory imperfect.

6. The cost of taxation
6.1 Theory

The demand of public good is a function of the price-tax (Figure 2). A rise in price should decrease the demand. In contrast, its decreasing should lead to the inverse effect. In Figure 2 the price of public goods P_g is equal to their (assumed) constant marginal resource cost (MC) while total social marginal costs including excess burden, compliance and evasion costs of taxation is the curve, $P_g + SC$ (Winer, Tofias, Grofman and Aldrich 2008, p.417). The reduction of the deadweight losses associated with taxation increases the demand of public spending (Kau and Rubin 1981, 2002).

An improvement in the efficiency of either taxes or spending would reduce political pressure for suppressing the growth of government and thereby increase total tax revenues and spending (Becker and Mulligan 2003). The rise of nation-State and the tax collection costs falling are correlated. Kau-Rubin (1981) discovered that one significant cost of government has fallen over time, the welfare cost of tax collection (Ferris and West 1999, p.310).

Figure 2: Kau and Rubin's effect (Winer et al. 2008)
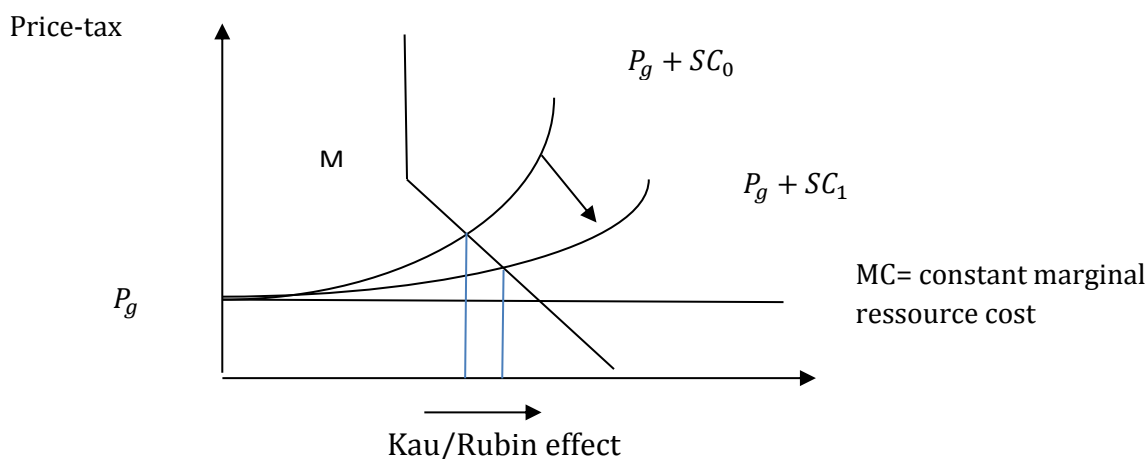
The Kau and Rubin's explanation implies, nonetheless, *ceteris paribus*, a downward shift in the cost of government services and the potential for greater consumer surplus for consumers of government services**.** West (1991) considered one possible violation of *ceteris paribus* and argued government as Leviathan will attempt to capture it for itself. The downward movement in cost of public spending will be frustrated by the offsetting pressure on conventional payroll costs, thrust upwards by the opportunistic forces of Leviathan (Ferris and West 1999, p.311). Then the Leviathan hypothesis predicts that in addition to relative employment size, this created variable will be positively related to the cost providing government services.

6.2 Empirical Tests

The number of article testing Kau/Rubin hypothesis is low. Kau and Rubin (2002) consider that 1) entry of women into the labor force where they can be much more easily taxes; 2) declines in the extent of self-employment making it harder to avoid or evade taxes; and 3) increasing computerization which they think shifts the power to enforce compliance to government (Winer and al. 2008, p.417).

Table 4.Cost of taxation and size of government
(Appendix A.4, bibliography 4 articles)

Authors	Sample	Period	Result
Kau et al. (1981)	USA	1929-1970	Support
Ferris et al. (1996)	USA	1959-1989	Support
Kau et al. (2002)	USA	1930-1993	Support[9]
Winer et al. (2008)	USA	1930-2002	No support

The debates between econometricians are also rather sharp. Winer and al (2008, p.445) conclude their paper to saying; it is fair to say that the original model of Kau and Rubin (2002) is not robust and, in particular they clearly do not support the original hypothesis about the importance of the supply-side in the growth of government. For us nonetheless the female participation could be explained 15% of total government growth in USA (Winer and al. 2008, p.441).

7. Political regime
7.1 Theory

The political regime would have also an effect on the dynamic of public sector. Indeed, Persson et al. (1997, 2000, 2007) suggest that the parliamentary form of government promotes a stronger incentive to internalize the distortions arising from taxation (Milesi-Ferretti and al. 2002, p.646).

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[9]Kau/Rubin (2002) female participation is significant and positive, indicating that the ability to tax working females is an important part of the growth of government. Self-employment is significant but has the opposite sign from our prediction and from the results of our earlier paper, from 1929-70. This means that since 1970 something has happened to make it easier to tax the self employed; we have no explanation for this result.

The West's hypothesis could be moderated by a political regime which will limit the opportunism of Fiscal Leviathan. Indeed, if the marginal distortion is high the monotonic relationship in the existing theory between regime type and the size of government may even break down (Anderson 2012, p.83). Hence, with a high marginal tax distortion, the size of government and the total economic loss from the distortions can be lower in a parliamentary system than in a presidential form of government, while the opposite is more likely if taxation is less distortionary. Intuitively if the government is dominated by one strong member, all residual government revenue will be directed towards this member's constituent, and taxation will hence be perceived as less costly to these recipients. The incentive for the government to internalize the tax distortions is then relatively weak (Anderson 2012, p.84). It is a mechanism of residual claimant applied to public finance. The presidential form of government would promote a weaker incentive than the parliamentary system because there is the separation of powers.

7.2 Empirical Tests

Persson and Tabellini (1999) found that strong support for the prediction that presidential regimes have lower spending in a cross section of 50 democracies in the early 1990's.Persson and Tabellini (2004) have collected data for 80 democracies, averaging yearly outcomes over the period 1990–1998. They showed also that presidential regimes induce smaller governments than parliamentary democracies. The explanation by the costs assumes, nonetheless, an inelasticity of the demand. Fiscal illusion can explain this inelasticity. Then, fiscal illusion maintains the rise of public spending by the costs.
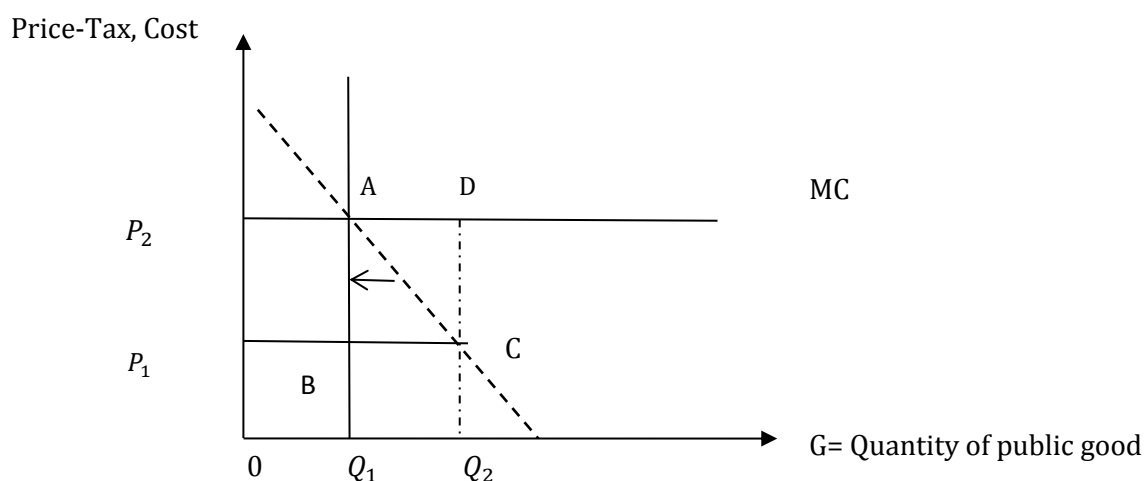
8. Fiscal Illusion

The effect of costs variation or tax-price variation on demand is, nonetheless, a function of information of voters. Individuals will not obtain perfect information but rather an

optimal amount. There are two assumptions. Either benefits of government expenditure have low visibility, being diffusive, long term and not obvious and in contrast the sacrifice of taxes are highly visible (Downs 1960) or voters systematically underestimate the cost (taxes) of public sector activity and overestimate the benefits of government expenditures (Cullis and Jones 1987, p.220).

8.1 Theory

Wagner (1976) draws attention to the role of tax structure in fiscal illusion. The complexity of the tax system increases the cost of obtaining budgetary information which leads individuals to consistently underestimate their true fiscal burden. So voters underestimate the real price-tax of public goods mainly because government manipulates the tax structure and produce perception bias of voters by public debt, public deficit, and /or share direct taxes to total taxes. Political agents choose tax structures (composition of revenues) to minimize the political costs (vote loss) of raising budget (Hettich and Winer 1984). The consequence of this political strategy is fiscal illusion (Puviani 1903, Buchanan 1967, Wagner 1976, Mueller 1987, p.140, Dollery 1996, Da Empoli 2002). Fiscal illusion would increase the quantity of public output demanded. It is another source of budget expansion.

Figure 3: Fiscal Illusion (Wagner 1976)

In figure 3 the perceived tax price is P_1 where the quantity of public output is Q_2 and the budget $0P_2DQ_2$. Fiscal illusion leads voters to underestimate the actual cost of government inducing to purchase more government services than they otherwise would. Indeed if the real tax price was P_2; the demand should be Q_1.

When Baumol's disease effects or bureaucratic inefficiency assumes inelasticity of demand, implicitly it takes into account fiscal illusion. The price-tax increases but the demand is always the same. Fiscal illusion can explain inelasticity of demand.

8.2 Empirical Tests

Since Wagner (1976) empirical works use direct evidence (Lewis 1982). It is not a surprise but in general results have been mixed (Dolory 1996, p.31, Table 5). This is as usual attributable to the diversity of data and models employed (Dollory 1996, p.31). As usual also this literature has some technical problems.

8.2.1 Problems of old econometric

This literature has the traditional problems of old econometric: -1- endogeneity problem, -2- unit root and co-integration problems and -3- causality problems. The solutions to these problems have led to the use of more-sophisticated estimation techniques than the simple ordinary least squares estimates used early on.

- Oates (1988) summarized the literature and argued that the existing empirical results are seriously compromised by the failure to deal with the possible endogeneity of the illusion variable and to discriminate among competing hypotheses (Marshall 1991, p.1336, Dollory 1996, p.31).

- Christopoulos and Tsionas (2003, p.440) focus on unit root and cointegration problem. Many economic time series contain unit roots and that has not

acknowledged in empirical research, with the exceptions of Ashworth (1995) and Hondroyiannis and al. (2001).

- Taking into account these two problems Christopoulos and al. (2003) estimate that deficit public illusion hypothesis is correct for their sample and their period.

- Young (2009) and Ross and Yan (2013) treated, rather the problem of causality. Young (2009) uses Granger causality test and error correction model. Ross and Yan (2013) develop natural experiment.

Table 5. Fiscal Illusion
(50% support Fiscal Illusion Hypothesis, Appendix A.4, Bibliography, 10 articles)

Authors	Sample	Period	Result
Gemmell et al. (1999)	UK	1955-1994	No effect of public deficit Positive effect of expenditure taxes to government revenues
Dikson and Yu (2000)	Canadian Province	1962-1992	Support
Mitias et al. (2001)	5 Midewestern states (USA)	1970-1980	Support[10]
Hondroyiannis et al. (2001)	Greece	1961-1994	Support.
Christopoulos et al. (2003).	UE	1970-1999	Support.
Blom-Hansen (2005)	1000 Danish renters' and home owners perception	2000	No support
Neck et al. (2007)	Austria	1924-2002	No support
Young (2009)	USA	1959-2007	Support
Banzhaf and al. (2012)	USA	1998-2006	No support of rent effect
Ross and Yan (2013)	Virginia city (USA, 1997-2009)	2000-2008	Partial support

The contemporary literature despite the progress of methods is still rather inconclusive. Banzhaf and Oates (2012) conclude that the preference for local debt over tax finance does not have its source in debt illusion. Debt illusion is not supported by their study. Moreover fiscal illusion is not robust explanation of inelasticity of public good demand and size of State in general. It is, may be, because the models have a bad specification and does not control by fiscal decentralization measure. Fiscal decentralization increases political competition, decreases the price of tax information and *in fine* limits fiscal illusion.

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[10] They distinguish two alternative sources of fiscal illusion: grant illusion (creates the flypaper effect) and tax illusion.

8.2.2 The diversity of measures

The variety of the results can also be attributed at the diversity of measures to proxy fiscal illusion (problem of measure). The forms of fiscal illusion tested include:-1- complexity of the tax structure or Herfindhal index (Wagner 1976, Clotfelter 1976, Pommerhen and Schneider 1978, Baker 1983, Breeden and Hunter 1985, Cullis and Jones 1987, Dollory 1996 Table 1, p.7), -2- income elasticity of the structure[11] (Dilorenzo 1982, Oates 1988, Dollory 1996, Table 2, p.13), -3- public deficit illusion (Niskanen 1978, Provopoulos 1982, Khan 1988, Diamond 1989, Craigwell 1991, Tridimas 1992, Ashworth 1995, Hondroyiannis and Papapetrous 2001, Christopoulos and Tsionas 2003), -4- consumption expenditures relative to debt levels i.e. debt illusion (Dollory 1996, Table 5, p.29), -5- the flypaper effect[12] (Winer 1983, Dollory 1996, Table 3, p.19, Inman 2008) and -6- renter illusion[13] (Dollory 1996, Table 4, p.23). Then, the first problem is that it exists a doubt on how fiscal illusion is represented empirically (Dicksons and Yu 2000).

The solution could be in the construction of a Fiscal Illusion index. This index would give homogeneity in models and tests (Dell's Anno and Dollery 2012, Mourão 2008, Alt J, Lassen 2006), would limit the doubts and leads a new question: what are the determinants of fiscal illusion. The structure of employment (self-employment as a percentage of total employment) and nominal marginal tax rates increase, for instance, the visibility of the tax burden and constitute the greatest incentives for politicians to distort taxpayers' perceptions (Dells' Anno and Dollery 2012, p.270). The education

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[11] Fiscal illusion occurs when the structure of the tax code privileged indirect tax, or hidden or less salient taxes. In this environment voters believes that the costs of public services is less than what they perceive it to be.

[12] Fly-paper effect occurs when politicians use the grant to suggest a lower cost of taxation.

[13] The renter illusion hypothesis holds that renters underestimate their property tax burden and therefore support excessive levels of local expenditure.

level of the population would be also an important determinant of fiscal illusion (negative correlation) (Mourao 2008). Then a human capital variable could be introduced to explain fiscal illusion and indirectly size of government.

8.2.3 Ecological Inference

But the main problem is ecological inference problem. If it is true that several studies find that juridictions with a large number of renters spend more a local public services and have higher tax levels (Blomm-Hansen 2005, p.127, Table 1, pp.129-130), however survey on Danish renters' and home owners perception demonstrates that renters suffer from ignorance but not illusion. More tests of renters' and home-owners' perception of property taxes are needed to reach firm conclusions. There is a doubt about the micro-foundation of the renter illusion hypothesis (Blomm-Hansen 2005, p.138).

9. Fiscal decentralization

Fiscal decentralization is an institutional variable. Theoretically a greater competition can constrain the ability of all governments to expand. There are two models: competition within a governmental unit (political fragmentation) and competition between government units (Brennan and Buchanan 1980, Persson and Tabellini 1999). Fiscal decentralization should limit fiscal illusion because it is an effective check on government (Prohl and Schneider 2009).

9.1 Political competition, price of information and fiscal decentralization

The decentralization hypothesis is that "*total government intrusion into the economy should be smaller, the greater the extent to which taxes and expenditures are decentralized*" (Brennan and Buchanan 1980, p.15). Political competition decreases the price of information. Competition between central government and local authorities and between local authorities may be interpreted as an incentive to limit the underestimation of price-tax because it improves the knowledge of real tax-price.

Therefore, fiscal decentralization hypothesis argues that greater competition between governments constrains the ability of all governments to expand. Nonetheless if fiscal decentralization policy generally shifts central government employees to the sub-national government level the question is whether the decrease in central government employment at the sub-national government level overwhelms the decrease in public employment at the central level (Martinez-Vasquez and Yao 2009, p.562).

Table 6. Fiscal decentralization
(Appendix A.6, Bibliography 25 articles).

Authors	Sample/ Period	Result
Oates (1985)	43	No support
Nelson (1986)	49 USA States	Support
Marlow (1988)	Federal and State Local USA	Support
Raimondo (1989)	USA	Mixed support
Forbes and al. (1989)	345	No support
Zax (1989)	43	Support
Grossman (1989)	Federal and State Local USA	Support
Joulfaian/Marlow (1990)	48 USA (1981/1984	Support
Heil (1991)	22 OECD and 33 FMI	No Support
Joulfaian/Marlow (1991)	48 USA, 1983/1984/1985	Support
Grossman and al. (1994)	Canada (1958-1987)	Support
Ehdaie (1994)	30 countries (1987) and 26 (1977-1987)	Support
Comiskey (1993)	OECD	Support
Anderson and al. (1998)	45	No support
Persson and Tabellini (1999)	64 countries	Support[14].
Shadbegian (1999)	USA (1979-1992)	Support
Stein (1999)	Latin America	Support
Lalvani (2002)	Indian Federation	Support
Jin an et al. (2002)	30 OECD (1980-1994)	Support
Feld et al. (2003)	26 Swiss Cantons (1980-1998)	Support
Rodden (2003)	50OECD (1976-1996)	Support
Fiva (2006)	18 OECD (1970-2000)	Support
Martinez-Vasquez (2009)	74 (1985-2005)	No support
Prohl et al. (2009)	29 countries	Support

9.2 Empirical evidence

Empirical tests of the decentralization hypothesis is assumes that appropriate definitions exclude the federal sector from the definition of the government market (Oates 1985, Nelson 1986, Raimondo 1989, Forbes and Zampelli 1989, Zax 1989) or that appropriate definitions includes all levels of government in market definitions and measures decentralization in terms of the extent of state and local activities relative to

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[14] The size of State is smaller under presidential regimes and majoritarian elections are associated with fewer public services.

federal activity (Joulfaian and Marlow1991, Grossman 1989, Marlow 1988). In contrast of Golem (2010) which sustains that in the empirical literature little consensus on the relationship between fiscal decentralization and the size of government is reached (Golem 2010) table 6 assesses at 75% the papers which support fiscal decentralization. Then, in the countries where the fiscal decentralization is low, fiscal illusion should be high. An interaction variable like fiscal decentralization x Fiscal illusion could be tested.

10. Political fragmentation and ideological polarization
10.1 Political fragmentation

Political fragmentation strengthens the positive of interest group on size of government. It affects the size of government spending (Weingast, Shepsle and Johnsen 1983). In this context, political fragmentation refers of the number of different interests existing in a country. Greater fragmentation is expected to increase government expenditure, because taxation is common pool but benefits of public goods are concentrated. In politic the costs of an expense are not fully internalized. The larger is the number of agents that shares the costs the lesser the degree to which each of them internalizes the costs of the public goods[15]. Then, it is argued, firstly, that coalition governments (executive fragmentation) spend more than single-party governments, because each party in a coalition does not fully internalize the fiscal cost of spending. And secondly, it is sustained that coalition in Assembly spend more than single party (legislative fragmentation).

10.2 Ideological Polarization

Some paper develops the ideas that it is not the political fragmentation which is important but the political polarization (Volkerink and De Haan 2001, Nupia 2007, Eslava and Nupia 2010). Then the ideological distance between the agents measures the

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[15]All the literature around the "pork barrel" mechanism develops this ideas which involves that the benefits of government programs are concentrated and the costs are spread among all taxpayers.

political polarization. The assumption is following: greater polarization increases the incumbent's incentives to rise spending because faced with a high risk of being replaced by someone from a different party incumbent politician may increase in his/her preferred goods (Eslava and Nupia 2010). The cost will be paid by his/her successor and fall disproportionately on the goods preferred by that successor. Ideological heterogeneity has a positive effect on size of government.

10.3 Empirical evidence

There is a great diversity of measures to proxy political fragmentation. Fragmentation is measured by the number of spending ministers and the number of parties in government coalition (executive fragmentation) and/or the number of parties, the numbers of parties in parliament, and ideological fragmentation in parliament (legislative fragmentation) (Volkerink and De Haan 2001). The number of paper is yet relatively low and it is always difficult in these conditions to conclude. However empirical evidence supports the hypothesis that a positive relationship exists between political fragmentation and public spending (Marlow and Orzechowski 1996 and Table 7). Political fragmentation would have a positive impact on the level of government spending.

However, there is some anecdotal evidence that points to the opposite direction (Matakos and Xefteris 2012, p.1). Switzerland, for instance, exhibits high levels of fragmentation and low levels of government spending and very healthy public finances. Greece, on the contrary, has a single-party government, a large stock of public debt and a lot of government spending. Matakos and Xefteris (2012, p.6) observes in Greece (1996-2010) that the government spending cuts caused an increase in fragmentation across all regions. They find the existence of a reverse causal link between government spending and electoral fragmentation. They document this result by the mean of a natural

experiment. It is a natural experiment because coalition government, formed at the aftermath of the June 2012 legislative elections, was a result of the 2010 debt crisis, not its causal factor. The Greek government has fiddled the books and under report the public deficit figures for 2006-2007. The Greek voters voted with these new informations. The action of Greek government altered voters' expectations on future government spending because public between the two electoral contests cannot be attributed to policies followed those couple of months by the present administration. Rather it is attributed to newly disclosed information (Matakos and Xefteris 2012, p.3).

Table 7. Political Fragmentation
(Appendix A.7, bibliography 13 articles)

Authors	Sample/Period	Result
Mueller and al. (1985)		Larger is the number of parties higher is the size of State.
Henrekson and al. (1988)	Sweden	Support *Legislative fragmentation* (number of parties)
Kontopoulos and al. (1999)	OECD Countries	*Legislative fragmentation*. the number of parties in the governing coalition affects positively spending but not deficits
Volkerink and de Haan 2001		Executive fragmentation. Positive effect is much smaller on the deficit than on spending Political polarization is not support.
Padovano and al. (2001)	Italian (1984-1994)	Support legislative fragmentation (number of parties in governing coalition)
Perotti and al. (2002)	19 OECD (1970-1995)	Support *executive fragmentation* (number of spending ministers in the cabinet) (number of parties in a coalition)
Mukherjee (2003).	OECD	Support *legislative fragmentation* (number of parties in a governing coalition)
Bawn and al. (2006).	OECD	Support legislative fragmentation (number of parties in a governing coalition)
Persson and al. (2007)	40 parliamentary democracy (1960-1998)	Support. Proportional election induces a more fragmented party system and a larger incidence of coalition governments than do majoritarian elections.
Neck and al. (2007)	Austria (1924-2002)	Confirms the importance of party coalition.
Elgie and al. (2008)	OECD and no OECD	Political polarization and number of ministers are not support.
Eslava and Nupia (2010)	22 developing and developed countries (1978-2005)	Legislative fragmentation has no effect on government spending in the absence of ideological polarization and a positive effect when polarization is high enough.
Le Maux and al. (2011)	French (*département*) (1992-1999)	Support *legislative fragmentation*

11. Electoral rules

Political fragmentation is also used by Persson, Roland and Tabellini (2007, p.2) to describe the mechanisms behind which electoral rules influence government spending. The electoral rules would explain political fragmentation and *in fine* its consequences on public spending. Majoritarian elections would be associated with smaller government spending and smaller welfare states than proportional elections

11.1 Theory

Persson, Roland and Tabellini (1998) and Milesi-Ferretti, Perotti and Rostagno (2002) generate contradictory hypothesis concerning the effects of electoral rules on public expenditures. 1) Persson and al. (1998) find that the majoritarian system focuses electoral competition on a few key districts, leading to fewer public goods but more redistribution than the proportional system. 2) Persson and al. (2007, p.2-18) developed another channel. They presented a theoretical model where the electoral rules explain political fragmentation and *in fine* the size of government. Majoritarian elections produce single-party governments more often than proportional elections, which instead produce fragmentation of political parties and coalitions, or minority government (Persson and al. 2007, p.1). 3) Milesi-Ferretti, Perotti and Rostagno (2002) studied how the electoral system shapes the trade-off between allegiance to a social constituency and allegiance to a geographic constituency. This trade-off is relevant to fiscal policymaking because it parallels the distinction between the two main types of government spending: transfers and purchases of goods and services. They showed that proportional systems are more geared to spending on transfers, while majoritarian systems[16] are more prone to public good spending. Then total government spending is

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[16] "*In a majoritarian, each district elects one representative. If the distribution of different social groups is similar across districts, all representatives will belong to the same social group. Hence, all elected representatives derive utility from the same type of transfers, but each derives utility from a different public good. It follows that electors will have an incentive to vote for individuals with stronger preferences for public*

higher in proportional systems if the median voter values relatively little the public goods and relatively highly private consumption and transfers, lower in the opposite case (Milesi-Feretti et al. 2002, p.610).

11.2 Empirical Tests

Persson and Tabellini (1999) test their hypothesis on both electoral system and legislative structure (cross-countray data from a sample of 64 countries, 1985-1990)? They found that majoritarian electoral system are associated with less expenditure in public goods but the results are weak and they don't look at the effect on transfers (Shelton 2007). 1) In both cross-section and panel regressions, Milesi-Feretti et al. (2002) found support for the predictions of their model for 40 OECD countries, and weaker results for Latin America (Milesi-Feretti 2002, p.611). The two tests have contradictory results. 2) Persson and Tabellini (2004) (80 democracy 1990-1998) confirmed these predictions. Majoritarian elections lead to smaller government and smaller welfare programs than proportional elections. In cross-section regression (100 countries 1970-2000). 3) Shelton (2007) has documented that government elected under majoritarian electoral systems spend less across the board than those elected under proportional systems. 4) Persson and al. (2007, p.29), from post-war parliamentary democracies, showed that the electoral rule affects government spending but only indirectly: proportional elections induce a more fragmented party system and a larger incidence of coalition government than do majoritarian election. Nonetheless, there are also some anecdotic evidences than majoritarian election has not this consequence. In France, for instance, the fourth republic had adopted a proportional election and the rise of public spending has been slower than under the fifth republic.

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goods relative to transfers, in order to bias government expenditures on public goods toward their district. In equilibrium the result is just high expenditure on public goods" (Milesi and al. 2002, p.610).

Therefore, it is difficult to make an opinion because the number of tests are very low and the conditions of their realization conditional.

12. Political Rights

In electoral rules there is also the definition of political rights. In many countries political rights are restricted to a privileged minority (Shelton 2007, p.3235). Meltzer and Richard (1981) suggested that the government grows when the franchise (Husted and Kenny 1997) is extended to include more voters below the median income (the decisive voter), when the growth of incomes provides revenues for increased redistribution and when the income distribution becomes more uneven (Mueller 1987, p.124, Henrekson and Lybeck 1988, p.218).

12.1 Theory

In this perspective, economic theory suggests a number of different channels through which the changes in restrictions on political participation might have affected public spending (Boix 2001; Aidt and al. 2006, p.250): the poor (Meltzer and Richard 1981), the social spending *via* female franchise (Lott and Kenny 1999), the threat of revolution (Acemoglu and Robinson 2000), the interests of a population larger (Persson and Tabellini 2000 Chapter 8 and 9), and the conflicts of interest among the members of the elite (Lizzeri and Persico 2004[17]).

12.2 Empirical Tests

Husted and Kenny (1997) look at the extensions of the franchise to poorer votes on government expenditure using biennial US state and local data for 1950-1988. They document a strong increase in the size of welfare spending (transfers) but little effect in public goods. 1) Lott and Kenny (1999) find that the increase in voter turnout due to

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[17] Group within the elites benefit differently of *status-quo*. Lizzeri and Persico (2004) shown that it is possible that a majority within the elite may favor expanding the franchise. In England, substantial subgroups within the elite championed franchise expansion.

women's suffrage explains on the order of 20% of a 90% increase in expenditure over the period (Shelton 2007, p.3235). 2) Aidt and al. (2006, p.250) showed that economic franchise contributed to growth in government spending during the nineteenth and early twentieth century (1830-1938) in 12 countries mainly by increasing spending on roads, transportation and communication and internal security and administration and that female franchise had an impact on public finance mainly through an increase in spending on health, education, housing, redistribution and social insurance, but the effects are statistically weak. 3) However, Mulligan and al. (2002, 2004) find that government type (autocracy *versus* democracy) has no effect on social security expenditures. Shelton (2007) on the contrary has documented that the increased of political rights (Gastil index) has a positive effect in transfers (or social protection).

13 Pre-tax income distribution
The average level of income may affect public spending (Wagner's Law). The distribution of income in society can also have a consequence.

13.1 Theory
Stigler (1970) offered the Director's Law: "*public expenditures are made for the benefit primarily of the middle classes, and financed by taxes which are borne in considerable part by the poor and the rich*" (Borcherding 1985, p.370). Following Romer (1975) inequality in pre-tax earnings is considered to yield a larger political demand for redistributive policies. Meltzer and Richard (1983) suggested that the increases in mean voter income relative to median voter income cause greater redistribution, hence greater government expenditure (Holsey and Borcherding 1997, p.576). More recently Bénabou (2000) argued that more inequality is associated with lower, not higher, government spending on redistribution (Borge and Rattso 2004, p.806). Pryor (1968, p.54) had another hypothesis; more is unequal the distribution of income, more police services may be

desired. Under this hypothesis the size of Government increases to protect the property rights. Therefore, theoretically there is a great confusion.

Table 8. Inequality
(Source: Mello and al. 2006, Table 1, Appendix A.7 for Bibliography, 25 articles)

Authors	Sample/Period	Result
Demsetz (1982)	USA (1920-1972)	No support on the period (1920-1942) Support on the period (1950-1972) (+inequality=+redistribution)
Meltzer and al. (1983)	USA(1937-1977)	Support (Ratio of mean to median income)
Aubin and al. (1988)	France	Support (+inequality=(+)redistribution)
Lybeck (1986)	Sweden	No support (Ratio of mean to median income)
Henrekson (1988)	Sweden	No support (Ratio of mean to median income)
Henrekson and al. (1988)	Sweden	Support ((Ratio of mean to median income)
Henrekson (1990)	Sweden	Mix
Perotti (1992)	40 democracies(1970-1985)	No support (+inequality=(+)redistribution)
Kristov and al. (1992)	Cross-section	No support (Ratio of mean to median income)
Easterly and al. (1993)	1970-1988	Support (+ inequality= (+)redistribution)
Perotti (1994)	52 countries	No support (+inequality= (+)redistribution)
Persson and al. (1994)	13 OECD(1960-1981)	No support (+inequality=(+)redistribution)
Lindert (1996)	14 OECD(1962-1981)	No support (+inequality= (+) redistribution)
Perotti (1996)	49 countries (1970-1985)	No support (+inequality=(+)redistribution)
Partridge (1997)	48 US States(1960-1990)	No support (+inequality=(+)redistribution)
Figini (1998)	Up to 63 countries (1970-1990)	Support (+inequality=(+)redistribution)
Gouveia and al. (1998)	50 US States(1970-191)	Support (ratio of mean to median income)
Panizza (1999)	46 US States(1960-1990)	No support (+inequality=(+)redistribution)
Bassett et al. (1999)	Up to 54 countries (1970-1985)	No support (+inequality=(+)redistribution)
Tanninen (1999)	Up to 45 countries (1970-1988)	No support (+inequality=(+)redistribution)
Rodriguez (1999)	50 US States(1984-1988)	No support (+inequality=(+)redistribution)
Milanovic et al. (2000)	24 OECD countries (1974-1997)	No support the median voter hypothesis but greater inequality redistribute more.
Mulligan and al. (2002)	65 countries (1960-1990)	No support
Borge and al. (2004)	Norway (1996-1998)	Support (+inequality=(+)redistribution)
De Mello and al. (2006)	57 countries (1972-1998)	Support (+inequality=(-)redistribution)
Shelton (2007)	100 countries (1970-2000)	Support

13.2 Empirical Tests

Empirically the theory has not proven robust (Hosley and Borcherding 1997, p.576, Borge and Rattso 2004, p.806, Table 8). It is also very sensitive to the choice of sample (Shelton 2007). Meltzer and Richard (1983) tested their theory with U.S. time series data and found that government expenditure levels are positively related to the ratio of mean to median income as well as to median income levels (Meltzer and Richard 1983). Nonetheless, more recent-country evidence is essentially inconclusive (Mello and

Tiongson 2006, Table 1, pp.286-287, Table 8). De Mello and al. (2006) shows also that more inequality is associated with lower government spending on redistribution.

As usual, there is also a problem of causality. Sinn (1996) questions whether the causality runs from inequality to redistribution or the other wars around (Borge and Rattso 2004, p.806). The solution could be a no linear relationship between inequality and redistributive policies (Figini 1998, Moene, K. O. and Wallerstein, M. 2001, Mello and Tiongson 2006, p.283). In Moene and Wallerstein's model, the practice of democratic politics purportedly induces, also, democratic elites to bring demands upon government by means of competitive bidding for people's votes. The more intense the level of electoral competition, the more intense the pressure for vote-seeking politicians to expand publicly provides benefit.

14. Income volatility
14.1 Openness

The redistributive programs can explain by income volatility. In a high industrial concentration where unions have a decisive influence on public choice and the socialization of resources is more important (Cameron 1978[18]). Greater is the trade dependency the greater the demands on government to maintain economic stability by strategic increases in spending (Lindbeck 1976, Rodrik 1998, Kimakova 2009). Societies seem to demand (and receive) an expanded government role as the price for accepting larger doses of external risk. In other words, government spending appears to provide social insurance in economies subject to external shocks (Rodrick 1998, p.998). Katsimi (1998) argues a similar idea when he assumes that the public sector is less efficient, but also less volatile than the private sector. In a context of economic integration the voters moves on the left and converse at an interventionist ideology. In contrast, another

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[18]Openness may be interpreted as the result in a high industrial concentration where unions have a decisive influence on public choice (Cameron 1978).

literature suggests the inverse relationship. More economic integration will tend to reduce tax rates, possibly leading to smaller governments. Indeed a large public sector may cause a loss of international competitiveness and a competitive pressure to reduce government size (Alesina and Perotti 1997). Loss of competitiveness is a reason either the limit free trade or to reduce the size of government.

Table 9.Size of Government and Openness
(Appendix A.8, Bibliography, 22 articles)

Authors	Sample	Period	Result
Cameron (1978)	18 OECD	1960-1975	Support
Lewis-Beck et al. (1985)	USA	1900-1980	Support
Lane et al. (1986)	78	1960-1977	Support
Rice (1986)	Western European	1950-1980	Support
Pampel et al. (1988)	18 Nations	1950-1980	No support
Hicks et al. (1992)	18 OECD	1960-1982	Support
Blais et al. (1993)	15	1960-1987	Support
Comiskey (1993)	13 OECD	1950-1983	Support
Rodrik (1998)	OECD	1985-1992	Support
Ram (1999)	143	1960-2000	No support
Iversen et al (2000)	OECD	1962-1993	No support.
Garrett (2001)	100	1970-1995	Support but conditioned by the level of growth
Adseri et al. (2002)	65	1950-1990	Support
Milesi-Ferretti et al. (2002)	OECD+Latin American	1960-1994	No support
Bretschger et al. (2002)	14 OECD	1967-1996	Support. Globalization has a negative and significant impact on corporate taxes. It tends to raise labor taxes and social expenditures.
Garen/Trask (2005).	69 lower Average growth	1961-2000	Little support. Less open economies tend to have less government expenditure, but have a great deal more government in other forms. The lower government expenditure gives a misleading view, the role of government is large in these countries" (Garent and Trask 2005, p.549).
Shelton (2007)	100 countries	1970-2000	Support. Total expenditure increases strongly with openness in both industrialized and less-developed countries.
Liberati (2007)	OECD		No support[19]
Benarroch et al. (2008)	96	1970-2000	No support.
Ferris/Winer (2008)	Canada	1861-2000	No support (effect is negative)
Ram (2009)	150	1960-2000	No support.
Kimakova (2009)	87	1976-2003	Support

[19]Capital openness is significantly and negatively related to government expenditures in line with the conventional wisdom that capital mobility may undermine the ability of governments to maintain larger public sectors. More importantly, the compensation hypothesis originally proposed by Rodrik (1998) and traceable back to Cameron (1978) is not in general supported by the data.

14.2 Size of Nations

Moreover, Alesina and Wacziarg (1998) argue that it may be spuriously driven by country size, because small countries tend to have large public sectors and be very open (Shelton 2007, p.2231). There is a scale effect. Large fixed costs are incurred in setting up an administrative system. A country with a small population may experience higher public consumption on a *per capita* basis. Alesina and Wacziarg (1998) showed this positive correlation between size of country and size of government.

14.3 Empirical Tests

The empirical results are un-conclusive (Table 9). Moreover, political ideology explains the level of openness (Kindleberger 1951). At best openness is an indirect origin of the rise of public spending.

15. Ethnic diversity

15.1 Theory

Redistributive program has been also explained by the ethnic diversity or social affinity. Kristov, Lindert and McClelland (1992) develop the concept of social affinity to explain public sector growth. Individuals care more about themselves than others. They develop a model of political activity where interest group activities are not based solely on monetary gains or losses but on each individual's concern about other's monetary well-being as well (Hosley and Borcherding 1997, p.580). Whether we associate social affinity and ethnic group then the redistribution would be a function of ethnic diversity or community resources (MacCarty 1993, Hosley and Borcherding 1997, p.571). The total amount of public spending would be negatively related to a country's ethnic diversity (Stichnoth and van der Straeten 2013, p.3).

Immigration in Europe would challenge the generous welfare state (Alesina and Glaeser 2004). Voter does not want solidarity of a group which has not his/her identity: ethnic,

religious or national. Ethnic diversity theory completes community resources hypothesis which argues that lower levels of community resources increase the median voter's tax price per unit of service. The reduction of community contributions increases government expenditures levels (Hosley and Borcherding 1997, p.571).

Nonetheless in Wang's theory the public spending increases with social instability i.e. ethnic or cultural diversity (Wang 2002). Central government spends more in the Chinese provinces where there is high proportion of minority because central government tries to limit the social instability. These expenditures are public security spending and central grants. Therefore Wang suggested the revere relationship than Alesina and Glaeser (2004).

16.2 Empirical Tests

The number of studies is low and has rather documented a negative association between ethnic diversity and some public spending like health or education (Table 10).

The correlation between ethnic diversity and total public spending is not, nonetheless, robust and the evidence for countries other than the U.S. is scarce (Hooghe and al. 2009; Stichnoth and van der Straeten 2013, p.380, Table 10).

The cross-country studies have been moreover criticized for a number of reasons (Stichnoth and van der Straeten 2013, p.366): the measurement of ethnic diversity is imperfect (Facchini 2008), these studies assume sometimes implicitly that ethnic diversity does not change or changes slowly, the comparability across countries is contestable, the uncertainty in the specification of the model should be explicitly recognized, the causality may run from the dependent variable such as the growth of GDP *per head* to the degree of ethnic diversity (Stichnoth and van der Straeten 2013, p.367). Therefore in most studies the association is much weaker than for other factors

such as own income or beliefs about the role of effort *versus* luck in determining this income (Stichnoth and al. 2013, p.380) i.e. political ideology.

17. Social Trust

17.1 Theory

The explanation by the social trust has a same perspective. The two literatures are linked *via* the relationship between social trust and ethnic diversity. The most current research documents a negative relation between ethnic diversity and trust. Hooghe and al. (2009) suggested that this pessimistic conclusion coming from North America cannot be confirmed at the aggregate level across European Countries. It is an important result, because the channel to explaining the evolution of public spending by trust is may be not ethnic diversity. The causal chain can be: ethnic diversity →mistrust→ less public spending. A larger government results in lower trust (Yamamura 2010).

Bergh and Bjornskov (2011, p.1) argued the reverse effect. Trust would explain a high level of welfare State. Trusting population would be more likely to create and sustain large universal welfare states. The causal chain is more social trust → more public spending. Trusting populations are more likely to create and sustain large, universal welfare States (Bergh and Bjornskov 2011, p.1). Because social trust ensures nations from major free-riding problems and thus enables welfare states to develop and remain fiscally sustainable (Bergh and Bjornskov 2011, p.2).

17.2 Empirical Tests

In general the size of State explains social trust. The cross-country correlation between welfare state size and trust would be positive (Kumlim and Rothstein 2005, Uslaner and Rothstein 2005; Yamamura 2010). Berggren and Jordahl (2006) used cross country data to investigate the effect of government size on trust, but found no stable relationship between government size and trust (Yamamura 2010, p.32). Bergh and Bjornskov (2012, p. 4) use two instrumental variables: the average temperature in the coldest

month of the year and monarchical institutions. Publics spending are correlated at these

two variables but not social trust in 77 democratic countries (for 2008).

Table 10. Ethnic diversity (Appendix A.10, Bibliography, Sources: Shelton (2007), and Stichnoth and al. 2011, pp.266-268, 13 articles)

Authors	Sample/Period	Result
Mueller and al. (1986)	OECD and few other countries	Support. + Ethic diversity= (-) public spending.
James (1987)	U.S. States	The percentage of blacks in the population is correlated with the percentage of schools that are private.
Cutler and al. (1993)	U.S. States	Ambiguous. The relationship seems to be positive at the local level and negative at the state level.
McCarty (1993)	48 countries (1987)	Mixed. In countries with greater ethnic and religious diversity the central government spends less on transfers: other government expenditure is unaffected.
James (1993)	50 countries	Ethno-linguistic and especially religious diversity are associated with a greater share of private schools in total enrollments.
Easterly and al. (1997)	African countries	A strong negative correlation between indices of ethnic fragmentation and measures of public goods (telecommunications networks, transportations networks, electricity grids and education).
Poterba (1997)	U.S. States (1960-1991)	The negative relationship between public-school spending per pupil ant the share of people aged-65 or over in a state's population is stronger in states with a substantial population of older individual who are from a different ethnic or racial group than the school'-aged population.
Alesina and al. (1999)	US city-level data	Ethnic fragmentation leads to higher levels of public employment.
Goldin and al. (1999)	U.S. States	High school movement was stronger the more homogenous a community was in terms of ethnicity, religion and income.
Kuijs (2000)	1990-1993	Ethno-linguistic fractionalization is negatively relative to health spending and to public spending on education.
Alesina, and al. (2001)	USA and European Union (1960-1998)	Support. [+ racial fractionalization = (-) ratio of transfers to GDP] and [no correlation between ethno-linguistic fractionalization and public spending].
Soroka (2006)	OECD (1960-2000)	Mixed. Countries with a high share of immigrants in the population in 1970 did not experience a smaller increase in social spending between 1970-1998. However, this increase is negatively related to the change in the population share of immigrants over the period.
Shelton (2007)	100 countries (1970-2000)	Mixed
Lind (2007)	U.S. States (1969-2000)	Income inequality (before taxes and transfers) between racial groups tends to reduce welfare spending by the State, whereas income inequality within groups increases it. Racial fractionalization is negatively related to welfare spending but the correlation is not very strong and not robust.

18. Political Ideology

18.1 Theory

The political sciences and its most cherished of all political variables, political ideology

(Blais and al. 1993, p.40) could have its revenge. Indeed in 1960-1980 the public choice

literature concluded that the cause of public spending and welfare expenditure in a country is economic growth and the mechanism that translates economic change into public policy like the demographic dynamic (Blais, Blake, and Dion 1993, p.40). Political ideology would have no consequence (Hosley and Borcherding 1997, p.587). Kalt and Zupan (1984) argued, nonetheless, that the legislators and the elites take advantage of a principal-agent slack to vote in agreement with their own ideological preferences. The preferences of political elites are not only determined by the quest of power and the reelection. They are also determined by the desire to implement their ideology (Lewis-Beck and Rice 1985, p.11). *Homo politicus* is not a *homo oeconomicus* but a *homo ideologicus*. Then it's not the self-interest which explains the public choice but the ideological preferences (Hosley and Borcherding 1997, p.585).

Political ideology legitimates or not the size of State. The legitimacy is a norm that the public actions are desirable and appropriate. It has to do "*with the opinion its leaders, processes, and policies enjoy among the citizenry*" (Cuzan and Heggen 1985, p.26). State and political parties invest in legitimacy to enhance their political survival potential and reduce political transaction costs (Gallarotti 1989, p.44). Legitimacy of public spending growths with the level of these investment in public education and/or medias and with "policy successes, victory in war, and the prestige of a nation's leader" (Cuzan and Heggen 1985, p.26).In this theoretical perspective income does not explain political preferences (pocketbook voting). In contrast, political ideology shift should explain the evolution of government size (Swank 1988; Roubini and Sachs 1989; Garrett et al. 1991; Blais and al. 1993; Garrett 1995; De Haan et al. 1993, 1997; Cusack 1997; Pickering et al. 2011, 2011).In developed countries since the 1930s the voters and political elites accept more government intervention into economy. So if the leftist composition of government

is more important and the leftist ideology is more share in electorate; there is a rise of public spending.

Table 11. Size of Government and left-wing Ideology
(Appendix A.11, bibliography, 27 papers)

Authors	Sample	Period	Result
Cameron (1978)	18 OECD	1960-1975	Support
Rao (1979)	India	1951-1972	No support
Solano (1983)	18 OECD	1968-1969	Support
Hicks et al. (1984)	18 OECD	1960-1971	Support
Lewis-Beck and Rice (1985)	USA	1932-1980	Support
Swank (1998)	17 OECD	1960-1973 1973-1980	effects of leftist and rightist parties mixed, but center parties has a positive effect
Abizadeh et al. (1988)	Canada	1945-1984	Support
Garand (1988)	USA	1945-1984	No support
Roubini/Sachs (1989)	22 OECD	1960-1994	Support
Garrett/Lange (1991)	15 OECD	1974-1987	support under some conditions
Hicks et al. (1992)	18 OECD	1960-1982	Support
Comiskey (1993)	13 OECD	1950-1983	Support
Blais and al. (1993)	15 OECD	1960-1989	little supports for partisanship effect
De Haan/Sturm (1993)	12 EU	1980-1989	Support
Garrett (1995)	15 OECD	1967-1990	support under some conditions
Schmidt (1996)			
Cusack (1997)	16 OECD	1955-1987	Support
Dikson/Yu (1997)	Canadian Province	1962-1992	Support
De Haan/Sturm (1997)	21 OECD	1982-1992	No support
Katsimi (1998)	19 OECD	1961-1987	No support
Cusack (1999)	14 OECD	1961-1991	Contingent on macroeconomic condition
Knight (2000)	USA	1963-1995	Support
Rogers/Rogers (2000)	USA	1950-1990	Support
Perrotti and al. (2002)	OECD	1970-1995	Support - Left-wing government are associated with larger expenditure and deficits
Kau and Rubin (2002)	USA	1930-1993	Support
Besley and Case (2003)	USA	1950-1997	Little evidence
Tellier (2006)	Canada provinces	1983-1995	Left spending more than the Center and the Right
Neck and Getzner (2007)	Austria	1924-2002	No support
Ferris and Winer (2008)	Canada	1861 -2000	Support
Winer et al. (2008)	USA	1930-2002	Support
Ansgar/Potrafke (2011)	OECD		
Pickering and Rockey (2011)	OECD	1945-1998	Support
Bjornskov and al. (2011)	USA	1981-2005	Support
Pickering and al. (2012)	USA states	1950-1997	Support but conditioned by income

The originality of the explanation by political ideology is to develop a teleological explanation in a instrumental context of justification. Its other originality is to explain potentially all the other political variables. For instance all the demand models are founded on ideological preferences. There is no Wagner's Law or fiscal illusion if the voters do not like public intervention. It is difficult to contradict the idea that bureaucrat

believe sincerely in the agency's mission. Then they have two reasons to defend public spending. They work for the public agency (self-interest) and argue that they need even larger budgets to improve the economic performance and happiness. Ideological fragmentation or polarization transcends ethnic or linguistic fragmentation. Religious war is justified by religion and not ethnic diversity. Ideology explains the preferences for the redistribution or its aversion. It explains also the level of openness (Kindleberger 1951). In Peacok and Wiseman's theory (1961) of displacement effect, the wars and the crisis explain the ideological shift. Fiscal decentralization or fiscal federalism is also founded on political preference. The basic tenet of fiscal federalism is that increased heterogeneity in preferences should lead to a devolution of fiscal policy prerogatives to lower levels of government where heterogeneity may by less severe (Shelton 2007).

18.2 Empirical Tests

Political ideology shift towards the left-wing should explain the rise of public spending legitimacy. Nonetheless, like all independent variables the measure of ideology is difficult and its role in the dynamic of public spending remains controversial (Table 11).

19. Displacement effect or ratchet effect
19.1 Theory

The ratchet theory of government growth hypothesizes that temporary crises cause government spending to rise and to remain permanently higher if the crises had not occurred (Holcombe 1993, Holcombe 2005). The displacement effect has a long run effect if there is a ratchet effect. The displacement effect is based on the divergent opinions on the size of governments by bureaucrats/politicians (who are in favor of a bigger government) and by citizens/taxpayers, who are not willing to finance higher levels of public expenditure (Legrenzi 2004, p.191; Rowley and Tollison 1994). While in normal periods government grows regularly, during wars or economic crisis the public resistance against taxes is lowered and size of government attempts to rise. Then during

such periods public spending has much higher value that in normal up to that time. War and depression have a displacement effect on size of Government. So political leaders use national crises to increase the equilibrium levels of government revenue and spending (Carter 2012, p.3).

19.2 Empirical Tests

Lybeck and Henrekson (1988) have sustained that the Peacock and Wiseman hypothesis remains non-falsified following some thirty years of subsequent research. Table 12, nonetheless, shows a great variety in the results (Table 12). The recent research, moreover, is divided over the existence of the displacement effect among modern states and is largely focused on the developing world (Carter 2012). In fact there is no consensus, a great diversity between the countries and methodological problems.

Table 12 Displacement effect and Size of Government
(Appendix A.12 bibliography, 18 papers)

Authors	Sample/ Period	Result
Gupta (1967)	West Germany, Canada, USA, UK, Sweden (1920-1958)	Support in the case of West Germany, Canada, USA and UK
Reddy (1969)	India (1872-1966)	Support
Bonin et al. (1969)	UK (1890-1955)	Support
Goffman et al. (1971)	Caribbean (1940-1965)	No support
Tussin et al. (1974)	USA (1900-1969)	No support
Mahar et al. (1975)	Brazil (1920-1969)	Support
Delorme/André (1978)	France (1872-1971)	Rather no support
Nagarajan (1979)	India (1951-1962)	support
Nagarajan (1983)	Sweden (1920-1958)	Support
Rasler and al. (1985)		
Lane et al. (1986)	78 (1960-1977)	Support
Rasler and al. (1989)		
Henrekson (1994)	Sweden (1922-1987)	No support
Holcombe (1993)	Federal State USA (two centuries)	Mixed
Nomura (1995)	Japan (1860-1987)	Support
Bohl (1996)	Canada, (1951-1996)	Support
	France, Germany, Italy, Japan, UK, USA	No support
	UK (1870-1995)	Support
	Germany (1850-1913)	No support
Bohl (1999)		
Goff (1999)	USA (1889-1995)	Support
Legrenzi (2004).	Italy (1861-1980)	No support

20. So what did we learn?

Let us devote the least few lines to summarize what we think are the main lessons from empirical and theoretical analysis of the literature about the determinants of public spending.

(a) Applied econometric does not seem to be able to select from among the plethora of possible explanations of public spending evolution. Each author pointed to some factor. But their applied econometric does not offer any evidence. Their test is not as evidence from a "crucial experiment". Therefore after this overview it will be difficult to motivate future research by the absence of consensus in academic literature on the causes of public spending, because the last article has no reason to be the last and to have the statute of "crucial experiment". Then applied econometric should think as circumstantial evidence. It is only a new way to write the history of public finance and to collect relevant data.

(b) The convergence of econometric results is not obvious, because it not possible to compare the methods in the time. The authors use their own data, methods and sample. That prevents the evidences of "*repetitive experiments*" and explains the potential limits of controlled experiments in economic science. The sophistication of technics will not be the solution.

(c) The problem of causality has not been resolved. Granger's test has been un-conclusive and became today obsolete. The instrumental variables are at the fashion but their ability to resolve the problem of causality is not obvious.

(d) The omitted variable bias is always a problem. Shelton (2007, p.2230) developed a model to avoid omitted variables bias by testing the prominent theories in a comprehensive specification and the temptation to data-mine by playing with the specification. Table 13 shows that it will be very difficult to avoid omitted

variables bias. The literature is composed of 19 theories and 73 independent variables. There is $\sum_{k=1}^{19}\binom{1}{k_i}$ possibility to specify a model to explain public spending. It will be very difficult, in these conditions, to avoid the omitted variable bias. Moreover, there are 73 independent variables, but potentially with the interaction variables their number is yet more important. We know, indeed, that modern literature multiplies this kind of variable in their models; open*OECD1975, Gini*Political Rights, (Shelton 2007), or Political Ideology*Income (Pickering and Rockey 2011, 2012).

Therefore, "*given all the weakness of econometric techniques, … other ways of testing, such as appeals to qualitative economic history, should not be treated as archaic*" (Mayer 1980, p.176). The prescriptive consequence is that it is not possible to use quantitative analysis to discover some invariant generalizations and defend a form of causal manipulationism (Woodward 2003). We have to accept the singularity of historical facts and the importance of government's intentions i.e. teleological explanations.

Table 13. Dependent and independent variables applied to explain government Growth

Nominal dependent variables G: Total government expenditure; GC: Total government consumption expenditure; GT: Total government transfer payments; G/Y: Ratio of total government expenditures to GDP GC/Y: Ratio of total government consumption expenditures to GDP GT/Y: Ratio of total government transfer payment to GPD	*1.Wagner's Law (rather no)* (1)GDP; (2)GDP/N: Ratio of GDP to population; (3) Share of total population living in urban areas; (4) Population in agriculture; (5) Nonfarm population ; (6) Total population in thousands (7); The automobile (Tussing and al. 1974, p.208). *(105 paper)*	*5. Interest group (8 papers, not robust)* (18) Corporatism index ; (19) Unemployed Fraction of the population over 65 ; (20) Stock of people below the age of 65 who have obtained an early retirement for labor market reason and those included in various market programs; (21)Young; (22) Unions of civil servant; (23) Unions in general; (24) Degree of unionization, measured as the share of the total number of employees belonging to a union; (25) Big firms.	*8. Fiscal Illusion (not robust)* (30) **Herfindhal index** measuring the complexity of the tax system $H = \sum_{i=1}^{n} P_i^2$ where P_i is the share of the ith major tax item in total tax; (31)Ratio of direct taxes to total taxes; (32) Inflation; (33) Measure of progressivity of state income tax; **Fly-paper effect:** (34) Estimated *per capita* tax windfall, (35) Dummy variable taking the value if municipalities practicing internal subsidization and 0 if not. **Debt Illusion:** (36) Consumption expenditures relative to debt levels; (37) Degree of capitalization; (38) Ratio Public debt to GDP. **Renter Illusion:** (39) %of electorate owing property; (40) % of tenants; (41) % of municipal housing owners occupied; (42) % homes owner occupied; (43) % of adult renters in school district; (44) Proportion of homes owners-occupied in town. **Revenue:** (45) Ratio of direct to indirect taxes. **Public deficit illusion.** (46) Ratio of government budget deficit to GDP; (47) Ratio of public expenditure financed by tax.	*10. Political fragmentation* **Executive fragmentation** (51) Number of parties in Government; (51) Number of spending ministers; (52) Dummy variable taking the value 1 if government is a within-bloc coalition, 2 if it is a coalition across blocs and 0 otherwise. **Legislative fragmentation.** **(53)** Number of parties; (54) Numbers of parties in parliament. (*not robust*)
	2. Fiscal Leviathan (rather no) (8) GDP; (9) GDP/N; (10) Tax revenues; (11) Tax-share on domestic product.	*6. Cost of taxation (not robust, 4 papers)* (26) Female participation rate; (27) Self-employment; (28) Ratio of urban passage vehicle miles to total passenger vehicle miles.		
	3. Baumol's Law (rather yes) (12) Ratio of the implicit deflator for government consumption to the implicit GDP deflator (Beck's indicator); (13) Manufacturing output per hour; (14) Differential of wage between public and private sector.	*7. Political Regime (no relevance)* (29) Dummy variable taking the value if the regime is Presidential and 0 if the regime is Parliamentary.		*11. Ideological polarization (no relevance)* (55) Ideological distance between the agents.
	4. Bureaucracy (Mixed 9 papers) (15) The share of government employees in total employment (16)Public employment (17)Voting propensities of bureaucrats.	*8. Fiscal decentralization (rather yes 25 papers)* (48) Index of fiscal federalism that incorporates the fiscal and administrative autonomy that constitutional and statutory law grants to subnational governments; (49) Share of local source tax revenue in total revenue; (50) Share of public expenditure financed only by the source's own revenue.		*12. Electoral rules (very conditional, 5 papers)* (56) Dummy variable taking the value if the electoral system is proportional and 0 if the electoral system is majoritarian.
13. Political rights (no relevance) (57) Female franchise (57); (58) Franchise by age; (59) Gastil Index. *14. Pre-tax income (22 no robust)* (60) Gini coefficient (inequality); (61) ratio of median to mean income.	*15. Income volatility (Not robust 22 papers)* (62) Ratio of the sum of exports and imports to GDP. public sectors).	*16. Size of nation (no relevance)* (63) Total Population in Thousand (Small countries tend to have large.	*19. Political ideology (rather yes, 27papers)* (68) Dummy variable taking the value 1 if there is left-wing government and 0 if the government is right-wing; (69)Dummy variable taking the value 1 if there is left-wing. parliament and 0 if the parliament has a right-wing majority. (70) The median state-citizen ideology.	*20. Displacement effect (not robust, 18 papers)* (71) War; (72) War*ΔGDP; (73) Post War dummy that takes the value of 1 after the Second World War and 0 otherwise.
		17. Ethnic diversity (not robust 13 papers) (64) Religious fragmentation; (65) Ethnic fragmentation; (66) Linguistic fragmentation.		
		18. Social trust (no relevance) *(67) social trust*		

References:

1- Acemoglu, D. and Robinson, J.A. 2000. Why did the West extend the franchise? Democracy, inequality and growth in historical perspective, Quarterly Journal of Economics, 115, 4: 1167-1199.

2- Afonso, Antonio, and Davide Furceri 2010. Government Size, Composition, Volatility and Economic Growth. *European Journal of Political Economy* 26, 4, 517–532.

3- Aidt, T., Dutta, J. and Loukoianova, E. 2006. Democracy comes to Europe: Franchise extension and fiscal outcomes 1830-1938, European Economic Review, 50: 249-283.

4- Agell, J., Lindh, T., & Ohlsson, H. (1997). Growth and the public sector: A critical review essay. *European Journal of Political Economy*, *13*: 33–52.

5- Alesina, A. and Perotti, R. 1997. The Welfare State and Competitiveness, American Economic Review, 89: 921-937.

6- Alesina, Alberto and Romain Wacziarg 1998. Openness, Country Size and Government. Journal of Public Economics, 69: 305-321.

7- Alesina, A. and Glaeser, E. 2004. *Fighting Poverty in the U.S. and in Europe: A World of Difference*. New York: Oxford University Press.

8- Alt J, Lassen D 2006. Fiscal Transparency, Political Parties, and Debt in OECD Countries, *European Economic, Review*, 50, 6: 1403-1439.

9- Andersen, J. J.2012. Cost of taxation and the size of government, Public Choice, 153: 83-115.

10- Ashworth, J. 1995. The empirical relationship between budgetary deficits and government expenditure growth: an examination using cointegration, Public Finance, 50,1: 1-18.

11- Baker, S.H. 1983. The determinants of median voter tax liability: An empirical test of the fiscal illusion hypothesis. *Public Finance Quarterly* II: 95-108.

12- Baumol, W. 1967. Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis, American Economic Review 57: 415-426.

13- Baumol, W.J. 2012.The cost disease. Why computer's get cheaper and health care doesn't, economist.com/blog/freeexchange.

14- Baumol, W.J. 1993. Health care, education and the cost disease: a looming crisis for public choice, Public Choice 77: 17-28.

15- Baumol, W.J., Blackman S., and Wolff, E. 1985. Unbalanced Growth Revisited: Asymptotic Stagnancy and New Evidence, American Economic Review 75: 806-817.

16- Becker, E. 1996. The illusion of fiscal illusion: unsticking the flypaper effect, Public Choice, 86: 85-102

17- Becker, G.S. and Mulligan, C.B. 2003.Deadweight Costs and the Size of Government, Journal of Law and Economics, XLVI, October: 293-340.

18- Bénabou, R. 2000. Unequal societies: income distribution and the social contract. American Economic Review, 90: 96-129.

19- Bennett, J.T. and Orzechowski, W.P. 1983. The voting behavior of bureaucrats: some empirical evidence, Public Choice, 41: 271-283.

20- Berggren, N. and Jordahl, H. 2006. Free to trust: Economic Freedom and Social Capital, Kyklos, 59: 141-169.

21- Bergh, Andreas and Henrekson, M. 2011. Government Size and Growth: A Survey and Interpretation of the Evidence, IFN Working Paper n°858.

22- Bergh, A. and Bjornskov, C. 2011. Historical Trust Levels Predict the Current Size of the Welfare State, Kyklos, 64: 1-19.

23- Berry, W.D. and Lowery, D. 1987.Explaining the size of the public sector: responsive and excessive government interpretations, Journal of Politics, 49, 2: 401-440.

24- Biehl, Dieter (1998). Wagner's law: an introduction to and a translation of the last version of Adoph Wagner's text of 1911, Public Finance/Finances Publiques, 53, 1: 102-111.

25- Bohl, M.T. (1996). Some international evidence on Wagner's law, *Public finance,* 51: 185-200.

26- Boix, C. 2001. Democracy, development, and the public sector, American Journal of Political Science 45, 1: 1-17.

27- Borcherding, Thomas E. 1977. On hundred years of public expenditure 1902-1970 in Borcherding ed. Budget and Bureacrats: The Sources of government growth Duke University Press, Durham, NC.

28- Borcherding, T.E. 1985. The Causes of Government Expenditure Growth: a Survey of the U.S. Evidence, Journal of Public Economics 28: 359-382.

29- Breeden, C.H. and Hunter, W.J. (1985) Tax Revenue and Tax Structure, Public Finance Quarterly, 13: 216-224.

30- Brennan, G. and Buchanan, J.M. 1980. The Power to Tax: Analytical Foundations of a Fiscal Constitution, Cambridge: Cambridge University Press.

31- Buchanan, J. 1954. Social Choice, Democracy and Free Markets, Journal of Political Economy, 62, 2: 114-123.

32- Bush, W.C. and Denzau, A.T. 1977. The voting behavior of bureaucrats and public sector growth, in Thomas E. Borcherding (ed.) Budgets and Bureaucrats: The Sources of Government Growth, Durham: Duke University Press.

33- Calmfors, L. and Driffill, J. 1988.Centralization of wage bargaining and macroeconomic performance.*Economic Policy,* 6: 13–61.

34- Carter, J. 2012. The Displacement Effect of Interstate War, Department of Political Science. The University of Mississipi, September 27, annual meeting of the International Studies Association.

35- Clotfelter, C.T. 1976. Public spending for higher education: an empirical test of two hypotheses, Public Finance/Finances Publiques, 31: 177-195.

36- Courant, Paul N., Gramlich, E.M. and Rubinfield, D.L. 1979.Public employee, Market power and the level of Government spending, American Economic Review, 69, 5: 806-817.

37- Courant, P., Gramlish, E. and Rubinfield D. 1980. Why voters support tax limitation amendments: the Michigan Case, National Tax Journal, 33:1-20.

38- Cowen, T. 1996. Why I Do not Believe in the Cost-Disease, Comment on Baumol, Journal of Cultural Economics 20: 207-214.

39- Craigwell, Roland 1991. Government deficits and spending in Barbados: An empirical test of the Buchanan-Wagner hypothesis, Public Finance/Finances Publiques, n°3.

40- Craswell, R. 1975. Self-generating growth in public programs, Public Choice 21, spring: 91-97.

41- Crouch, C. (1990). Trade Unions in the Exposed Sector: Their Influence on Neo-corporatist Behaviour. *Labour Relations and Economic Performance.*Brunetta and Dell'Aringa, International Economic Association.

42- Cullis, J.G. and Jones, P.R. 1984. The economic theory of bureaucracy, X-inefficiency and Wagner's law: a note, Public Finance/ Finances Publiques, 2: 191-201.

43- Cullis, J.G. and Jones P.R. 1987. Fiscal Illusion and excessive budgets: some indirect evidence, Public Finance Quarterly 15, 2: 219-228.

44- Cuzan, A.G. and Heggen R.J. 1985. Expenditures and votes: in search of downward-sloping curves in the United-States and Great Britain, Public Choice, 45, 1: 19-34.

45- Da Empli, D. 2002. The theory of fiscal illusion in a constitutional perspective, Public Finance Review, 30, 5: 377-384.

46- Dell'Anno, Roberto, and Paulo Mourao. 2012. Fiscal Illusion around the World: An Analysis Using the Structural Equation Approach, *Public Finance Review* 40: 270-99.

47- Dell'Anno, R. and Dollery, B. 2012. Comparative fiscal illusion: a Fiscal Illusion Index for the European Illusion, Online at http://mpra.ub.uni-muenchen.de/42537/
MPRA Paper No. 42537, posted 11. November 2012 07:43 UTC

48- Delorme, Charles D., Cartwright, Philipp A. and Kespohl, Elke 1988.The effect of temporal aggregation on the test of Wagner's law, Public Finance/ Finances Publiques, n°3, 373-387.

49- Diamond, J. 1989.A note on the public choice approach to the growth in public expenditures.Public Finance Quarterly, 17:373-81.

50- Dickson, V. and Yu, W. 2000.Revue Structures. The Perceived Price of Public Expenditures, Public Finance Review, 28: 48-65.

51- Di Lorenzo, T.J. 1982. Utility profits, fiscal illusion and local public expenditures, Public Choice 38, 243-252.

52- Downs A. (1957), *An Economic Theory of Democracy,* New York: Harper.

53- Downs, A. (1960). Why the Government is too small in democracy, World Politics 13, 541-563.

54- Durevall, Dick and Henrekson, Magnus 2011. The Futile Quest for a Grant Explanation of Long-Run Government expenditure, Journal of Public Economics, 95, 7/8: 708-722.

55- Facchini, F. and Melki, M. (2013). Efficient Government Size: France in the 20th Century, European Journal of Political Economy, 31: 1-14.

56- Flora, P., Alber, J. Eichenberg, R., Krausm, J.K.F., Pfenning, W. and Seebohm, K. 1983.State, Economy and Society 1815-1975, Campus Verlag, Frankfurt Germany.

57- Fölster, Stefan, and Magnus Henrekson. 2001. Growth Effects of Government Expenditure and Taxation in Rich Countries. *European Economic Review,* 45, 8 : 1501–1520.

58- Frey, B.S. and Pommerehne, W. 1982. How powerful are public bureaucrats as voters?, Public Choice 38, 253-262.

59- Gallarotti, G.M. (1989). « Legitimacy as a capital asset of the State », *Public Choice*, 63 : 43 – 61.

60- Gamkhar, Shama and Anwar Shah, 2007. The Impact of Intergovernmental Fiscal Transfers: A Synthesis of the Conceptual and Empirical Literature," in Robin Boadway and Anwar Shah, eds., Intergovernmental Fiscal Transfers: Principles and Practice, The World Bank.

61- Gandhi, V. P. 1971. Wagner's Law of Public Expenditure: Do Recent Cross-Section Studies Confirm it?, *Public Finance*, 26, 44-56.

62- Garand, J.C. 1988. Explaining Government Growth in the U.S. States, The American Political Science Review, 82, 3, 837-849

63- Garrett, G and Way, C. 1999. Public Sector Unions, Corporatism, and Macroeconomic Performance".*Comparative Political Studies,* 32, 4: 411 - 434

64- Goffman, I.J. 1968. On the Empirical testing of Wagner's law: a technical note, Public Finance, 23, 359-364.

65- Green, K. and Munley, V.G. 1979.Generating growth in public expenditures: the role of employee and constituent demand, Public Finance Quarterly, 7, 1: 92-109.

66- Gupta, S. 1967. Public expenditure and economic growth: a time series analysis, Public Finance, 22, 423-461.

67- Hempel, C.G. 1942. The function of general law in history, Journal of Philosophy, 39, 35-48.

68- Henrekson, M. and Lybeck, J.A. 1988. Explaining the growth of government in Sweden: a disequilibrium approach, Public Choice 57: 213-232.

69- Hettich, W. and Winer, S. (1984). A positive model of tax structure, Journal of Public Economics, 24, 67-87.

70- Holcombe R.G. 1993. Are there Ratchets in the Growth of Federal Government Spending? *Public Finance Review* January, 21, 1: 33-47

71- Holcombe, R.G. and Mills, J.A. 1995. Politics and deficit finance, Public Finance Quarterly, 23, 4, October: 448-466.

72- Holcombe, R. 2002. Political Entrepreneurship and the Democratic Allocation of Economic Resources, The Review of Austrian Economics, 15, 2/3: 143-160.

73- Holcombe, R.G. 2005. Government Growth in the twenty-first century, Public Choice, 124: 95-114.

74- Hoover, K.D. 2008. Causality in economics and econometrics, New Palgrave Dictionary of Economics, Palgrave, macMillan, 719-726.

75- Hooghe M., Reeskens, T., Dietlind, S. and Trappers, A. 2009. Ethnic Diversity and Generalized Trust in Europe, A Cross-National Multilevel Study, *Comparative Political Studies,* 42, 2: 198-223

76- Husted, T.A. and Kenny, L.W, 1997. The Effect of the Expansion of the Voting Franchise on the Size of Government, Journal of Political Economy, University of Chicago Press, 105, 1: 54-82.

77- Inman, R.P. 2008. The Flypaper Effect, NBER Working Paper 14579 (December). Cambridge, MA.

78- Jaarsma, B.., Schram, A. and Winden, F. van 1986. On the voting participation of public bureaucrats, Public Choice, 48: 183-187.

79- Kalt, J.P. and Zupan, M.A. 1984. Capture and Ideology in the Economic Theory of Politics, American Economic Review, 74: 279 – 300.

80- Karavitis, N. 1987. The Causal Factors of Government Expenditure Growth in Greece, 1950-80, Applied Economics, 19, 789-807.

81- Katsimi, M. 1998. Explaining the Size of the Public Sector, *Public Choice* 96, 1-2: 117-144.

82- Khan, A.H. 1988. Public spending and deficits: evidence from a developing economy, Public Finance/ Finances Publiques, 43: 396-402.

83- Kindleberger, C.P. 1951. Group Behavior and International Trade, *The Journal of Political Economy*, pp. 30-46.

84- Knight, B.G. 2000. Super-majority voting requirements for tax increases: evidence from the states. Journal of Public Economics, 76: 41-67.

85- Kumlim, S. and Rothstein, B. 2005. Making and Breaking Social Capital: The Impact of Welfare-State Institutions, Comparative Political Studies, 38: 339-365.

86- Lewis-Beck, M.S. & T.W. Rice 1985. Government Growth in the United States, *Journal of Politics,* **47, 1:** 2-30.

87- Lybeck.J.A. and Hcnrekson.M. (1989).*Explaining the growth of government.*Amsterdam: North Holland Publishing.

88- Larkey, P.D., Stolp, C. and Winner 1981.Theorizing about the growth of government: A research assessment Journal of Public Policy 1, 2: 157 – 220.

89- Leamer, E.E. 2010. Tantalus on the Road to Asymptopia, Journal of Economic Perspective, 24, 2: 31-46.
90- Lewis, A. 1982. The Psychology of taxation, Oxford, England: Martin Robertson.
91- Lizzeri, A. and Persico, N. 2001. The provision of public goods under alternative electoral incentives, American Economic Review 91, 1: 225-239.
92- Lott, J.R. and Kenny, L.W. 1999. Did Women's suffrage change the size and scope of government? Journal of Political Economy, 107: 1163-1198.
93- Lowery, D. and Berry W. 1983. The growth of Government in the United States: An empirical assessment of competing explanations, American Journal of Political Science, 27: 665-694.
94- Lybeck, J.A. and Henrekson, M. 1988.*Explaining the growth of government*. Amsterdam: North-Holland.
95- Magazino, C. 2012. Wagner's Law and Augmented Wagner's Law inEU-27. A Time-Series Analysis on Stationarity, Cointegration and Causality, International Research Journal of Finance and Economics, issue 89, http://www.internationalresearchjournaloffinanceandeconomics.com
96- Marlow, M.L. and Orzechowski, M.L. 1996. Public sector unions and public spending, Public Choice 89, 102: 1-16.
97- Marshall, L. 1991. New evidence of fiscal illusion: the 1986 Tax, American Economic Review, 81, 6: 1336-1344.
98- Matakos, K. and Xefteris, D. 2012. Electoral Fragmentation and Government Spending: Reversing the Causal link with Evidence from Greece, CAGE Workshop at Warwick University.
99- Mayer, T. (1980). Economics as a Hard Science: realistic Goal or Wishful Thinking? , Economic Inquiry, XVIII, april, 165-177.
100- McCarty, T.A. 1993. Demographic Diversity and the Size of the Public Sector, *Kyklos* 46, 2: 225-240.
101- Mello de L. and Tiongson, E.R. 2006. Income Inequality and Redistributive Government Spending, Public Finance Review, 34, 3:282-305.
102- Milesi-Ferretti, G.M., Perotti, R. and Rostagno, M. 2002. Electoral systems and public spending, The Quarterly Journal of Economics, may: 609-657.
103- Mises, L. 1962. Le fondement ultime de la science économique. Préface Prof. Israel Kirzner, Institut Charles Coquelin, Paris (french translation).
104- Mitchell, B.R. 2007. International Historical Statistics: Europe, 1750-1993, 4th Edition. Macmillan, Basinstoke, UK.
105- Moene, K. O. and Wallerstein, M. 2001. Inequality, Social Insurance, and redistribution, *American Political Science Review*, 95, 4: 85974
106- Mourão P. 2008. Towards a Puviani's Fiscal Illusion Index.*Hacienda Publica Espanola* 187, 4: 49-86.
107- Mueller, D.C. 1987. The Growth of Government : A Public choice Perspective, Staff Papers – International Monetary Fund, 24, 1: 115- 149.
108- Mueller Dennis C. 2003, *Public Choice III*, Cambridge University Press.
109- Mueller, D.C., Facchini, F., Foucault, M., François, A., Magni-Berton, R. et Melki, M. 2010. Choix Publics. Analyse économique des décisions publiques, deBoeck, translation and adaptation, Mueller Dennis, C. (2003).
110- Musgrave, R.A. 1969, *Fiscal System,* New Haven: Yale University Press.
111- Niskanen W.J. 1975. Bureaucrats and Politicians, Journal of Law and Economics, December, 18: 617 – 643.
112- Niskanen, W.A. 1978. Deficits, government spending and Inflation: What is the evidence? Journal of Monetary Economics, 4: 591-602.
113- Niskanen W.J. 1994. Bureaucracy and public economics, contient "Bureaucracy and representative government", 1971, "The Peculiar economics of bureaucracy", 1968, "Bureaucrats and politicians", 1975, "A reassessment", 1993, John Locke series, Aldershort Hants England E. Elgar Pub; 1994.
114- Nordhaus, W. D. 2006. Baumol's Diseases: A Macroeconomic Perspective, Working Paper 12218, NBER, Cambridge, MA.
115- North, D.C. 1990.
116- Nupia, O. 2007. Bargaining In Legislature: Number of Parties and Ideological Polarization.*Documentos.*CEDE, 10. Universidad de Los Andes, Facultad de Economia.
117- Oates, W.E., 1988. On the Nature and Measurement of Fiscal Illusion: A Survey,in G. Brennan, ed., Taxation and Fiscal Federalism: Essays in Honor of Russell Mathews, Sydney: Australian National University Press, pp. 65-82.

118- Peacok, A.R. and Wiseman, J. 1961.The growth of public expenditures in the United Kingdom.Princeton University Press.

119- Peacock A.T. and Scott A., 2000. The Curious Attraction of Wagner's Law, *Public Choice*, 102, 1-2: 1-17.

120- Persson T. and Roland, G. and Tabellini, G. 1997.Comparative politics and public finance, Working Paper, n0114, Milan IGIER.

121- Persson, T., Roland, G. And Tabellini, G. 1998. Towards Micropolitical Foundations of Public Finance, European Economic Review, 42: 685-694.

122-   Persson, T. & G. Tabellini 1999. The Size and Scope of Government: Comparative Politics with Rational Politicians, *European Economic Review* 43, 4-6: 699-735.

123- Persson, T., Roland, O. and Tabellini, G. 2000. Comparative politics and public finance, Journal of Political Economy, 108: 1121-1161.

124- Persson, T. and Tabellini, G. 2004.Constitutional rules and Fiscal Policy Outcomes, The American Economic Review, 94: 25-45.

125- Persson, T., Roland, G. and Tabellini, G. 2007. Electoral rules and government spending in parliamentary democracies, Quarterly Journal of Political Science, 2: 155-188.

126- Pommerehn, W.W. and Schneider, F. 1978. Fiscal illusion, political institutions, and local public spending, Kyklos, 31: 381-408.

127- Provopoulos, G.A. 1982. Public Spending and Deficits: The Greek Experience, Public Finance/Finances Publiques, 37: 422-427.

128- Pryor, Frederick L. 1968.*Public Expenditure in Communist and Capitalist Nations* (London: George Allen and Unwin).

129- Puviani, A. 1903. Teoria dell'Illusione Finanziana, 1st ed. Palermo, Milano: Instituto Editoriale Internazionale 1973.

130- Rodrik, D. 2007. One Economics, Many Recipes: Globalisation, Institutions, and Economic Growth, Princeton, NJ: Princeton University Press.

131- Rodrik, D. (2008). The New Development Economics : We Shall Experiment, but how shall we Learn ?, John F. Kennedy School of Government, Harvard University.

132- Rodrik, D. (2012). Why We Learn Nothing from Regressing Economic Growth on Policies, Seoul Journal of Economics, 25, 2, 137-151.

133- Romer T. 1975. Individual Welfare, Majority Voting, and the Properties of a Linear Income Tax, *Journal of Public Economics* 4, February: 16385.

134- Rowley, C. and Tollison, R. (1994). Peacock and Wiseman on the growth of public expenditure, Public Choice 78: 125-128.

135- Yamamura, E. 2010. Government size and trust, Review of Social Economy, 70, 1: 31-56.

136- Ross, J.M. and Yan, W. 2013. Fiscal Illusion from Property Reassessment? An Empirical test of the Residual View, National Tax Journal, 66, 1: 7-32.

137- Shelton, C.A. 2007. The Size and Composition of Government Expenditure, Journal of Public Economics, 91, 11: 2230-2260.

138- Shelton, C.A. 2008. The aging population and the size of the welfare state: Is there a puzzle? Journal of Public Economics 92: 647 – 651.

139- Sims, C.A. 2010. But Economics Is Not on Experimental Science, Journal of Economic Perspectives, 24, 2: 59-68.

140- Sinn, H.W. 1996. Social Insurance, incentives and risk taking, International Tax and Public Finance 3: 259-280.

141- Stichnoth, H. and Van der Straeten, K. 2013. Ethnic Diversity, Public Spending, and Individual Support for the Welfare State: A review of the empirical literature, Journal of Economic Surveys, 27, 2: 364-389.

142- Stigler, G. 1970. General Economic conditions and national elections, American Economic Reviewx, 63: 160-167.

143- Storr, V.H. 2010. The Facts of the social sciences ar what people believe and think, in Peter J. Poettke eds Handbook on Contemporary Austrian Economics, Edward Elgar.

144- Summers, L., Gruber, J. and Vergara, R. 1993. Taxation and the structure of labor markets: The case of corporatism. *Quarterly Journal of Economic,* 108: 385–411.

145- Tridimas, G. 1992. Budgetary deficits and government expenditure growth: toward a more accurate empirical specification, Public Finance Quarterly, 20, 3275 – 3297.

146- Triplett, Jack E. and Bosworth, Barry P. 2003. Baumol's disease has been cured: it and multifactor productivity in U.S. services industries, *Federal Reserve Bank of New York Economic Policy Review* FRBNU Economic Policy Review, September, 23-33.

147- Tullock, G. 1959. Problems of Majority Voting, Journal of Political Economy, 67: 571-579

148- Tullock, G. 1972. Review of Niskanen's Bureaucracy and representation government, Public Choice, 12: 119-124.

149- Uslaner, E.M. and Rothstein, B. 2005. All for One Equality, Corruption and Social Trust, World Politics, 58: 41-72.

150- Van der Ploeg, Frederick 2007. Sustainable social spending and stagnant public services: Baumol's cost disease revisited, *FinanzArchiv / Public Finance Analysis*, Vol. 63, No. 4 (December 2007), pp. 519-547.

151- West, Edwin G. 1991. Secular cost changes and the size of government. Towards a generalized theory, Journal of Public Economics 45, 363-381.

152- Wagner, R. 1976. Revenue structure, fiscal illusion and budgetary choice, Public Choice, 25: 45-61.

153- Wagner, R.E., and W.E. Weber 1977. Wagner's Law, Fiscal Institutions and the Growth of Government, *National Tax Journal*, 30, 59-68.

154- Wang, S. (2002). The political logic of the fiscal transfer system in China, Strategy and Management, 3: 47-54.

155- Weingast, B. R., Shepsle, K. A., and Johnsen, C. 1981, The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics. The Journal of Political Economy, 89, 4: 642-664.

156- Winer, S. 1983.Some evidence on the effects of the separation of the spending and taxing decisions, Journal of Political Economy, 91:126-140.

157- Winer, S., Tofias, M., Grofman, B. and Aldrich, J. H. 2008.Trending economic factors and the structure of Congress in the growth of government, 1930-2002, Public Choice, 135:415-448.

158- Woodward, J. 2003. Making Things Happen, New York, Oxford University Press.

Appendix A.1 Wagner Law

1- Al-Khulaifi, Abdulla, S. (2012). Government expenditure and economic growth in Qatar: atime-series analysis, European Jounal of Scientific Research, 79, 3, 457-466.

2- Abizadeh, S., and J. Gray (1985), "Wagner's Law: A Pooled Time-Series Cross-Section Comparison," *National Tax Journal*, 38, 209-218.

3- Abizadeh, S. and Yousefi, M. (1988). An empirical re-examination of Wagner's law, Economic Letters, 1-:169-173.

4- Abizadeh, S. and M. Yousefi(1998). An Empirical Analysis of South Korea's Economic Development and Public Expenditure Growth, *The Journal of Socio-Economics* 27(6): 33-47.

5- Albatel A.H. (2002), Wagner's Law and the Expanding Public Sector in Saudi Arabia, *Administrative Sciences*, 14(2), 139-156.

6- Afxentiou, P.C., and A. Serletis (1996), "Government Expenditures in the European Union: Do They Converge or Follow Wagner's Law?" *International Economic Journal*, 10, 33-47.

7- Afxentiou P.C., and A. Serletis, (1991), 'A Time Series Analysis of the Relationship Between Government Expenditure and GDP in Canada', *Public Finance Quarterly*, 19, 3, 316-33.

8- Afzal, M. and Abbas, Q. (2010) *Wagner's law in Pakistan: Another look*, Journal of Economics and International Finance 2(1) pp. 12-19, January

9- Ahsan, Syed M. and Andy C.C. and Balbir S. Sahni (1989). Causality between Government Consumption Expenditure and National Income: OECD Countries, Public Finance, 204-224.

10- Ahsan S.M., Kwan A.C.C., Sahni B.S., (1996). Cointegration and Wagner's Hypothesis: Time Series Evidence for Canada, *Applied Economics*, 28, 1055-1058.

11- Akpan, U.F. (2011). Co-integration, Causality and Wagner's Hypothesis: Time Series Evidence for Nigeria, 1970 – 2008, Journal of Economic Research, 16: 59-84.

12- Albatel A.H., (2002). Wagner's Law and the Expanding Public Sector in Saudi Arabia, *Administrative Sciences*, 14(2), 139-156.

13- Al-Faris A.F., (2002). Public Expenditure and Economic Growth in the Gulf Cooperation Council Countries, *Applied Economics*, 34, 1187-93.

14- Akitoby B, Clements B, Gupta S, Inchauste G (2006) Public spending, voracity and Wagner's law in developing countries.*European Journal of Political Economy*, 22 (4): 908-924.

15- Arpaia A., Turrini A., (2008), Government expenditure and economic growth in the EU: long run tendencies and short-term adjustment, *Economic Papers*, 300, February.

16- Ashworth, J., (1994), 'Spurious in Mexico: A Comment on Wagner's Law', *Public Finance/Fincances Publique*, 49, 2, 282-286.

17- Ashworth, J. (1995). The empirical relationship between budgetary deficits ad government expenditure growth: an examination using cointegration, Public Finance 50: 1-18.

18- Asseery A.A., Law D., Perdikis N., (1999). Wagner's Law and public expenditure in Iraq: a test using disaggregated data, *Applied Economics Letters*, 6, 39-44.

19- Bagdigen, M. & Cetintas, H. (2003). Causality between Public Expenditure and Economic Growth: The Turkish Case. Munich Personal RePEc Archive. MPRA Paper No. 5876, http://mpra.up.uni-munechen.de/5876/.

20- Bairam, E. (1992). Variable elasticity and Wagner's law, Public Finance, 47 (3), 491-495.

21- Bird, R.M., (1971), 'Wagner's 'Law' of Expanding State Activity', *Public Finance/Finances Publique*, 26, 2, 1-26.

22- Bohl, M.T. (1996). Some international evidence on Wagner's law, *Public finance,* vol. 51, pp. 185-200.

23- Burney, Nadeem A. (2002). "Wagner's Hypothesis: Evidence from Kuwait Using Co-integration tests". *Applied Economics* (34), 49-57.

24- Chang, T., Liu, W. and Caudill, S. (2004). A re-examination of Wagner's law for ten countries based on cointegration and error-correction modeling techniques, Applied Financial Economics, 14, 577-589.

25- Chang, T. (2002), "An Econometric Test of Wagner's Law for Six Countries, based on Co-integration and Error-Correction Modeling Techniques," *Applied Economics*, 34, 9: 1157-1169.

26- Chi-ang Lin, (1985), 'More Evidence on Wagner's Law for Mexico', *Public Finances/Finances Publique*, 50, 2, 267-277.

27- Cotsomitis J.A., Harnhirun S., Kwan A.C.C., (1996), Co-integration Analysis and the Long-Run Validity of Wagner's Hypothesis: Evidence from the People's Republic of China, *Journal of Economic Development*, 21, 2, December.

28- Courakis, A.S., F. Moura-Roque, and G. Tridimas, (1993), 'Public Expenditure Growth in Greece and Portugal: Wagner's Law and Beyond', *Applied Economics*, 25, 1, 125-34.

29- Demirbas, S. (1999). Cointegration Analysis-Causality Testing and Wagner's Law: The Case of Turkey, 1950-1990. Discussion Papers in Economics 99/3, Department of Economics, University of Leicester.

30- Diamond, J. (1977). Wagner's Law and the developing countries, The Developing Economies, 15, 37-59.

31- Dickson, Vaughan and Yu, Weiqiu (1997). Spending by Canadian provincial governments: an empirical analysis, Public Finance/ Finances Publiques, 52 (2), 145-160.

32- Dillon, Alleyne (1999). Testing for Wagner's law in Jamaica, Guyana, Barbados and Trinidad and Tobago: Is there a spurious relationship? Social and Economic Studies, 48, 3, September, 121-135.

33- Easterly, W. and Rebelo, S. 1993. Fiscal Policy and Economic Growth: an Empirical Investigation, Journal of Monetary Economics, 32: 417-458.

34- Fratianni, Michele and Spinelli, Franco (1982). The growth of government in Italy: evidence from 1861-to 1979, Public Choice, 39 : 221-243.

35- Furuoka, F., (2008). Wagner's law in Malaysia: New empirical evidence. ICFAI J. Applied. Economics. **7:** 33-43.

36- Gadea, Maria Dolores, Cuenca Alain and Bandres, Eduardo (1999). The welfare state and economic growth in europe, 54 (3-4), 154-191.

37- Ganti, S., and B.R. Kolluri, (1979), 'Wagner's Law of Public Expenditures: Some Efficient Results for the United States', *Public Finance/Finance Publiques*, 34, 2, 225-33.

38- Gemmell, N. (1990). Wagner's Law, Relative Prices and the Size of the Public Sector, *The Manchester School*, 57 (4), 361-377.

39- Georgakopoulos, T. and Loizides, I. (1994). The growth of the public sector: Tests of alternative hypothesis with data from Greece, Cyprus Journal of Economics 7, 12-29.

40- Ghorbani, M., Firooz Zarea, A. (2009). Investigating Wagner's law in Iran's economy, Journal of Economics and International Finance, 1(5), 115-121.

41- Goffman, I.J. (1968), On the Empirical Testing of Wagner's Law: A Technical Note, Public Finance, 23, 359-364.

42- Goffman, J.J. &and Mahar, D.J. (1971). The growth of public expenditures in selected developing nations: Six Caribbean nations, *Public Finance,* vol. 26, pp. 57-74.

43- Gyles, A.F., (1991), 'A Time-Domain Transfer Function Model of Wagner's Law: The Case of the United Kingdom Economy', *Applied Economics*, 23, 2, 327-30.

44- Halicioglu, F. (2003). "Testing Wagner's Law for Turkey, 1960-200," *Review of Middle East Economics and Finance* 1(2), 2003, 129-140.

45- Hayo, Bernd (1994). No further evidence on, Wagner's Law for Mexico, Public Finance, 48 (3), 287-294.

46- Halicioglu, F. (2003). "Testing Wagner's Law for Turkey, 1960-200," *Review of Middle East Economics and Finance* 1(2), 2003, 129-140.

47- Henning, J.A. an,d Tussing, A.D. (1974). Income elasticity of the demand for public expenditures in the United States; Public Finance, 29 (3-4), 325-341.

48- Henrekson, Magnus, (1993), 'Wagner's Law: A Spurious Relationship?',*PublicFinance/Finances Publique*, 48, 2: 406-415.

49- Hondroyiannis, G., and E. Papapetrou, (1995), 'An Examination of Wagner's Law For Greece: A Cointegration Analysis', *Public Finance/Finances Publique*, 50, 1: 67-79.

50- Hondroyiannis, G. and Papapetrou, E. 2001. An investigation of the public deficits and government spending relationship: evidence for Greece, Public Choice 107: 169-182.

51- Huang,Ju C. (2006a)," Government Expenditures in China and Taiwan: Do They Follow Wagner's Law? , Journal of Economic Development, 31,2: 139-148.

52- Huang, Ju. C. (2006b). Testin,g Wagner's Law Using bounds test and a new Granger non-causality test: evidence for Taiwan, Journal of American Academy of Business, 8, 2: 86-90.

53- Hussain, T., Iqbal, A. & Siddiqi, M.W. (2010). Growth, Population, Exports and Wagner's Law: A Case Study of Pakistan (1972-2007). International Journal of Human and Social Sciences, 5, 5: 318-323.

54- Iniguez-Montiel, Alberto (2010). Government expenditure and national income in Mexico: Keynes versus Wagner, Applied Economics Letters, 17, 9: 887-893.

55- Islam, A.M. (2001). Wagner's Law revisited: Cointegration and exogeneity tests for the USA, *Applied Economics Letters,* 8: 509-515.

56- Kalam M.A., Aziz N., (2009). Growth of Government Expenditure in Bangladesh: An Empirical Enquiry into the Validity of Wagner's Law, *Global Economy Journal*, 9, 2, 5.

57- Katrakilidis, C. and Tsaliki, P. (2009). Further evidence of causal relationship between government spending and economic growth: the case of Greece, 1958-2004, *Acta Economica,* 59, 1,: 57-78.

58- Koop G., and Poirier D.J., (1995). An Empirical Investigation of Wagner's Hypothesis by Using a Model Occurrence Framework, *Journal of the Royal Statistical Society*, Series A, 158, 1: 123-141.

59- Kolluri, Bharat R. and Mahmoud Wahab (2007). Asymmetries in the conditional relation of government expenditure and economic growth, Applied economics 39, 18: 2303-2322.

60- Kolluri B.R., M.J. Panik and M.S. Wahab, (2000). Government expenditure and economic growth: Evidence from G7 countries. Applied Economics, 32, 8: 1059-1068.

61- Koop, Gary and Poirier, Dale J. (1995). An empirical investigation of Wagner's Hypothesis by using a model occurrence framework, Journal of the Royal Statistical Society, serie A, 158, 1: 123 – 141.

62- Krzyzaniak, M. (1974). The case of Turkey: government expenditures, the revenue constraint, and Wagner's law, Growth and Change, 5, 2: 13-19.

63- Kumar, S. (2009). Further Evidence on Public Spending and Economic Growth in East Asian Countries. Munich Personal RePEc Archive. MPRA Paper No. 19298, http://mpra.up.unimunechen.de/192980.

64- Kyzyzaniak, M., (1974), 'The Case of Turkey: Government Expenditures, The Revenues Constraint, and Wagner's Law', *Growth and Change*, 5, 2: 13-19.

65- Karagianni S., Pempetzoglou M., Strikou S., (2009). Testing Wagner's Law For The European Union Economies, *The Journal of Applied Business Research*, 18, 4: 107-114.

66- Khan, A. H. (1990). "Wagner's 'Law' and the Developing Economy: A Time Series Evidence from Pakistan", *The Indian Economic Journal*, 38, 1: 115-123

67- Lin, C.A. (1995), "More Evidence on Wagner's Law for Mexico," *Public Finance*, 50: 262-277.

68- Magazzino, C. (2010). Wagner's Law" in Italy: Empirical Evidence from 1960 to 2008, *Global and Local Economic Review,* 14, 1: 91-116.

69- Mann, A.J. (1980) "Wagner's law: An Econometric Test for Mexico," *National Tax Journal*, 33: 189-201.

70- Mann, Arthur (1972). The growth of public expenditures in selected developing Nations: Six Caribbean Countries, 1940-1965 – A comment, Public Finance, 27, 3: 368-369.

71- Mann, Arthur (1975). Public expenditure patterns in the Domincan Republic and Puerto Rico 1930-1970 Social and Economic Studies 24, 1: 47-82.

72- Mann, Arthur J. (1980) "Wagner's Law: An Econometric Test for Mexico," *National Tax Journal*, 33 2: 189-201.

73- Mohsin Md, Naidu CR, Kamaiah B. (1995). Wagner's hypothesis: Evidence from Indian states. Indian Economic Journal, 43; 76-95.

74- Mohammadi, Hassan, Murat Cak and Demet Cak 2008. Wagner's hypothesis: new evidence from Turkey using the bounds testing approach, Journal of Economic Studies, 35, 1: 94-106.

75- Michas, N.A. (1975), "Wagner's Law of Public Expenditures: What is Appropriate Measurement for a Valid Test?" *Public Finance*, 30: 77-84.

76- Musgrave, Richard A. (1969) *Fiscal Systems* (New Haven: Yale University Press).

77- Murthy, N.R.V, (1993), 'Further Evidence of Wagner's Law for Mexico: An Application of Cointegration Analysis', *Public Finance/ Finances Publiques*, 48, 1: 92-96.

78- Murthy, N.R.V. (1996). More evidence on Wagner's Law for Mexico, Public Finance, 51, 1: 132-139.

79- Nagarajan, P., and A. Spears, (1990), 'An Econometric Test of Wagner's Law for Mexico: A Re-Examination', *Public Finance/ Finances Publiques*, 45, 1: 165-68.

80- Narayan, Paresh Kumar, Arti Prasad, and Baljeet Singh (2008). A test of Wagner's hypothesis for the Fiji Islands, Applied Economics, 40, 21: 2793 – 2801.

81- Narayan, S., Badri Narayan Rath and Paresh Kumar Narayan (2012). Evidence of Wagner's law from Indian sates, Economic Modeling, 1548-1557.

82- Okafor, C. and O. Eiya, 2011. Determinants of Growth in Government Expenditure: An Empirical Analysis of Nigeria. *Research Journal of Business Management, 5: 44-50.*

83- Pluta, J.E., (1979), 'Wagner's Law, Public Sector Patterns, and Growth of Public Enterprises in Taiwan', *Public Finance/ Finances Publiques*, 7, 1, 25-46.

84- Pradhan, p p. (2007), "Wagner's Law: Is It Valid in India?" The IUP Journal of Public Finance, 5(2), 7-20.

85- Quijano, J.M. & Garcia, D.R. (2005). Causality and Determinants of Government Spending and Economic Growth: The Philippines Experience 1980-2004. www.ecomod.org/files/papers/1458.doc.

86- Ram, Rati (1987), 'Wagner's Hypothesis in Time Series and Cross Section Perspectives: Evidence from "Real" Data for 115 Countries', *Review of Economics and Statistics*, 69, 2, 359-93.

87- Ram, Rati (1992). Use of Box Cox models for testing Wagner's hypothesis: a critical note, Public Finance, 47, 496-504.

88- Ram, Rati (1998). Testing Wagner's hypothesis from multicountry cross-sections: a panel data approach, Public Finance/ Finances Publiques, 53 (2), 145-158.

89- Reddy, K.N. (1970). Growth of government expenditure and national income in India: 1872-1966, Public Finance/ Finances Publiques, 25, 1, 81-97.

90- Rehman, H.U., Ahmed, I., Awan, M.S., (2007). Testing Wagner's Law for Pakistan: 1972-2004, *Pakistan Economic and Social Review*, 45, 2, Winter, 155-166.

91- Sideris, D. (2007). Wagner's Law in 19th Century Greece: A Co-integration and Causality Analysis, *Bank of Greece Working Papers,* vol. 64.

92- Sahni, D.S. and Singh, B. (1984). On the causal directions between national income and government expenditure of Canada, Public Finance, 47, (4), 359-392.

93- Sinha, D. (1998a). "Economic Growth and Government Expenditure in India: A Time Series Analysis," *International Review of Economics and Business* 88: 263-274.

94- Sinha, D. (1998b). Economic Growth and Government expenditure in China. Munich Personal RePEc Archive. MPRA Paper No. 18347, http://mpra.up.uni-munechen.de/18347/.

95- Sinha, D. (1998c). Government Expenditure and Economic Growth in Malaysia. Journal of Economic Development 23(2): 71-80.

96- Subrahmanyam, G. and Kolluri, B.R. (1979). Wagner's law of public expenditure: some efficient results for the United States, Public Finance, 34, 225-233.

97- Tarschys, D. (1975). The growth of public expenditures – nine modes of explanation, Scandinavian Political Studies, 10, 9-32.

98- Timm, H. (1961). Das Gestz der Wachsenden Staatsaghen, Finanzarchih, 19, 201-247.

99- Tobin, D. (2005). Economic liberalization, the changing role of the state and "Wagner's law": China's devel- opment experience since 1978. World Development , 55(5), 729-743.

100- Vatter, H.G., and J.F. Walker, (1986), Real Public Sector Employment Growth, Wagner's Law, and Economic Growth in the United States, *Public Finance/ Finances Publiques*, 41, 1, 116-36

101- Verma, S. & Arora, R. (2010). Does the Indian Economy Support Wagner's Law? An Econometric Analysis. Eurasian Journal of Business and Economics, 3(5): 77-91.

102- Wagner, R.E., and W.E. Weber (1977), "Wagner's Law, Fiscal Institutions and the Growth of Government," *National Tax Journal*, 30, 59-68

103- Wahab, M. (2004). Economic growth and government expenditure: evidence from a new test specification, *Applied Economics,* vol. 36, pp. 2125-2135

104- Wu Shih-Ying, Tang Jenn-Hong and Lin Eric S. (2010). The impact of government expenditure on economic growth: How sensitive to the level of development? Journal of Policy Modeling, 32, 804-817.

105- Zaghini, Andrea and Serena Lamartina (2008). Increasing public expenditures: Wagner's Law in OECD countries, CFS Working Paper n°2008/13, Center for Financial Studies, University of Frankfurt.

106- Ziramba, E. (2008). Wagner's law: an econometric test for South Africa, 1960-2006. South Africa Journal of Economics, 76 (4), 596-606.

107- Ziramba E., (2009). Wagner's Law: An Econometric Test for south Africa, 1960-2006, *South Africa Journal of Economics*, 76, 4, 596-606.

Appendix A.2 Wagner' Law versus Keynes's effect

1- Abizadeh, S. and Yousefi, M. 1998. An Empirical Analysis of South Korea's Economic Development and Public Expenditures Growth, Journal of Socio-Economics, 27, 6: 687-700.

2- Abu-Bader, S., & Abu-Quar, A. 2003. Government expenditures, military spending and economic growth: Causality evidence from Egypt, Israel and Syria. *Journal of Policy Modeling*, *25*: 567–583.

3- Afentiou. P. C. and Serletis, A. 1992. Modeling the Relationship between Output and Government Expenditure in Canada, *Kero Economic Studies* 29, 1: 17-43.

4- Afzal, M. and Abbas, Q. 2010. Wagner's law in Pakistan: Another look, Journal of Economics and International Finance 2, 1: 12-19.Al-

5- Ahsan, S. M., Kwan, A. C., and Sahni, B. S. 1992. Public Expenditure and National Income Causality: Further Evidence on the Role of Omitted Variables, *Southern Economic Journal*, 58, 3: 623-634.

6- Al-Faris A.F. 2002. Public Expenditure and Economic Growth in the Gulf Cooperation Council Countries, *Applied Economics*, 34: 1187-93.

7- Anwar, M.S., Davies, S. and Sampath RK 1996. Causality between government expenditures and economic growth: an examination using cointegration techniques. Public Finance 51:166–184.

8- Ansari, M.I., Gordon, D.V., and C. Akuamoach 1997. Keynes versus Wagner: Public Expenditure and National Income for Three African Countries, *Applied Economics*, 29: 543-550.

9- Apkan, U.F. 2011. Cointegration, Causality and Wagner's Hypothesis: Time Series Evidence for Nigeria, 1970 – 2008, Journal of Economic Research, 16: 59-84.

10- Aregbeyen, O. 2006. Co-integration, Causality and Wagner's Law: A Test for Nigeria, 1970-2003, *Economic and Financial Review*, Central Bank of Nigeria 44, 2: 1-17.

11- Bagdigen, M. and H. Cetintas 2003. Causality Between Public Expenditure and Economic Growth: The Turkish Case, *Journal of Economic and Social Research* 6, 1: 53-72.

12- Biswal, Bagala., Urvashi Dhawan and Hooi-Yean Lee. 1999. Testing Wagner versus Keynes using disaggregated public expenditure data for Canada,*Applied Economics*, 31: 1283-1291.

13- Chletsos, M. and Kollias, C. 1997. "Testing Wagner's 'Law' Using Disaggregated Public Expenditure Data in the Case of Greece: 1958-93", *Applied Economics*, 29: 371-77.

14- Chimobi, O.P. 2009. Government Expenditure and National Income: A Causality Test for Nigeria, European Journal of Economic and Political Studies, 2: 1-11.

15- Chow Y.-F., Cotsomitis J.A., Kwan A.C.C. 2002. Multivariate cointegration and causality tests of Wagner's hypothesis: evidence from the UK, *Applied Economics*, 34 1671-1677.

16- Courakis, A.S., F. Moura-Roque, and G. Tridimas 1993. Public Expenditure Growth in Greece and Portugal: Wagner's Law and Beyond, *Applied Economics*, 25, 1: 125-34.

17- Demirbas, S. 1999. Cointegration analysis-causality testing andWagner's Law: The Case of Turkey, 1950–1990. http://www.econturk.org/safaaabi.pdf

18- Dogan, E. and Tuck, C.T. 2006. Government Expenditure and National Income Causality tests for Five South East Asia Countries, International Business & Economics Research Journal, 5, 10: 49-58.

19- Dritsakis N., Adamopoulos A. 2004. A Causal Relationship between Government Spending and Economic Development: An Empirical Examination of the Greek Economy, *Applied Economics*, 36: 457-464.

20- Govindaraju, V.G.R. Chandran, Rao, Ramesh and Sajid Anwar 2011. Economic growth and government spending in Malaysia: a re-examination of Wagner and Keynesian views, Economic Change and Restructuring, 44, 3: 203-219.

21- Halicioglu, F. 2003. Testing Wagner's Law for Turkey, 1960-200," *Review of Middle East Economics and Finance* 1, 2: 129-140.

22- Islam, A.M. 2001. Wagner's Law revisited: Cointegration and exogeneity tests for the USA, *Applied Economics Letters*, 8: 509-515.

23- Kucukkale, Y. and Yamak, R. 2012. Cointegration, causality and Wagner's law with disaggregated data: evidence from Turkey, 1968-2004, MPRA, Online at http://mpra.ub.uni-muenchen.de/36894/, MPRA Paper No. 36894, posted 24. February 2012 15:27 UTC

24- Loizides, I. and Vamvoukas, G. 2005. Government expenditure and economic growth: Evidence from trivariate causality testing, *Journal of Applied Economics,* 8: 125-152.

25- Liu, L.C., Hsu, C.E. and Younis, M. 2008. The Association between government expenditure and economic growth: Granger causality test of US data, 1947-2002, *Journal of Public Budgeting, Accounting and Financial Management,* 20, 4: 537-553

26- Muhlis B., Hakan Ç. 2003. Causality Between Public Expenditure and Economic Growth: The Turkish Case, *MPRA Paper*, 8576.

27- Narayan P.K., Nielsen I., and Smyth R. 2008. Panel Data, co-integration, causality and Wagner's Law: Empirical evidence from Chinese provinces, *China Economic Review*, 19, 2, June: 297-307.

28- Oxley, L. 1994. "Cointegration, Causality and Wagner's Law: A Test for Britain 1870-1913" , Scottish Journal of Political Economy, 41, 3: 286-298.

29- Park, Wan Kyu 1996. Wagner's law vs. Keynesian paradigm: the Korean experience, Public Finance/Finances Publiques, 51, 1: 71-91.

30- Ram, R. (1986), "Causality between Income and Government Expenditure: A Broad International Perspective," *Public Finance*, 41: 393-413.

31- Ram, R. 1988. Additional Evidence on Causality between Government Revenue and Government expenditure, Southern Economic Journal, January: 763-769.

32- Richter, C. and Dimitros, P. 2012. The Validity of Wagner's Law in Greece during the last 2 centuries, Working Paper, 2012/2, International Network for Economic Research.

33- Samudram, M., Nair, M. and Vaithilingam, S. 2009. Keynes and Wagner on government expenditures and economic development: the case of a developing economy, *Empirical Economics,* 36: 697-712.

34- Singh B., and B.S. Sahni 1984, 'Causality Between Public Expenditures and National Income', *Review of Economic Statistics*, 66, 4: 630-44.

35- Sinha, D. 1998. Government Expenditure and Economic Growth in Malaysia, Journal of Economic Development, 23, 2:71-80.

36- Sinha, D. 2007. Does the Wagner's law hold for Thailand? A time series study, http://mpra.ub.uni-muenchen.de/2560/1 /MPRA_paper_2560.pdf.

37- Tan, E.C., 2003. Does Wagner's law or the Keynesian paradigm hold in the case of Malaysia? Thammasat Review, 8: 62-75.

38- Tang, T.C. 2001. Testing the relationship between Government Expenditure and National Income in Malaysia. Analysis, 8 (1&2): 37-51.

39- Thornton J. 1999. Cointegration, Causality and Wagner's Law in 19th Century Europe, *Applied Economic Letters*, 6, 7, July, 413-416.

40- Ying-Foon C., Cotsomitis, J.A. and Kwan, A.C.C. 2002. Multivariate cointegration and causality tests of Wagner's hypothesis:evidence from the UK", Applied Economics, 34: 1671-1677.

41- Yuk W., 2005. Government Size and Economic Growth: Time-Series Evidence for the United Kingdom, 1830-1993, *Econometrics Working Paper*, January.

Appendix A.3 Baumol's Law

1- Beck, M. 1976. The expanding public sector: some contrary evidence, National Tax Journal, 29, march: 15-21.

2- Beck, M. 1979. Public sector Growth: A real perspective, Public Finance, 34, 3: 313 – 356.

3- Berry, W.D. and Lowery, D. 1984. The growing cost of Government: a test of two explanations, Social Science Quarterly, 735-749.

4- Bradford, D.F., Malt, R.A. and Oates, W.E. 1969. The rising cost of local public services: some evidence and reflections, National Tax Journal, 22, June: 185-202.

5- Ferris, J. S. and West E.G. 1996. The cost disease and government growth: qualifications to Baumol, Public Choice 89, October: 35-52.

6- Ferris, J. S. and West, E.G. 1996. Testing theories of real government size: U.S. experience, 1959-1989, Southern Economic Journal, 537-553.

7- Ferris, S. and West, E.G. 1999. Cost disease versus Leviathan explanation of rising of Government cost: an empirical investigation, Public Choice 98, march: 307-316.

8- Henrekson, M.. and Lybeck, J.A. 1988. Explaining the growth of government in Sweden: A disequilibrium approach Public Choice 57: 213 – 232.

9- Katsimi, M. 1998. Explaining the Size of the Public Sector, *Public Choice* 96(1-2), 117-144.
10- Lybeck, J.A. 1986. The Growth of Government in Developed Countries, Gower: Hants.
11- Lowery, D. and Berry, W. 1983. The growth of Government in the United States: An empirical assessment of competing explanations, American Journal of Political Science, 27: 665-694.
12- Neck, R. and Schneider, F. 1988. The growth of the public sector in Austria, in J.A. Lybeck and M. Henrekson eds, Explaining the Growth of Government, Amsterdam: North-Holland, 231-262.
13- Pommerehne, W. and Schneider, F. 1982. Unbalanced growth between public and private sectors: an empirical examination, in R.H. Havenman ed. Public Finance and Public Employment, Detroi MI: Wayne State University Press, 309-326.
14- Tussing A.D. and Henning J.A. 1974. Long-run growth of non-defense and government expenditure, Public Finance Quarterly, 2: 202-222.
15- Spann, R.M. 1977. The macroeconomics of unbalanced growth and the expanding public sector, Journal of Public Economics, 8, 3: 397-404.

Appendix A.4 Cost of taxation

1- Andersen, J.J. 2012. Cost of taxation and the size of government, Public Choice, 153: 83-115.
2- Ferris, J. Stephen and West, Edwin G. (1996). Testing theories of real government size: U.S. experience, 1959-1989, Southern Economic Journal, 537-553.
3- Kau, James B. and Rubin Paul, H. (1981). The Size of Government, Public Choice, 37: 261 – 274.
4- Kau, James B. and Rubin, Paul H. (2002). The Size of Government: sources and limits, Public Choice, 113: 389 – 402
5- Ni, H., &An, X. 2008. Government size and administrative cost: a perspective of fiscal management. Chinese Public Administration, 7: 17-20.
6- Winer, Stanley, Tofias, Michael, Grofman, Bernard and Aldrich, John H. (2008). Trending economic factors and the structure of Congress in the growth of government, 1930-2002, Public Choice, 135:415-448.

Appendix A.5, Fiscal illusion.

1- Banzhaf, H. Spencer and Wallace E. Oates 2012. On Fiscal Illusion and Ricardian Equivalence in Local Public Finance, Working Paper 18040, http://www.nber.org/papers/w18040, NBER, may
2- Blom-Hansen, Jens. 2005. "Renter Illusion: Fact or Fiction?" *Urban Studies* 42: 127-40.
3- Christopoulos, Dimitris K. and Tsionas, Efthymios 2003. Testing the Buchanan-Wagner Hypothesis: European Evidence from panel Unit root and cointegration test, Public Choice, 115, ¾, june: 439-453.
4- Dickson, V. and YU, W. 2000. Revenue Structures, The Perceived Price of Government output, and Public Expenditures, Public Finance Review, 28, 1: 48-65.
5- Gemmell, Norman, Morrissey, Oliver and Pinar, Abuzer 1999. Fiscal illusion and the demand for government expenditures in the UK, European Journal of Political Economy, 15: 687-704.
6- Hondroyiannis, G. and Papapetrou, E. 2001. An investigation of the public deficits and government spending relationship: evidence for Greece, Public Choice 107: 169-182.
7- Mitias, P.M. and Turnbull G.K. 2001. Grant illusion, tax illusion, and local government spending, Public Finance Review, 29, 1, September: 347-368.
8- Neck, R. and Getzner, M. 2007. Austrian Government Expenditues: "Wagner's Law or Baumol's Disease?, The Clute Institute, 6, 11, http://journals.cluteonline.com/index.php/IBER/issue/view/362
9- Ross, J.M. and Yan, W. 2013. Fiscal Illusion from Property Reassessment? An Empirical test of the Residual View, National Tax Journal, march, 66, 1: 7-32.
10- Young, A.T. 2009. Tax-Spend a Fiscal Illusion, Cato Journal, 29, 3: 469-485.

Appendix A.6 Fiscal Leviathan/ Fiscal decentralization

1- Comiskey, M. 1993. Electoral Competition and the Growth of Public Spending in 13 Industrial Democracies, 1950 to 1983, *Comparative Political Studies* 26, 3: 350-374.
2- Ehdaie, J. 1994.Fiscal Decentralisation and the Size of Government: An Extension with Evidence from Cross-County Data, [online]*. World Bank Policy Research Working Paper Series,* No 1387.
3- Feld, L. P., Kirchgaessner and Schaltegger, C.A. 2003. Decentralized taxation and the size of government: evidence from Swiss state and local governments, CESifo Working Paper n°1087
4- Forbes, Kevin F. and Zampelli, Ernest M. 1989. Is Leviathan a mythical best? American Economic Review, 79: 568-577.

5- Golem S. 2010. Fiscal decentralisation and the size of government: a review of the empirical literature Financial Theory and Practice, 34, 1: 53-69.
6- Grossman, P.J. 1989. Fiscal decentralization and government size, Public Choice, 62: 63-70.
7- Grossman, P. J. 1989. Fiscal Decentralization and Government Size: An Extension, *Public Choice,* 62, 1: 63-69.
8- Heil, J. B. 1991. The search for leviathan revisited. Public Finance Quarterly 19:334-346.
9- Jin, J., & Zou, H. 2002. How does fiscal decentralization affect aggregate, national, and subnational government size? Journal of Urban Economics , 52, 2: 270-293.
10- Jouifaian, David and Marlow, Michael L. (1990). Government size and decentralization: evidence from disggregated data, Southern Economic Journal, 56: 1094-1102.
11- Jouifaian, David and Marlow, Michael L. 1991. Centralism and government competition, Applied Economics, 23: 1603-1612.
12- Lalvani, M. 2002. Can decentralization limit government growth? A test of the Leviathan hypothesis for the Indian Federation. Publius : The Journal of Federalism , 32, 3: 25-45
13- Martinez-Vasquez, J., & Yao, M. (2009). Fiscal decentralization and public sector employment: A cross- country analysis. Public Finance Review , 57, 5: 539-571.
14- Marlow, M. J. 1988. Fiscal decentralization and government size, Public Choice, 56: 259-269.
15- Nelson, M. L. 1986. An empirical analysis of State and local government. Tax structure in the context of the Leviathan model of government, Public Choice, 49, 283-294.
16- Oates, Wallace 1985. Searching for Leviathan: an empirical study, American Economic Review, 75, 748-757.
17- Prohl, S. and Schneider, F. 2009. Does decentralization reduce government size? A quantitative study of the decentralization hypothesis, Public Finance Review, 37, 6: 639-664.
18- Raimondo, Henry J. 1989. Leviathan and Federalism in the United States, Public Finance Quarterly, 178: 204-215.
19- Rodden, J. 2003. Reviving leviathan: fiscal federalism and the growth of government, International Organization 57: 695-729.
20- Shadbegian, R. 1999. Fiscal federalism, collusion and government size: evidence from the states, Public Finance Review, 27: 262-281.
21- Stein, E. 1998. Fiscal Decentralization and Government Size in Latin America. Inter-American Development Bank, Working Paper # 368.
22- Zax, J.S. 1989. Is there a Leviathan in your neighborhood? American Economic Review, 79, 560-567.

Appendix A.7 Political Fragmentation

1- Bawn, K., and Rosenbluth, F. 2006. Short versus Long Coalitions: Electoral Accountability and the Size of the Public Sector. *American Journal of Political Science, 50,* 2: 251-265.
2- Elgie, R., and McMenamin, I. 2008. Political fragmentation, fiscal deficits and Political Institutionalization. *Public Choice , 136*, 255–267.
3- [1] Eslava, M. and Nupia, O. 2010. Political Fragmentation and Government Spending: Bringing Ideological Polarization into the Picture. Documentos CEDE 3. Universidad de Los Andes, Facultad de Economia.
4- Henrekson, M. and Lybeck, J.A. 1988. Explaining the growth of government in Sweden: a diseauilibrium approach, Public Choice 57: 213-232.
5- Le Maux, B., Rocaboy, Y. and Goodspeed, T. 2011. Political Fragmentation, Party Ideology and Public Expenditures, Public Choice, 147: 43-67
6- Kontopoulos, Y., and Perotti, R. 1999. Government Fragmentation anf Fiscal Policy Outcomes: Evidence from OECD Coutries. In: Poterba, J. M. (Ed), "Fiscal Institutions and Fiscal Performance", NBER, University of Chicago Press.
7- Mukherjee, B. 2003. Political Parties and the Size of Government in Multiparty Legislatures: Examining Cross-Country and Panel Data Evidence. *Comparative Political Studies , 36,* 6: 699-728.
8- Mueller, Dennis C. and Murrell, P. 1985. "Interest groups and the political economy of government size" in F. Forte and A.T. Peacock (Eds), Public Expenditure and government growth. Oxford: Blackwell.
9- Neck, R. and Getzner, M. 2007. Austrian Government Expenditues: "Wagner's Law or Baumol's Disease?, The Clute Institute, 6, 11, http://journals.cluteonline.com/index.php/IBER/issue/view/362
10- Padovano, F. and Venturi, L. 2001. Wars of attrition in Italian government coalitions and fiscal performance: 1984-1994. Public Choice, 109:15–54.

11- Perotti, R. and Kontopoulos, Y. 2002. Fragmented fiscal policy. *Journal of Public Economics* 86: 191–222.
12- Persson, T., Roland, G. and Tabellini, G. 2004. Electoral Rules and Government Spending in Parliamentary Democracies, Quarterly Journal of Political Science, xx, 1: 1-54.
13- Volkerink, B., and De HaanJ. D. 2001. Fragmented government effects on fiscalpolicy: New evidence. *Public Choice , 109*, 221–242.

Appendix A.8 Inequality

1- Alesina, A. and Perotti, R. 1996. Income distribution, political instability, and investment, European Economic Review 40: 1203-1228.
2- Aubin Ch., Berdot J.P., Goyeau D. et Lafay J.D. 1988.*Les déterminants de la croissance des dépenses publiques en France*, ronéo, Université de Poitiers.
3- Basset, W., Burkett, J. and Putterman, L. 1999. Income distribution, government transfers, and the problem of unequal influence. European Journal of Political Economy, 15: 207-228.
4- Borge, L-E. and Rattso, J; 2004. Income distribution and tax structure: Empirical test of the Meltzer-Richard hypothesis, European Economic Review 48: 805-826.
5- Easterly, W., And Rebelo, S. 1993. Fiscal policy and economic growth: An empirical investigation, Journal of Monetary Economics 32: 147-458.
6- Figini, P. 1998. Inequality and growth revisited, Dublin, Ireland: Trinity College Press.
7- Gouveia M. and Masia A. 1998. Does the median voter explain the size of government? Evidence from the states, Public Choice 97: 159-177.
8- Lindert P.H. 1996. What limits social spending? Explorations in Economic History, 33: 1-34.
9- Henrekson, M. 1988. Swedish Government Growth: A Disequilibrium Analysis. In Explaining the Growth of Government, edited by J. A. Lybeck and M. Henrekson, 93–132. Amsterdam: North-Holland.
10- Henrekson, M. and Lybeck, J.A. 1988. Explaining the growth of government in Sweden: A disequilibrium approach, Public Choice, 57: 213-232.
11- Henrekson, M. 1990. The Peacock and Wiseman displacement effect: A reappraisal and a new test,European Journal of Political Economy, 6, 2: 245-260.
12- Kristov, L., Lindert, P. and McClelland, R. 1992. Pressure Groups and Redistribution, Journal of Public Economics, 48, 2: 135-163.
13- Lybeck, J.A. 1986. The growth of government in developed economies, London: Gower.
14- Meltzer, A. and Richard, S. 1983. Tests of a rational theory of the size of Government, Journal of Political Economy, 89: 914-927.
15- Mello de L. and Tiongson, E. 2006. Income Inequality and Redistributive Government Spending, Public Finance Review, 34: 282-305.
16- Milanovic, B. 2000. The median voter hypothesis, income inequality, and income redistribution: An empirical test with the required data, European Journal of Political Economy, 16: 367-410.
17- Mulligan, C., Gil, R. and Sala-i-Martin, X. 2002. Social Security and Democracy, NBER Working Paper 8958.
18- Panizza, U. 1999. Income inequality and economic growth: evidence from American data. Inter-American Development Bank Working Paper WP-404, Washington D.C.
19- Patridge, M.D. 1997. Is inequality harmful for growth? Comment. American Economic Review 87: 1019-1032.
20- Perotti R. 1992. Income distribution, politics and growth, American Economic Review, 82: 311-316.
21- Perotti, R. 1994. Income distribution and investment, European Economic Review 38: 827-835.
22- Person, T. and Tabellini, G. 1994. Is inequality harmful for growth? Theory and evidence. American Economic Review 84: 600-621.
23- Rodriguez F.C. 1999. Does distributional skewness lead to redistribution? Evidence from the United States? Economics and Politics 11: 171-199.
24- Tanninen, H. 1999. Income inequality, government expenditures and growth, Applied Economics, 31: 1109-1117.

Appendix A.9 Income volatility

1- Adseri, A. and Boix C. 2002. Trade Democracy, and the size of the public sector: the political underpinnings of openness, International Organization, 56: 229-262.

2- Benaroch, M. and Manish Pandey 2008. Trade Openness and government size. Economics Letters, 101: 157-159.
3- Blais, A., D. Blake and S. Dion 1993. Do Parties Make a Difference? Parties and the Size of Government in Liberal Democracies, *American Journal of Political Science* 37, 1: 40-62.
4- Bretschger, L. and Hettich F. 2002. Globalisation, capital mobility and tax competition: Theory and evidence for OECD countries, European Journal of Political Economy, 18: 695-716.
5- Cameron D.R. 1978. The Expansion of the Public Economy, *American Political Science Review*, 72: 1243 – 1261.
6- Comiskey, M. 1993. Electoral Competition and the Growth of Public Spending in 13 Industrial Democracies, 1950 to 1983, *Comparative Political Studies,* 26, 3: 350-374.
7- Garen, J. and Trask K. 2005. Do more open economies have bigger governments? Another look, Journal of Development Economics 77: 533-551.
8- Garrett, G. 2001. Globalization and Government Spending Around the World, *Studies in Comparative International Development* 35, 4: 3-29.
9- Iversen T. and Cusack, T. 2000. The Causes of Welfare State Expansion. Deindustrialization orGlobalization?,*World Politics* 52: 31349.
10- Kimakova, A. 2009. Government size and openness revisited: The case of financial globalization. Kyklos , 62(3), 394-406.
11- Lane, J.E. and Ersson S. 1986. State or Market? Politics Does Matter, *International Political Science Review* 7(1), 91-104.
12- Lewis-Beck, M.S. and Rice T.W. 1985. Government Growth in the United States, *Journal of Politics,* **47, 1:** 2-30.
13- Liberati, P. 2007. Trade Openness and government size, Journal of Public Policy, 27: 215-247.
14- Milesi-Ferretti, G.M., Perotti, Roberto and Rostagno, Massimo 2002. Electoral systems and public spending, The Quarterly Journal of Economics, may: 609-657.
15- Pampel, F.C. and J.B. Williamson 1988 Welfare Spending in Advanced Industrial Democracies, 1950-1980, *American Journal of Sociology* 93, 6: 1424-1456.
16- Hicks, A. & D.H. Swank 1992. Politics, Institutions, and Welfare Spending in Industrialized Democracies, 1960 – 1982, *American Political Science Review* 86, 3: 658-674
17- Ram, R. 1999. Openness and Government Size: Additional Evidence from multicountry data, Public Finance/ Finances Publiques, 54, 1-2: 21-36.
18- Ram, R. 2009. Openness, country size and government size: additional evidence from a large cross-country panel. Journal of Public Economics, 93: 213-218.
19- Rodrik, D. 1998. Why do more open economics have bigger governments?, The Journal of Political Economy, 106: 997-1032.
20- Rice, T.W. 1986. The Determinants of Western European Government Growth: 1950-1980, *Comparative Political Studies* 19, 2: 233-257.
21- Winer, S., Tofias, M., Grofman, B. and Aldrich, J.H. 2008. Trending economic factors and the structure of Congress in the growth of government, 1930-2002, Public Choice, 135:415-448.

Appendix A.10 Ethic diversity
1- Alesina, A., Baqir, R. and Easterly, W. 1999. Public Goods and Ethnic Divisions, Quarterly Journal of Economics, 114, 4: 12141284.
2- Alesina, A., Glaeser, E. and Sacerdote B. 2001. Why doesn't the U.S. have a European-style welfare system? Brookings Papers on Economic Activity, 2: 187–254.
3- Cutler, D.M., Elmendorf, D.W. and Zeckhauser, R. 1993. Demographic characteristics and the public bundle, Public Finance, 48: 178–198.
4- Easterly, W. and Levine, R. 1997. Africa's Growth Tragedy: Politics and Ethnic Divisions, Quarterly Journal of Economics, 111, 4: 1203-1250.
5- Goldin, C. and Katz, L. 1999. Human capital and social capital: the rise of secondary schooling in America,1910 to 1940.Journal of Interdisciplinary History, 29(4): 683–723.
6- James, E. 1987. The public/private division of responsibility for education: an international comparison Economics of Education Review6(1): 1–14.
7- James, E. 1993. Why do different countries choose a different public-private mix of educational services? Journal of Human Resources, 28(3): 571–592.
8- Kuijs, L. 2000. The impact of ethnic heterogeneity on the quantity and quality of public spending. Working Paper 00/49, International Monetary Fund, Washington, DC.
9- Lind, J. T. 2007. Fractionalization and the size of government.Journal of Public Economics, 91: 51–76.

10- McCarty, T. 1993. Demographic diversity and the size of the public sector. Kyklos 46(2): 225–240.

11- Mueller, D.C. and Murrell, P. 1986. Interest groups and the size of government, Public Choice 48: 125–145.

12- Poterba, J.M. 1997. Demographic structure and the political economy of public education.Journal of PolicyAnalysis and Management, 16(1): 48–66.

13- Soroka, S., Banting, K. and Johnston, R. 2006. Immigration and redistribution in a global era. In P. Bardhan, S. Bowles and M. Wallerstein (eds.), Globalization and Egalitarian redistribution . Princeton,NJ: Princeton University Press.

Appendix A.11 Political Ideology

1- Abizadeh, S. and Yousefi, M. 1988. Growth of government expenditure: the case of Canada, Public Finance Quarterly, 16, n°1, January: 78-100.

2- Ansgar Belke, Niklas Potrafke. 2011. Does government ideology matter in monetary policy?A panel data analysis for OECD countries.Journal of International Money and Finance, Online publication date: 1-Dec-2011.

3- Besley, T. and Case, A. 2003. Political institutions and policy choices: evidence from the United State, Journal of Economic Literature, 61:7-73.

4- Blais, André, Blake, Donald and Dion, Stéphane 1993. Do parties make a difference? Parties and the size of government in liberal democracies, American Journal of Political Science, 37: 40-62.

5- Cameron D.R. 1978, "The Expansion of the Public Economy", *American Political Science Review*, 72: 1243 – 1261.

6- Cusack, Thomas R. 1997. Partisan politics and public finance: change in public spending in the industrialized democracies 1955-1989, Public Choice 91: 375-395.

7- De Haan, Jakob and Sturn, Jan-Egbert 1997. Political and economic determinants of OECD budget deficits and Government expenditure: A reinvestigation, European Journal of Political Economy, 13: 739-750.

8- De Haan, Jakob and Sturn, Jan-Egbert 1993. Political and institutional determinants of fiscal policy in the European community, Public Choice 80: 157-172.

9- Ferris and Winer (2008)

10- Garrett , Geffrey 1995. Capital mobility, trade, and the domestic politics of economic policy, International Organization 49: 657-687.

11- Garret, Geffrey and Lange, Peter 1991. Political responses to interdependence: What's Left for the left? International Organization 49: 538-564.

12- Hicks, A. & D.H. Swank 1992. Politics, Institutions, and Welfare Spending in Industrialized Democracies, 1960 – 1982, *American Political Science Review* 86, 3: 658-674.

13- Hicks, A.M. & D.H. Swank 1984. On the Political Economy of Welfare Expansion: A Comparative Analysis of 18 Advanced Capitalist Democracies, 1960-1971, *Comparative Political Studies* 17, 1: 81-119.

14- Knight, B.G. 2000. Super-majority voting requirements for tax increases: evidence from the states. Journal of Public Economics, 76: 41-67.

15- Lybcck.J.A. and Hcnrekson.M. 1989.*Explaining the growth of government.*Amsterdam: North Holland Publishing.

16- Neck, R. and Getzner, M. 2007. Austrian Government Expenditues: "Wagner's Law or Baumol's Disease?, The Clute Institute, 6, 11, http://journals.cluteonline.com/index.php/IBER/issue/view/362

17- Perotti, R. and Kontopoulos Yianos 2002.Fragmented fiscal policy, Journal of Public Economics, 86: 191-222.

18- Pickering, Andrew C. and Rockey, James 2012. Ideology and the size of US state government. Public Choice DOI 10.1007/s1127-012-0026-x

19- Pickering, Andrew and Rockey, James 2011. Ideology and the Growth of Government, The Review of Economics and Statistics, 93, august: 907-919.

20- Tellier, Geneviève 2006. Public expenditure in Canadian provinces : An empirical study of politico-economic interactions, Public Choice 126: 367 – 385.

21- Rao (1979).

22- Rogers, D.L. and Rogers, J.H. 2000. Poltiical competition and state government size: do tighter elections produce looser budgets? Public Choice, 105: 1-21.

23- Rowley, C. and Tollison, R. 1994. Peacok and Wiseman on the growth of public expenditure, Public Choice 78: 125-128.

24- Roubini, Nourie and Sachs, Jeffrey D. 1989. Government spending and Budget deficits in industrial countries, Economic Policy, 8: 99-132.
25- Schmidt, Manfred 1996. When parties matter: a review of the possibilities and limits of partisan influence on public policy, European Journal of Political research 30: 155-183.
26- Solano, Paul L. 1983. Institutional explanations of public expenditures among high income democracies, Public Finance/ Finances Publiques, 3: 440-458.
27- Swank Duane, H. 1988.The political economy of government domestic expenditure in the affluent democracies, 1960-1980, American Journal of Political Science 32: 1120-1150.

Appendix A.12 Displacement effect

1- André, Christian and Delorme, Robert 1978.The long-run growth of Public expenditure in France, Public Finance/Finances Publiques, 33, 1-2: 42-67.
2- Bohl, M.T. 1996. Some International Evidence on Wagner's Law, Public Finance, 51, 2: 185-200.
3- Bohl, M.T. 1999. Persistence in government spending fluctuations: new evidence on the displacement effect: a comment on Goff, Public Choice 99: 465-466.
4- Bonin, J.M., Finch, B.N. and Waters 1969.Alternative testes of the displacement effect hypothesis, Public Finance/Finances Publiques, 24: 441-452.
5- Goff, B. 1999. Persistence in government spending fluctuations: new evidence on the displacement effect, Public Choice 97: 141-157.
6- Goffman, J.J. and Mahar, D.J. 1971. The growth of public expenditures in selected developing nations: Six Caribbean nations, *Public Finance,* 26: 57-74.
7- Gupta, S.P. 1967. Public expenditure and economic growth : a time series analysis, Public Finance/Finances Publiques, 22: 423-461
8- Henrekson, M. 1994. The Peacock-Wiseman hypothesis, in N. Gemmell (Ed.) The growth of the public sector: Theories and international evidence, 53-71. Aldershot: Elgar.
9- Holcombe, R. G. 1993. Are there ratchets in the growth of federal government spending?, Public Finance Quarterly, 21, 1: 33-47
10-
11- Lane, J.E. & S. Ersson 1986. State or Market? Politics Does Matter, *International Political Science Review* 7, 1: 91-104.
12- Legrenzi, G. 2004. The displacement effect in the growth of governments, Public Choice, 120, ½, July, 191-204.
13- Mahar, D.J. and Rezende, F.A. 1975. The growth and pattern of public expenditure in Brazil, 1920-1969, Public Finance Quarterly, 3, 4: 380-399
14- Nagarajan, P. 1979. Econometric testing of the displacement effect associated with a « non-global » social disturbance in India, Public Finance/ Finances Publiques, 34: 100-113.
15- Nagarajan, P. 1983. Displacement effect in government spending in Sweden : a reexamination, Public Finance/ Finances Publiques, 1, 156-162.
16- Nomura, M. 1995. Wagner's hypothesis and displacement effect in Japan, 1960-1991, Public Finance 50: 121-135.
17- Rasler, K.A. and Thompson, N.R. 1985. War making and state making: Government expenditures, tax revenues, and global wars, American Political Science review, 79, 2: 491-507.
18- Reddy, K.N. 1970. Growth of government expenditure and national income in India: 1872-1966, Public Finance/ Finances Publiques, 25, 1: 81-97.