Economic and Institutional Determinants in Fiscal Pressure: An Application to the European Case

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Abstract: The objective of this study has been to undertake an analysis of the economic and institutional determining factors of fiscal pressure in a group of European countries with different levels of economic development, recent history, or level of cooperation and integration among them. We have used a panel of data from 40 countries and a time period of eleven years. Apart from the variables generally used, we have introduced additional ones such as governing party ideology, rate of economic freedom of Euro-area countries, together with another set of institutional variables. Results obtained show that the purely economic model improves when institutional and geopolitical variables are included and, in this way, it is possible to see which countries governed by the left, belonging to the Euro-area or having been members of the Soviet block, and with economic liberty, are more liable to increase fiscal pressure.

Keywords: fiscal pressure, institutions, public expenditure

JEL Classification Codes: B15, F5, H11, H20

Studying the causes for the increase in size of the public sector has traditionally been related to evolution in expenditure. Different theories have been developed and contrasted analyzing the issue both from the demand and from the supply (Albi, González-Páramo and Zubiri 2004). Indeed, after the approach presented by Adolf Wagner in the last quarter of the nineteenth century, several criteria have been proposed to explain said growth, of course, taking into account, in a more or less explicit manner, that the difficulty for increasing taxes is a limiting factor in the expansion of expenditure. Outstanding among the theories that explicitly refer to this limitation is the displacement effect of Peacock and Wiseman (1961), which considers that social commotions lead to an acceptance of the increase in taxes, and the theory of Fiscal Illusion (Puviani 1903), which suggests that tax load is perceived to be lower than it actually is. In any case, there is an imbalance between the approaches from the side of expenditures and revenues. It isn´t a single case in studies of the evolution of public finances, since the same has occurred, for example, in the case of incidence analysis: the reference to taxes has a long history and relative to expenditure only began to generalize in the 1970s.[1]

This study is intended to contribute to the study of the behavior and evolution of fiscal pressure, from the knowledge already established by theory and its empirical contrast introducing, apart from the purely economic factors, those institutional parameters that could be determinant for explaining the evolution in fiscal pressure.

For this purpose, a model using panel data from 40 countries in the European continent has been applied over a period of time between 1996 and 2006. The use of such a heterogeneous sample is a relevant and new aspect in the analysis of fiscal pressure as it includes countries with different levels of economic development that have undergone different historical processes of integration. Empirical studies in this field using institutional variables focus on studying developing countries; studies on developed and least developed countries (Piancastelli 2001) seldom use institutional variables. Using the model we developed, we analyzed the economic and institutional determining factors of fiscal pressure, separating them in order to distinguish the influence of both types of variables, which is the main objective of this study. For this purpose we have introduced a set of variables, which we understand are a novelty in this type of empirical study. These variables include: the index of economic liberty, the quality index of institutional infrastructure, ideology of the dominant party, Euro-area membership, prior membership of the Soviet block, and other geographic variables like the fiscal behavior in Northern countries and Mediterranean countries. The results of this model lead us to conclude that the evolution in fiscal pressure is substantially better explained when the entire set of institutional and geopolitical variables is introduced.

The study is structured as follows: following this introduction, the next section reviews the different explanatory theories for the evolution of income tax. The third portion presents an analysis of the determining factors in fiscal pressure, differentiating and assessing economic and institutional factors. In the fourth part, a panel data model that includes 40 countries, is applied to determine the influence of the different variables on fiscal pressure. The final section presents the conclusions.

Explanatory Theories for the Evolution of and the Determining Factors in Fiscal Income

Hinrichs (1966) presented an autonomous theory about change in tax structure during economic development. This study considers that traditional societies obtain government revenues primarily from non-fiscal sources or from traditional direct taxes. In the transition to modern society, these sources gradually decrease, and when the change starts, indirect taxing increases in importance, particularly in external trade. In time, the internal indirect taxes increase to higher levels than the external ones. With respect to direct taxing, the old taxes decrease as income grows and the modern taxes gradually take their place. The flexibility of the structure of the increased taxes can be analyzed bearing in mind the differences in cultural styles in Northern and Latin countries. It should be noted that this theory incorporates several terms of institutional content: traditional societies, transition to modern society, change, external versus internal trade, and cultural style.

From here, and as already noted, few studies have been performed. For expository reasons we have chosen to separate the two sets of variables that are used. Traditionally, empirical analyses of fiscal pressure have usually placed emphasis on the determining economic factors. More recently, studies have started to analyze the relevance of the institutional factors, which may help to explain fiscal pressure. In our model we pay special attention to this set of institutional variables. In fact, through our work we try to explain the effect of institutional variables commonly used in conjunction with economic and geopolitical variables, applied to a sample that includes countries with different levels of development.

Economic Factors

The analysis of factors determining the level of income tax in countries has a long tradition dating back to the studies of Bahl (1971), Bird (1976), Chelliah, Bass and Kelly (1975), Lotz and Morss (1970), Musgrave (1969) and Tait, Gratz and Eichengreen (1979). Among these studies there is a wide consensus about the fact that specific realities in the countries imply different economic, social and even institutional factors that vary according to their level of development. Among the traditional variables indicated by these authors, we may quote the economic size of the country, its level of income per capita, commercial openness and specialization, productive structure, level of urbanization, illiteracy rate, level of formality in the financial system, or openness level of the economy. The structure of existing taxes (Feenberg and Rosen 1987) and the ability of the government to collect taxes (Eshag 1983) are other factors that have been considered for explaining fiscal pressure.

Tanzi (1992) adds public debt as a factor, which tends to increase the level of taxes. Wallace and Bahl (2005) also add demographic features to the analysis and they conclude that in countries with the highest demographic growth rates there is a tendency to collect less as it is more difficult to register new contributors.

Easterly and Rebelo (1993) describe the empirical relations among the fiscal policy variables, level of development and rate of growth, concluding that there is a strong relation between level of growth and fiscal structure. In the same line as Hinrichs, they argue that poor countries are fundamentally based on taxes on international trade, while taxes on income are important in developed economies. They consider that Wagner's "law" applies from the side of income, as they find that the government income/GDP ratio increases as the consumer price index (CPI) grows, both in the cross-sectional and longitudinal analyses. It is observed that as income increases, taxes on international trade decrease as a percentage of the public income, while the rate of income tax increases. As population increases, the rate of taxes on consumption decreases with respect to public income. They consider that "in general, democracies and non-democracies implement different policies." The character of the political system is not important, however, in terms of the fiscal policy once income is controlled. The effects of the income level and the population level on the type of fiscal system are surely related to the administrative costs and those for undertaking taxation.

Lammert (2004) considers how the scale economies that may be produced should be taken into account, among other factors, to determine the level of taxation. For this author, religion is important in the fiscal regimes structure.

Capacity for payment is the dominant principle in Protestant countries, and benefit is the dominant principle in Catholic countries. Apart from these, there are other influences such as political parties, level of corporatism, density of unions and frequency of strikes, percentage of retired contributors, and the higher or lower level of economic growth.[2]

In this brief analysis of the economic literature, we shall finally underscore the study of Tavares (2004) whose probit model concluded that right-wing governments favor the reductions in expenses and the left-wing ones prefer increases in income tax.

Institutional Variables

The most widespread current in new institutionalism[3] is the so-called "Law and Economics," which analyzes transaction costs and ownership rights. The best known names in Law and Economics are Armen Alchian, Ronald Coase, Harold Demsetz, Richard Posner and Oliver Williamson. Another important current is known as "Constitutional Political Economy," by James Buchanan from the Public Choice School. The "New Economic History" of Fogel and North also sees history as a process of evolution of institutions. The "Theory of Human Capital" by Schultz should also be taken into consideration, or Gary Becker's "Economic Analysis of Institutions and of Family and Marriage Functions."

Following the classification offered by Aixalá and Fabro (2007) we identify seven groups of institutional factors:

1. *Civil Liberties*, which include a whole set of rights like freedom of press, freedom of expression, religious freedom, freedom for meeting, and impartial legal procedures.
2. *Political Rights*, which measure the liberty of citizens to participate in the political process in an equitable manner, the sufficient competence in the political sphere and the holding of free and impartial elections.
3. *Economic Liberty*, which includes the security of legally acquired property rights and the liberty to undertake voluntary transactions both within and outside the frontiers of the nation (Gwartney and Lawson 2003).
4. *Corruption*, which refers to using a public office for personal benefit, including bribes, extortion and other criminal offenses like fraud and fund embezzlement (Mauro 1995).
5. *Social Capital*, which includes institutions, relations and norms that comprise the quality and quantity of social interactions in a society, such as general confidence indicators and civic norms (Putnam 1993).
6. *Political Instability*, which includes, on one hand, indexes that combine variables related to phenomena of social discomfort, such as revolts, murders and coups, and on the other hand, rate measures for the renewal of the executive, interpreted as an indicator of its instability or failure (Alesina and Perotti 1994).
7. *Institutional Infrastructure*, which is a series of indicators that collect assessments of several aspects related to the above points, such as property rights security, government policies predictability, legal system reliability, legislative system efficiency, bureaucracy efficiency, corruption, the Rule of Law, expropriation risk, and several categories of political instability.

Aixalá and Fabro (2007) indicate that although the empirical studies include civil liberties and political rights in a single variable, it is more convenient to separate these concepts given the existence of indicators that emphasize one more than the other.

There are two problems presented by the institutional variables. First, the low time coverage of many indicators, which hinders the adequate use of panel data. And second, the differences in the coverage of countries that condition the researcher when deciding the group of countries to analyze. Even so, the interest for this type of variables among researchers is making them become more complete as to the time period under consideration and the number of countries analyzed.

The inclusion of institutional variables in empirical studies of fiscal pressure is relatively recent, the majority of which focus on the analysis of developing countries. Even so, some researchers already ascribed to institutions a very important role in the elaboration of tax systems before the neo-institutionalism boom. In this way, Kaldor (1963) said that political institutions are fundamental for the success of any tax reform. In this same sense, Bird (1989) underlined the importance of the dimension of tax administration in obtaining an efficient tax system in transitional and developing countries.

Cheibub's (1998) analysis determines the extent to which the political regime affects the capacity for collecting tax, and reaches the conclusion that the effect is nonexistent, so political instability in democratic regimes is irrelevant

for obtaining higher or lower tax collection. Torgler (2005), however, demonstrates that in the most democratic countries, contributors are more willing to pay taxes. Benhabib and Przeworski (2006), however, maintain that although a more democratic regime leads to the application of more redistributive policies, this is not maintained in societies with high levels of inequality, as the elites do not accept extreme redistributive policies. In addition, Bird, Martínez-Vázquez and Torgler (2004) analyze the factors that determine the tax effort of a series of developing countries, using traditional and institutional variables, reaching the conclusion that the latter are relevant for analyzing fiscal pressure in this set of countries.

The Model

The model we use to try to explain the fiscal pressure throughout economic, institutional and geopolitical variables is a lineal model. The sample introduces novelties in scope, as we analyze the case of 40 European countries, grouping them by five different levels of development: 1) those in transit from a dictatorial to a democratic regime, 2) capitalist countries and those in a process of economic liberalization, 3) countries sharing a common currency, 4) countries that had been members of the Soviet block, and 5) those with totally different religions (Table 1).

TABLE 1 ABOUT HERE

The period of time considered was limited to the availability of data, especially that of the institutional variables. Even so, we have managed to generate a panel data model for an 11-year period from 1996 to 2006. In this sense, the use of panel data to study the economic and institutional determinants of fiscal pressure is also novel because the majority of empirical studies use cross-section data, as the institutional indexes were created relatively recently, and a series of more than 10 years has not been available for some of these indicators. In this way we have been able to analyze 440 observations for each of the variables used, because we have used a sample of 40 countries over an 11-year period.

Data

The variables used are summarized in Table 2.

(TABLE 2)

The Model

We estimated a linear model by using two estimators: Feasible Generalized Least Squares (FGLS) and Panel Corrected Standard Errors (PCSE). The Wooldridge test that was performed determined that the model presents a problem of autocorrelation. Also, the modified Wald test shows that the model is also heteroskedastic. To fix this, the two best estimators were FGLS and PCSE.[4]

We used a panel of data to jointly assess all the institutional variables used. Using panel data instead of cross-section analysis allows us to control the individual heterogeneity, produce data with a higher degree of variability and a lower level of collinearity among the regressors, study dynamic adjustment processes, identify and measure effects that are not detectable with pure cross-section or time series data, and build and contrast models of more complex behavior than would be possible using simpler data.

We have undertaken ten different estimates. In the first two estimates we used a model with only economic variables. The model is the following:

$$PF_t = \alpha + \beta_1 Y_{i,t-1} + \beta_2 GP_{it} + \beta_3 AGR_{it} + \eta_i + \delta_t + \mu_{it} \qquad (1)$$

where, *PF* is fiscal pressure, *Y* is per capita income measured by GDP, *GP* is public expenditure with respect to GDP, *AGR* is the influence the agricultural sector has on GDP, η_i registers the individual unnoticed effects in each country that are not constant in time, and δ_t measures the unnoticed time effects that vary in time but do not differ from one country to another.

Subsequently, we have added to the original model the institutional and geopolitical variables used. In this case, the estimated model is the following:

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$PF_t = \alpha + \beta_1 Y_{i,t\text{-}1} + \beta_2 GP_{it} + \beta_3 AGR_{it} + \gamma_1 ILC_{it} + \gamma_2 IDP_{it} + \gamma_3 ILE_{it} + \gamma_4 IPC_{it} + \gamma_5 ICII_{it} + \lambda_1 PARTY_{it} + \lambda_2 EURO_{it} + \lambda_3 PECOS_i + \lambda_4 RELIGION_{it} + \lambda_5 MEDITERRANEAN_i + \lambda_6 NORDIC_i + \eta_i + \delta_t + \mu_{it}$

$\qquad$ (2)

where, *ILC* in the index of civil liberties, *IDP* is the index of political liberties, *ILE* is the index of economic liberties, whether prepared by the Fraser Institute or by the Heritage Foundation, *IPC* in the corruption perception index, *ICII* is the index measuring the quality of institutional infrastructure, *PARTY* is the dummy variable whose value is one if the governing party is left wing, *EURO* is the dummy variable whose value is one if the country belongs to the Euro area, *PECOS* is the dummy variable whose value is one if the country has been a satellite country of or has belonged to the USSR, *RELIGION* measures the percentage of Catholics over the entire population of the country, *MEDITERRANEAN* is the dummy variable that identifies those countries on the Mediterranean coast and *NORDIC* is the dummy variable whose value is one if is a Nordic country.

Finally, the third estimated model adopts the following form:

$PF_t = \alpha + \beta_1 Y_{i,t\text{-}1} + \beta_2 GP_{it} + \beta_3 AGR_{it} + \gamma_1 ILC_{it} + \gamma_2 IDP_{it} + \gamma_3 ILE_{it} + \gamma_4 IPC_{it} + \gamma_5 ICII_{it} + \gamma_6 IEP_{it} + \lambda_1 PARTY_{it} + \lambda_2 EURO_{it} + \lambda_3 PECOS_i + \lambda_4 RELIGION_{it} + \lambda_5 MEDITERRANEAN_i + \lambda_6 NORDIC_i + \eta_i + \delta_t + \mu_{it}$ $\qquad$ (3)

where the only difference with respect to the previous model is the inclusion of the variable *IEP* that measures the political stability and is not part of the calculation to obtain *ICII* (institutional infrastructure quality index).

Results

After estimating the model explained by FGLS and PCSE, and verifying the global significance of the models used, we obtained the results presented in Tables 3, 4 and 5.

(TABLEs 3, 4 and 5)

The first conclusion is that the model improves when we introduce institutional and geopolitical variables in the purely economic model. In fact, the adjustment quality, measured by the R^2, changes from 0.77 to over 0.80. On the other hand, the different estimates according to the estimator used and the variables used do not differ substantially, so the model is robust.

As for the values obtained, most cases coincide with what is expected a priori. The most surprising result may be the parameter assessed for GDP per capita, because although it is significant and positive, its importance in determining fiscal pressure is very low. In fact, the estimated parameter value for this variable is around zero. Even so, this result coincides with other empirical studies such as the one by Bird, Martínez-Vázquez and Torgler (2004), in which the sign of the parameter for the GDP per capita varies depending on the specification of the model assessed, and the value is also usually quite low.

Public expenditure, which we have introduced in the analysis offers the expected results; there is a positive and very significant effect for public expenditure on fiscal pressure in these countries.

As for the productive specialization of the European countries, the agricultural sector has a clearly negative effect on fiscal pressure, which proves the difficulty to encumber economic activity in this sector. Besides, if we take for granted that in most developed countries the importance of agriculture on the economy is lowest, we can conclude that fiscal pressure grows as economic development increases.

As to the effect of both the index of civil liberties and the index of political rights on fiscal pressure, it is remarkable. European countries with higher freedom of 1) expression and belief, and 2) association and legal security, as well as the most democratic regimes, have the lowest fiscal pressure. Furthermore, the level of significance of these two variables is small. This result agrees with the conclusions of Cheibub (1998) that the political regime has no effect on the capacity for raising taxes.

As to the impact of economic liberty on fiscal pressure, the result varies with the index used. In the case of the indicator prepared by the Heritage Foundation, the estimated parameter changes signs depending on the estimator used and also has little significance. By contrast, the index generated by the Fraser Institute has a positive and significant effect. This result shows a positive relation between economic liberty and fiscal pressure, so the protection of property rights, a lower level of corruption, and solidity in tax policy have a positive effect on fiscal pressure.

The regressor sign of the corruption level in European economies changes depending on the variables included in the model. It also is not very significant. Something similar happens with the parameter measuring the effect of the

quality of institutional infrastructure on fiscal pressure. Even so, the effect is positive, so with better institutional infrastructures, fiscal pressure is higher, and, also, this value does not vary with the two measures we have used. In fact, using the political stability variable has not improved the model, as its significance is very low, and its value is close to 0.

With respect to the geopolitical variables, the effect of ideology of the governing political party in each country on fiscal pressure is positive (i.e., when left-wing parties are governing in Europe, there is higher fiscal pressure in these countries). This result is in line with Tavares (2004), who concluded that while right-wing governments are in favor of reducing public expenditure, left-wing parties prefer to increase income tax.

On the other hand, belonging to the Euro area also has a positive and significant effect, so the commitments these countries have had to reach in order to share the same currency, with respect to consolidation of public finances, has lead to an increase in fiscal pressure in the area.

The historical background also exhibits a pattern of tax behavior. Thus we find a positive regressor incidence measuring the effect of belonging to the group of ex-Communist countries on fiscal pressure. Belonging to a Nordic or Mediterranean area also yields higher fiscal pressure results in these countries. As expected, the effect on the fiscal pressure is higher in the case of the Nordic countries than in the case of Mediterranean countries.

Finally, we have not obtained any significant result for religion.

Conclusions

Results obtained in our empirical study allow us to conclude that the inclusion of institutional and geopolitical variables in the analysis of determinants of fiscal pressure in the case of European countries is an improvement over the purely economic study. The sample used significantly enriches the analysis by providing differences in the 40 countries studied as to the level of economic development, the economic system in force, and belonging to different economic blocks, yields more interesting results. Besides, based on the assessments obtained, we can say that the level of economic development favorably affects the evolution of fiscal pressure, the same as public expenditure or public deficit do.

The political regime, however, yields a negative result, so a higher level of democracy does not entail higher fiscal pressure. Who is governing may be more important, as the left-wing parties increase fiscal pressure.

On the other hand, belonging to the Euro-area and having been a member of the Soviet block have a positive effect on fiscal pressure. Also, Mediterranean and Nordic tax behavior do not differ much from each other; the Nordic countries have an even more intense influence on fiscal pressure.

Notes

1. The most complete analysis on tax illusion is the one by Buchanan (1967). See also Reis-Mourao (2008).
2. Recently many analyses have been prepared on tax structures, mainly referring to developed countries, focusing attention on the composition of the tax packages, on searching budgetary balance and convergence of the different tax systems. This case was influenced by the possible tax harmonization among European Union countries. See, among others, Boscá, García and Taguas (2005), Esteve, Sosvilla and Tamarit (2000), Hallerberg, Strauch and Von Hagen (2004), Maroto-Illera and Mulas-Granados (2001), Mierau, Jong-A-Ping and DeHaan (2007), Mulas-Granados (2003), and Pirttilä (2000). These studies have attended to the most relevant and influential institutional variables for the evolution of fiscal pressure, although that was not their main objective. The study by Alesina and Perotti (1996) can be considered essential, as it was a great incentive for this type of analysis, despite its main objective being to analyze the effects of income inequality on growth.
3. The use of the expression "new institutional economy" has currently become generalized to refer to a wide variety of approaches and new economic theories.
4. Beck and Katz (1995) showed that the standard errors generated by the estimator PCSE are more accurate than FGLS, however, the debate continues between the two estimators.

References

Aixalá, José and Gema Fabro. "Indicadores Institucionales y Crecimiento Económico: Un Panorama." *Hacienda Pública Española* 182, 3 (2007): 115-162.

Albi, Emilio, José M. González-Páramo and Ignacio Zubiri. *Economía Pública I*. Madrid: Ariel, 2004.

Alesina, Alberto and Roberto Perotti. "The Political Economy of Growth: A Critical Survey of the Recent Literature." *World Bank Economic Review* 8, 3 (1994): 351-371.

——. "Income Distribution, Political Instability, and Investment." *European Economic Review* 40, 6 (1996): 1203-1228.

Bahl, Roy W. "A Regression Approach to Tax Effort and Tax Ratio Analysis." *IMF Staff Papers* 18 (1971): 570-612.

——. "Reaching the Hardest to Tax: Consequences and Possibilities." Paper presented at the Hard to Tax: An International Perspective Conference, Andrew Young School of Policy Studies, Georgia State University, May 15-16, 2003.

Beck, Nathaniel and Jonathan N. Katz. "What to Do (and not to Do) with Time-Series Cross-Section Data." *American Political Science Review* 89, 3 (1995): 634-647.

Benhabib, Jess and Adam Przeworski. "The Political Economy of Redistribution Under Democracy." *Economic Theory* 29, 2 (2006): 271-290.

Bird, Richard M. "Assessing the Performance in Developing Countries: A Critical Review of the Literature." *FinanzArchiv* 34, 2 (1976): 244-265.

——. "The Administrative Dimension of Tax Reform in Developing Countries." In *Tax Reform in Developing Countries*, edited by Malcom Gillis, pp. 315-346. Durham: Duke University Press, 1989.

Bird, Richard M., Jorge Martínez-Vázquez and Benno Torgler. "Societal Institutions and Tax Effort in Developing Countries." Working Paper no. 2004-21. Basel, Switzerland: Center for Research in Economics, Management and the Arts, 2004.

Boscá, José E., José R. García and David Taguas. "La Fiscalidad en la OCDE." Documentos de Trabajo no. 2005-06. Madrid: *Ministerio de Economía y Hacienda*, 2005.

Buchanan, James M. *Public Finance in Democratic Process: Fiscal Institutions and Individual Choice*. Chapel Hill: University of North Carolina Press, 1967.

Cheibub, José A. "Political Regimes and the Extractive Capacity of Governments: Taxation in Democracies and Dictatorships." *World Politics* 50, 3 (1998): 349-376.

Chelliah, Raja J. "Trends in Taxation in Developing Countries." *IMF Staff Papers* 18, 2 (1971): 254-331.

Chelliah, Raja J., Hessel J. Baas and Margaret R. Kelly. "Tax Ratios and Tax Effort in Developing Countries, 1969-71." *IMF Staff Papers* 22, 1 (1975): 187-205.

Easterly, William and Sergio Rebelo. "Fiscal Policy and Economic Growth. An Empirical Investigation." *Journal of Monetary Economics* 32, 3 (1993): 459-483.

Eshag, Eprime. *Fiscal and Monetary Policies and Problems in Developing Countries*. Cambridge: Cambridge University Press, 1983.

Esteve, Vicente, Simón Sosvilla and Cecilio Tamarit. "Convergence in Fiscal Pressure Across UE Countries." *Applied Economics Letter* 7, 2 (2000): 117-124.

Feenberg, Daniel R. and Harvey S. Rosen. "Tax Structure and Public Sector Growth." *Journal of Public Economics* 32, 2 (1987): 185-201.

Gwartney, James and Robert Lawson. "The Concept and Measurement of Economic Freedom." *European Journal of Political Economy* 19, 3 (2003): 405-430.

Hallerberg, Mark, Rolf Strauch and Jürgen Von Hagen. "The Design of Fiscal Rules and Forms of Governance in European Union Countries." Working Paper no. 419. Frankfurt am Main: European Central Bank, 2004.

Hinrichs, Harley H. *A General Theory of Tax Structure Change During Economic Development*. Cambridge: Law School of Harvard University, 1966.

Kaldor, Nicholas. "Will Underdeveloped Countries Learn to Tax?" *Foreign Affairs* 41 (1963): 410-419.

Lammert, Christian. "Modern Welfare State under Pressure: Determinants of Tax Policy in a Globalizing World." Working Paper no. 2004-01. Montreal: Institute for Research on Public Policy (IRPP), 2004.

Lotz, Joergen R. and Elliott R. Morss. "A Theory of Tax Level Determinants for Developing Countries." *Economic Development and Cultural Change* 18, 3 (1970): 328-341.

Maroto-Illera, Reyes and Carlos Mulas-Granados. "Duration of Fiscal Consolidation in the European Union." Working Paper no. 2001-19. Madrid: Fundación de Estudios de Economia Aplicada (FEDEA), 2001.

Mauro, Paolo. "Corruption and Growth." *Quarterly Journal of Economics* 110, 3 (1995): 681-712.

Mierau, Jochen, Richard Jong-A-Ping and Jakob De Haan. "Do Political Variables Affect Fiscal Policy Adjustment Decisions? New Empirical Evidence." *Public Choice* 133, 4-5 (2007): 297-319.

Mulas-Granados, Carlos. "The Political and Economic Determinants of Budgetary Consolidation in Europe." *European Political Economy Review* 1, 1 (2003): 15-39.

Musgrave, Richard A. *Fiscal Systems*. New Haven: Yale University Press, 1969.

Peacock, Alan T. and Jack Wiseman. *The Growth of Public Expenditure in the United Kingdom*, 2nd ed. London: Allen & Unwin, 1961.

Piancastelli, Marcelo. "Measuring the Tax Effort of Developed and Developing Countries. Cross Country Panel Data Analysis – 1985/95." Discussion Paper. Río de Janeiro: Instituto de Pesquisa Econômica Aplicada (Institute for Applied Economic Research [IPEA]), September 2001.

Pirttilä, Jukka. "Fiscal Policy and Structural Reforms in Taxation Economies: An Empirical Analysis." Working Paper no. 5-2000. Helsinki: Bank of Finland, 2000.

Putnam, Robert D. *Making Democracy Work: Civic Traditions in Modern Italy.* Princeton: Princeton University Press, 1993.

Puviani, Amilcare. *Teoria della Illusione Finanziaria.* Palermo: Sandron, 1903.

Reis-Mourao, Paulo. "Towards a Puviani's Fiscal Illusion Index." *Hacienda Pública Española* 187, 4 (2008): 49-86.

Tait, Alan A., Wilfrid L. M. Gratz and Barry J. Eichengreen. "International Comparisons of Taxation for Selected Developing Countries, 1972-76." *IMF Staff Papers* 26, 1 (1979): 123-156.

Tanzi, Vito. "Structural Factors and Tax Revenue in Developing Countries: A Decade of Evidence." In *Open Economies: Structural Adjustment and Agriculture*, edited by IanGoldin and L. Alan Winters, pp. 267-281. Cambridge: Cambridge University Press, 1992.

Tavares, José. "Does Right or Left Matters? Cabinets, Credibility and Fiscal Adjustment." *Journal of Public Economic* 88, 12 (2004): 2447-2468.

Torgler, Benno. "Tax Morale and Direct Democracy." *European Journal of Political Economy* 21, 2 (2005): 525-531.

Wallace, Sally and Roy W. Bahl. "Public Financing in Developing and Transition Countries." *Public Budgeting and Finance* 25, 4 (2005): 83-98.

Wicksell, Knut. *Finanztheoretische Untersuchungen nebst Darstellung and kritik des Steuerwesen Schwedens.* Jena: Gustav Fischer, 1896.