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Abstract[*]

This paper explores the effect of party system institutionalization on the relevance of the personal income tax in the tax composition. Based on a fiscal contractualism approach, it is argued that institutionalized political party systems increase the capacity of political actors to credibly commit to fiscal contracts agreed with wealthy taxpayers. Consequently, in countries characterized by institutionalized political party systems wealthy taxpayers accept paying a bigger share of the tax burden, as reflected in a greater relevance of progressive tax types. The analysis of panel data for more than 90 countries from 1990 to 2010 supports this hypothesis, showing that party system institutionalization has an especially significant and strong positive effect on the relevance of the personal income tax where bureaucratic capacity is low. At high levels of bureaucratic capacity the effect disappears. The findings strongly support the claim that, particularly in developing countries, where bureaucratic capacity tends to be limited, taxation is best understood as a problem of credible commitment.

JEL classifications: D78, H24, H30

Keywords: Party system institutionalization, Personal income tax, Bureaucratic capacity, Fiscal contractualism

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1. Introduction

Taxation is high on the international agenda. In the context of the global financial crisis, contentious debates over tax policy are present in the media and public debates on a daily basis. The discussion is not restricted to developed countries. The international development community, which has been focused for a long time on the spending side of the budget, is increasingly engaging in lively discussions about taxation. All actors now recognize the centrality of effective tax systems to inclusive and sustainable development, democratic governance and state-building (United Nations, 2003, 2008; UN Millennium Project, 2005). In particular, higher-performing tax systems are crucial for governments in developing countries in order to have enough resources to cope with challenges such as poverty reduction, provision of public services, infrastructure development and climate change.

Although "virtually every scholar agrees that taxes involve politics" (Gould and Baker, 2002: 91), historically, political scientists have not paid much attention to the topic. This has changed recently, but the rapidly growing literature on the political economy of taxation has been focused on two main aspects: the overall level of tax revenue[1] and the occurrence of tax reform.[2] The aspect of tax composition, however, remains widely understudied from a political science perspective and mostly restricted to small N approaches.[3]

The absence of consistent body of literature on the political determinants of tax composition[4] is surprising, as it is crucial to understand how the burden of financing the state is distributed among different social groups. Following standard tax incidence assumptions, we can expect that the stronger the relevance of progressive taxes in the tax composition, the higher the burden carried by wealthy taxpayers will be.

Interestingly, developing countries' poor tax collection records seem to be connected to the poor performance of progressive tax types (e.g., Organisation for Economic Co-operation and Development and African Development Bank, 2010; Gómez Sabaini, 2007). In general, tax systems in developing countries rely heavily on indirect taxes and most prominently on the value added tax (hereafter VAT). Direct taxes—and especially those considered to have a more

[1] Mostly operationalized as tax collection to gross domestic product (GDP) ratios.
[2] This literature is mostly based on case studies (e.g., Gillis, 1989; Thirsk, 1997; Lora, 2007). For large N studies on OECD countries, see Basinger and Hallerberg (2004). Outside the OECD, the number of studies is even lower and mostly focus on Latin America (Focanti, Hallerberg and Scartascini, 2013; Mahon, 2004).
[3] Exceptions are Mahdavi (2008), Kenny and Winer (2006), Timmons (2010a) and Seiferling (2012).
[4] Tax composition refers to the percentage that each tax type represents as a percentage of total tax collection.

progressive tax incidence, such as the personal income tax—in many cases play a marginal role. Economic and administrative considerations partly explain and justify a stronger emphasis on fewer progressive tax types in these countries. But many scholars point out that, from a political perspective—especially in democratic developing countries—the high level of inequality and the low performance of more progressive tax types is a fact “hard to reconcile with the workhorse model in political economy, that is, the median voter model of redistributive politics” (Ardanaz and Scartascini, 2013: 1637).[5]

I argue that the concept of fiscal contractualism (Timmons, 2005; Moore, 2008) can help to explain this situation. Many developing countries do not have sufficient bureaucratic capacities to efficiently use coercion to tax their citizens. As a result, governments in these countries have a strong incentive (and need) to foster “quasi voluntary tax compliance” (Levi, 1989), by which citizens would voluntarily accept paying taxes. This incentive should be particularly strong when facing wealthy taxpayers. It is unlikely that their contributions can be explained by coercion. In general, the bureaucratic capacities are so low that they have little to fear. On the one hand, wealthy taxpayers can be considered the actors that are best able to evade taxation and resist it using political means. On the other hand, given the high convergence of economic and political power, it is hard to imagine governments putting pressure on actors whose support is crucial to remaining in power.

Following fiscal contractualism, finding agreement between the government and the wealthy on the exchange of services for tax contributions would be a feasible way to increase the acceptance and willingness of the wealthy to pay taxes. In fact, according to the argument, both the government and the wealthy would benefit from such an agreement. The former would gain access to more resources in an efficient manner; the latter would have greater certainty that their contributions will be employed to implement services they value. However, defining and sustaining fiscal agreements is not an easy task. In particular, if governments cannot credibly commit to taxpayers that benefits will be provided in exchange for tax contributions, a defensive stance towards taxation will prevail. This is why taxation should be seen at least “partly as a game of credible commitment rather than a game of pure coercion” (Timmons, 2010a: 211).

In this paper, I concentrate on the dimension of commitment and examine the degree to which institutionalized political party systems, by enhancing the capacities of political actors to

[5] On this point, see also Timmons (2010b).

make credible commitments to wealthier taxpayers, influence the share of the tax burden that these taxpayers agree to pay. More precisely, my understanding of party system institutionalization emphasizes the stability of the party system over time. The intuition behind my argument is simple: the relationship between taxpayers and the government faces classical principal-agent problems. In particular, the capacity of the political system to sustain agreements over time and to disincentivize opportunistic behavior by political leaders is a core concern for wealthy taxpayers. Institutionalized party systems—understood as stable party systems over time—can mitigate these problems by encouraging clearer and more stable expectations of the behavior of political actors in the future.[6] Parties that endure tend to have more institutional strength and more closely attached voters (Tavits, 2012; Ezrow, Tavits and Homola, 2013). Also, political parties in stable political party systems tend to have more moderate positions (Gallagher, Laver and Mair, 2011) and are less personalistic (Mainwaring and Torcal, 2006: 221). Finally, stable political party systems tend to have less pronounced policy shifts and offer continuity in party alternatives over time as well as repeated interaction in party competition, which is a prerequisite for party system institutionalization in a broader understanding (Randall and Svåsand, 2002). All these characteristics make the political environment for wealthy taxpayers more reliable and credible, and therefore enable the acceptance of tax contributions that would not be accepted in other settings.

In a first step, I discuss the specificities of developing countries and how, due to limited bureaucratic capacity, in this context the factors enabling credible commitment are even more important in explaining contributions by wealthy taxpayers. The theoretical discussion leads me to the hypothesis that party system institutionalization most prominently affects wealthy taxpayers' acceptance of taxes on them where bureaucratic capacity levels are low.

In a second step, I examine this hypothesis empirically. Based on a broader sample than is usually presented in the studies on the political determinants of taxation, I find evidence supporting my claims. At low and middle levels of bureaucratic capacity, party system institutionalization has a strong positive effect on the relevance of personal income tax in the tax composition. This effect disappears where bureaucratic capacity levels are high. The results are

[6] Of course, the level of uncertainty is a problem of degree. Developed countries also face problems of uncertainty. Yet, the level of uncertainty tends to be vastly greater in developing democracies, and uncertainty is present in different dimensions (Lupu and Riedl, 2013).

robust to different specifications, and the effect is particularly reliable in democratic settings and when government parties have a programmatic orientation.

The broader significance of these findings is worth considering. First, the results indicate that focusing on the question of why some governments tax more may obfuscate the highly relevant and political question of how governments tax. Morrissey and Steinmo (1987) have shown how, in the United Kingdom, political parties had a minimal influence on the level of tax revenue, but a strong influence on tax composition. Political parties were therefore able to distribute the tax burden among more progressive or regressive tax bases following political considerations. Similar situations might be taking place in developing countries today. The focus on tax revenue levels might overlook this process and miss where and why some wealthy taxpayers are willing to accept paying more taxes. Second, the paper shows that short-term unilateral promises have limited effect in getting wealthier taxpayers to pay more. The acceptance of a bigger share of the tax burden hinges on the existence of more institutionalized political systems that are able to make credible, long-term commitments.

2. Empirical Literature on the Determinants of Tax Composition

Most of the work on tax composition and personal income tax has been focused on economic and administrative variables. One main result of this literature is that the level of tax collection and the tax composition are heavily influenced by the level of economic development. Developing countries (in particular low-income countries) rely more on corporate and trade taxes than developed ones.[7] Closely related is the fact that, in the process of economic globalization, developing countries have had far more problems replacing the decrease of trade taxes associated with this process and have done this most prominently by exploiting VAT. Furthermore, most studies conclude that—given the lack of an alternative tax base and the administrative challenge presented by "hard to collect taxes" (e.g., the personal income tax)—this strategy appears to be a reasonable option.

Only recently have political variables received attention in this debate, and the attention paid to them is increasing. This process has been driven by the growing interest in the political

[7] For literature focusing on developing countries, see Aizenman and Jinjarak (2009); Agbeyegbe, Stotsky and WoldeMariam (2006); and Baunsgaard and Keen (2010). The debate on developed economies has been centered on the idea of globalization-induced convergence. Excellent overviews of the debates can be found in Basinger and Hallerberg (2004); Plümper, Troeger and Winner (2009); and Swank and Steinmo (2002).

economy dimension of public finance in general, and taxation in particular.[8] Specifically, two main arguments dominate the discussion about the link between political factors and tax composition. The first one stresses the effect of political ideology. The second one focuses on the effect of political institutions.

The relevance of domestic political institutions to economic policies in general, and taxation in particular, is well researched (Bird, Martínez-Vázquez and Torgler, 2008; Cheibub, 1998; Kenny and Winer, 2006; Mulligan, Gil and Sala-i-Martin, 2004).[9] The approach relies on the idea that political institutions affect the incentives for politicians to use particular tax instruments and react to external pressures or shocks in a certain way. In terms of empirical analysis, the variables that have received much attention are the number of veto players (Hallerberg and Basinger, 1998), the degree of party dominance (Steinmo and Tolbert, 1998), regime type (Cheibub, 1998; García and von Haldenwang, 2015),[10] the level of decentralization (Kenny and Winer, 2006) and legislative malapportionment (Ardanaz and Scartascini, 2013).

Two reasons explain why de facto most of these empirical studies are restricted to developed countries. First, data availability and quality are negatively correlated with level of development. Hence, the more specific the variable tested, the lower the number of developing countries in the sample. In addition, beyond the data issue, testing institutional arguments in developing countries also entails a theoretical problem. In many developing countries, informal institutions play a stronger role than formal ones (Therkildsen, 2001: 111). It is harder to assume that institutions, simply by existing, will be respected and affect the policy process as might be expected properly. Consequently, it can be highly misleading to assume a constant effect of formally similar political institutions across samples of countries, in which they would operate very differently.

Partly overcoming this problem, much of the most influential work on institutions and taxation in developing countries has a strong focus on historical legacies and path dependencies. Using an historical political economy perspective, the characteristics of contemporary tax

[8] A comprehensive overview of the political economy approaches to analyzing taxation can be found in di John (2006). Focusing on Latin America, Machado, Scartascini, and Stein (2013) analyze the tax systems in this region, taking into consideration most of the variables suggested by the different approaches.

[9] There is a broad range of literature on the political determinants of redistributive policies and the size of the state. These contributions have links to taxation but are outside the scope of this paper, which strictly looks at the determinants of taxation.

[10] Works by Bird, Martínez-Vázquez and Torgler (2008), Kenny and Winer (2006) and Profeta and Scabrosetti (2010) have taken up this question and deepened it by analyzing the effect of democracy on the performance of particular tax types. The results indicates that democracies tend to tax more and to rely more strongly on more progressive tax types.

performance are explained by the constraining effect of socio-political patterns that emerged in the past (e.g., Mkandawire, 2010; Thirsk, 1997). Specifically with regard to the performance of the personal income tax, Lieberman (2003) probably offers the most prominent contribution. In his book, Lieberman argues that the historical pattern of interaction between the state and upper-middle classes is a crucial factor in understanding the consolidation of different "tax states." In particular, using a comparison between Brazil and South Africa, he shows how "adversarial tax states" had far more problems extracting taxes from the wealthier segments of society than "cooperative tax states."

As for the effect of partisanship on tax composition, the account of the literature is similar to the one on political institutions. There is no doubt that partisanship plays a major role in defining fiscal policies and shaping the distribution of the tax burden among social groups. However, much of the evidence is again based on developed countries.

Interestingly, research on the effect of partisanship in developed economies systematically has led to counter-intuitive empirical results. Against common expectations, studies show that left-leaning governments tend to rely more heavily on regressive taxes. Several explanations have been proposed for this empirical puzzle. Kato (2003) argues that, in the context of globalization, left-leaning governments use indirect taxation more intensively because they have no alternative to finance the high levels of public expenditure that they aim at. In this line, Beramendi and Rueda (2007) emphasize the relevance of the institutional setting in which left-leaning governments operate and show how, in the absence of corporatism, left-leaning governments are associated with a strong use of progressive tax instruments, whereas in the presence of corporatism they exploit more regressive taxes.[11] Also, Cusack and Beramendi (2006) have shown how left-leaning governments rely more heavily than right-leaning ones on taxing labor.

Analyses on the relationship between partisanship and taxation outside the developed economies are scarce and heavily concentrated on Latin America. In addition, those studies that exist show inconsistent results. For instance, whereas Hart (2010) finds evidence that in Latin America left-leaning governments tax less than right-leaning ones due to a de-emphasis of VAT, the findings of Stein and Caro (2013)—based on a broader sample and newer data, as well as additional indicators for partisan ideology—contradict these results. Beyond the mixed results,

[11] Beramendi and Rueda define a corporatist environment as one where "the policy choices of social democratic governments are limited by commitments with both labour and capital" (2007: 632).

similarly to the problem with formal institutions, it appears problematic to apply party ideology labels used in the context of the Organisation for Economic Co-operation and Development (OECD) to developing countries (Kitschelt and Kselman, 2013).

Timmons (2010a) also analyzes the effect of partisanship on taxation, but in a different framework. In his model, partisanship is not relevant because of the ideological preferences it might imply for governments, but rather because it can serve as a device for credible commitment towards voters. Timmons underlines that only if governments are credible will taxpayers accept paying more taxes themselves in expectation of benefits in the future. As parties are most credible to their platforms, partisanship should result in the higher performance of taxes set on them. More precisely, left-leaning governments should be able to agree on fiscal bargains with poor taxpayers, whereas right-leaning governments should be more credible to wealthy ones. Timmons' analysis of 18 OECD countries supports this hypothesis. Left-leaning governments tend to tax the poor more heavily but also focus spending on policy areas considered to be more beneficial to them. By contrast, right-leaning governments rely more on progressive tax types, but also spend more on policies that can be expected to have a regressive incidence.

In the following section, building on Timmons' contribution, I develop a theoretical argument that captures more precisely the conditions under which taxpayers accept paying taxes in developing countries. In essence, I argue that the idea that taxation is a game of credible commitment still holds for developing countries when it comes to taxing the wealthy. The poor have no clear exit option to avoid taxation, so the government's capacity to credibly commit is not crucial for taxing them. By contrast, the wealthy have far more options to avoid and evade taxes. In this context—especially when bureaucratic capacity is low—the government's capacity to credibly commit to the wealthy is key for convincing them to pay taxes. I also claim that, given the specific characteristics and challenges that most developing countries share and face, the institutionalization of the political system rather than the ideology of the party in government is the factor that will foster credibility. Assuming that governments will extract taxes from wealthy taxpayers using more progressive tax types, party system institutionalization should have a positive effect on the relevance of these taxes in the tax composition.

3. The Argument: Institutionalized Party Systems and the Relevance of Progressive Tax Types

Governments need coercion in order to extract taxes from citizens not willing to pay them. Using coercion is costly and leads to suboptimal equilibria for both governments and taxpayers (Levi, 1989; Timmons, 2005, 2010a). Hence, governments and taxpayers have incentives to enter fiscal agreements. Governments prefer to exchange taxes for services in order to avoid the costs of coercion and gain efficient access to more revenue. For their part, taxpayers prefer fiscal agreements because they lead to predictable benefits in exchange for contributions. Not complying could be an option, but the potential sanctions in the case of being prosecuted might be high, and these payments would not be linked to any benefits. Thus, as long as the fiscal agreement is better than any outside option for both actors, exchanging contributions for state services should represent a self-enforcing equilibrium (Timmons, 2010a). In this situation, taxpayers' contributions would be driven by "quasi voluntary compliance" (Levi, 1989: 52–55).

It is precisely the governments in developing countries that should have strong incentives to foster this type of agreement, especially with the wealthier. In many developing countries, bureaucratic capacities tend to be limited. As a result, monitoring and sanctioning those who are best positioned to evade taxation, namely the wealthy, can be expected to be particularly costly and inefficient.[12] In addition, regardless of whether the capacity to use coercion is there or not, the actual threat to use it against wealthy taxpayers may lack credibility. Due to the concentration of economic and social power, small groups of wealthy taxpayers can be assumed to control much de facto political power (Acemoglu and Robinson, 2006a). This disproportionate political influence makes the wealthy crucial for the government's political survival. If the support of a substantial segment of the wealthy population is necessary (and in extreme cases sufficient) for its survival, the government's threat to coerce wealthy taxpayers will not be credible, as doing so would lead to it losing power—a worse outcome.[13]

[12] A comprehensive discussion on the question of how bureaucratic capacities influence the pool of policies available for a specific country can be found in Chuaire, Scartascini, and Tommasi (2014). Their analysis has an emphasis on the ability to respond to risks and uncertainties introduced by the volatility of international markets, but the argument can easily be transferred to other policy areas such as taxation specifically.

[13] In my argument I assume that governments have two main motivations: increasing revenue and maintaining office. I also assume that wealthy taxpayers can act unilaterally to threaten the government with destabilization. The logic of the argument resonates with selectorate theory and similar models, such as the one proposed by Boix and Svolik (2013).

But what about the incentives for wealthy taxpayers to make a fiscal agreement with the government? Following fiscal contractualism, the condition to enter into a fiscal-exchange agreement and voluntarily accept paying taxes in the absence of strong coercion mechanisms is the expectation of getting something valuable in exchange for taxes.[14] If, as is commonly assumed, taxation equals redistribution, wealthy taxpayers should not expect any benefits from taxation, and there should be no option for quasi-voluntary compliance. In this case, the only element driving contributions would be the perceived threat of sanctions.

I argue that this assumption is questionable. In fact, I consider that, in developing countries, the scope for wealthy taxpayers to potentially benefit from state action financed by their tax contribution is comparatively large. Presumably, most policies at lower levels of development will not focus on redistribution[15] but rather on aspects such as infrastructure development, security and basic state services. These are all aspects that offer tremendous benefits to wealthy taxpayers.[16] However, the common perception is that, in developing countries, the wealthy tend to enjoy privately-funded services and dislike taxation. In this line, my argument states that the general opposition of wealthy taxpayers to taxation is not primarily the consequence of lack of potential benefits, but rather due to the low credibility that many governments and political systems in developing countries have in providing good quality public services in exchange for tax contributions. The process leading from revenue collection through to public policy design and implementation to the realization of expected benefits is long and involves many steps (Archer, 1989: 419). Consequently, intertemporal calculations play a crucial role in evaluating the expected utility of paying taxes. Most importantly, if uncertainty about receiving the agreed benefits in exchange for tax contributions is high, the question whether potential benefits of paying taxes exist becomes irrelevant. If a government has absolutely no credibility regarding whether it will stick to agreements, no quasi-voluntary compliance can exist (Levi, 1989: 53).

[14] In addition to the requisite that "rulers will keep their bargains," Levi (1989: 53) underlines the requisite that "the other constituents will keep theirs." I consider this element not to be highly relevant for my argument because, in contrast to Levi, I assume that rulers do have the capacity to offer positive selective incentives to taxpayers.

[15] See, for instance, the arguments in Korpi and Palme (1998) and in the democracy and redistribution literature (e.g., Acemoglu and Robinson, 2006b; Boix, 2003).

[16] Timmons (2005) elaborates on the argument that, in many instances, a well-financed state is a precondition for achieving the provision of goods that taxpayers cannot privately provide efficiently. Also, Hossain and Moore (2002) discuss how public health and education historically have been drivers of elites' commitment towards development. Supporting this idea that elites might benefit from a better-financed state, surveys on the main obstacles to investment and private-sector development consistently show that high tax rates are not the main concern, but rather other aspects such as infrastructure, education levels, policy stability and security (World Economic Forum, 2011, 2013).

Based on the arguments above, the major challenges that developing countries face when trying to tax the wealthy become evident. The bureaucratic capacity of developing countries tends to be low. Consequently, the threat of sanctions, where credible, will also be low. As a result, not being able to force taxpayers into compliance, the main alternative—namely, developing "quasi voluntary compliance" by convincing citizens of the benefits of taxation—should be especially relevant. However, political systems in developing countries also tend to have credibility problems (Scartascini, Stein and Tommasi, 2013; Lupu and Riedl, 2013).

Most of these credibility problems can be conceptualized as principal-agent problems. In particular, I highlight two: the problem of potential opportunistic behavior by politicians, and the problem of the political sustainability of agreements. First, wealthy taxpayers have a legitimate concern about the willingness of current governments to follow through and use higher tax-contribution as agreed. Once the taxpayers pay, political leaders might have an incentive to act opportunistically and employ them in other ways.[17] In principle, the threat to destabilize the government by withdrawing support should be enough to keep the political leaders in line. However, the credibility of this threat is itself limited.[18] Although coercion is costly for the government, destabilizing a government is costly for the wealthy. Thus, if the perceived misuse of resources is lower than the cost of destabilizing the government, the threat by wealthy taxpayers will not be credible. The same will be the case if the cost of destabilizing the government is lower than the cost associated with a potential new political scenario. In addition, it is difficult for taxpayers to evaluate whether their tax money is being used effectively and efficiently. This is the case even if we ignore the fact that governments might not offer accurate reports and use their information advantage strategically to make their own assessments appear justified. Overall, the problem of evaluating the value of taxes and the costs of destabilizing a government increase the prospects that the government will act opportunistically and not be sanctioned. Anticipating this, the incentives for wealthy taxpayers to contribute will be reduced further.[19]

[17] Note that it is irrelevant whether the misuse aims at increasing social welfare or increasing private rents through corruption, patronage or clientelism. The key is that the content of the explicit or implicit fiscal agreement is not respected.

[18] In addition, the power of this threat hinges upon the relative power of the wealthy taxpayers and the successful coordination between them. Factors driving the ability of wealthy taxpayers to act collectively are beyond the scope of this paper.

[19] These arguments resonate with arguments of Svolik (2009), although he applies this logic to the discussion about power-sharing in authoritarian regimes.

Second, wealthy taxpayers will be concerned about the capacity of the political system to sustain agreements over time. As Scartascini et al. point out, “while some countries seem capable of sustaining most policies over time, in others policies are frequently reversed, often in response to minor changes in political winds” (Scartascini, Stein and Tommasi, 2013: 8). Although this concern applies to all public policies, it is exacerbated in the context of fiscal agreements due to the long time horizons involved. Also, it is safe to say that concerns about policy instability are stronger in developing countries than in developed ones (Scartascini, Stein and Tommasi, 2013; Lupu and Riedl, 2013). In developed countries, we commonly assume that there are not dramatic policy changes in political systems due to small changes in the political constellations. This suggests that the credibility problem of developing countries might not be connected to specific governments, but most prominently to the political system as a whole.[20]

I contend that institutionalized party systems can help mitigate the problems of policy sustainability and political opportunism via three mechanisms.[21] First, long-standing parties and party systems foster more fluid and transparent interactions between politicians and wealthy taxpayers (or those representing their interests). More information about the management of resources is generated, as well as more detailed and continuous discussions on policy options and goals (Svolik, 2009). These additional sources of information improve the quality of the “value for taxes” signal that wealthy taxpayers receive, and they reduce the information asymmetries between them and the government. Moreover, party system institutionalization indirectly increases their capacity to lobby for future legislation and controls current decisions as stronger and more stable network develop over time. To a certain degree, all this increases the capacity of the wealthy to monitor state action and hold politicians accountable. As a result, institutionalized party systems should reduce the ability of political leaders to act opportunistically.

Second, institutionalized party systems should also reduce the scope for opportunism by enhancing party discipline and sharpening the content profile of policy options (e.g., Mainwaring, 1998). As party structures become stronger vis-à-vis leaders, party support is necessary for politicians to win elections. Furthermore, in order to be credible to voters in general, and wealthy taxpayers in particular, parties need to preserve their labels. Therefore, they must show that the

[20] More or less explicitly, most of the literature on the partisan effect on taxation in OECD countries suggests that, alongside partisanship itself, low levels of fear concerning political swings are crucial to understanding developments in tax performance (e.g., Steinmo and Tolbert, 1998; Timmons, 2010a).

[21] There are many arguments linking political institutionalization and economic policy outcomes, although they are mostly not related to taxation (e.g., Flores-Macías, 2010).

party structure is able to monitor and sanction leaders that do not honor agreed policies and assure continuity in policy terms (Keefer, 2013). This reduces party leaders' amount of room to maneuver and their scope for opportunistic behavior.

Third, institutionalized party systems also enhance centripetal forces in political systems and the capacity to find consensus on core policies. In addition, the durability of party structures increases incentives for both politicians and wealthy taxpayers to invest in constructive relations (Doner and Schneider, 2000). Most importantly, institutionalized political party systems create an environment that mimics repeated interaction, which fosters cooperation among parties (Hallerberg, Scartascini and Stein, 2009: 296) and between politicians and powerful social groups (Schneider, 2010: 242–244). As a result, in institutionalized political systems, concerns about policy sustainability should be lower, and a change of the governing party is less likely to significantly change the rules of the game. Overall, the political system becomes more predictable.

Thus, in countries characterized by institutionalized political party systems, the credibility of the political system to commit to fiscal agreements should be higher at a systemic and individual governmental level.[22] In this line, we should expect party system institutionalization to have a positive effect on the amount of taxes that wealthier taxpayers would voluntarily accept to pay. But we should expect the government's level of bureaucratic capacity to moderate the effect of party system institutionalization on the tax contributions from wealthy taxpayers. The lower the level of bureaucratic capacity, the more attractive the option to evade taxes becomes. In this context, the capacity of a government to credibly commit to fiscal agreements is crucial to collecting any contributions from the wealthy. By contrast, in states where bureaucratic capacity levels are high, the credibility of the political system should not affect tax contributions so significantly. High levels of bureaucratic capacity make the outside option of evading taxes costly. These negative incentives suffice to make wealthy taxpayers pay taxes regardless of the credibility of the political system concerning the use of the money. Assuming that governments will rely predominantly on progressive tax types to extract revenue from wealthy taxpayers, higher tax contributions by the wealthy should be mirrored by a more relevant role of progressive taxes in the tax composition.

These arguments lead me to the following testable hypothesis:

[22] This argument resonates with the argument made by Gehlbach and Keefer (2011) on ruling-party institutionalization as a mechanism to increase private investment levels in autocracies.

The lower the level of bureaucratic capacity, the stronger the effect of party system institutionalization on the relevance of progressive taxes in the tax composition.

4. Empirical Approach

4.1 Main Variables

To test my hypothesis and estimate the effect of party system institutionalization on the relevance of progressive taxes in the tax composition, I analyze a dataset including more than 90 countries over a period of 20 years (1990–2010).[23] The time constraint results from poor data reliability before 1990. This is not only an issue regarding tax collection data, but also concerns other indicators used in the study, most prominently "Bureaucratic Capacity."

The main dependent variable is "relevance of progressive taxes in the tax composition." This variable is operationalized as personal income tax as a share of total tax. Making general incidence assumptions about different tax types is a highly contested issue, but there is broad agreement that personal income taxes tend to be progressive.[24] Data are provided by the International Monetary Fund (IMF, 2012). I use personal income tax as a share of total tax collection rather than as a share of gross domestic product (GDP), because my main interest is to analyze the effect on the relevance of progressive taxes in the overall tax effort rather than the performance of a particular tax.

Two interacting independent variables are key in this study: party system institutionalization and bureaucratic capacity. As already outlined, my understanding of party system institutionalization emphasizes the stability and continuity of political party systems over time. In line with Mainwaring and Torcal, I understand an institutionalized party system as one "in which actors develop expectations and behaviour based on the premise that the fundamental contours and rules of party competition and behaviour will prevail into the foreseeable future" (Mainwaring and Torcal, 2006: 206). To capture this dimension, I employ the indicator "Party Age" from the Database of Political Institutions (Beck et al., 2001).[25] It codes the average age of

[23] A list of countries included in the sample can be found in the Appendix.
[24] The debate on the incidence of different tax types is broad. Since the path-breaking paper by Shah and Whalley (1991), much of the debate has focused on the consumption tax. Most studies, however, support the idea that personal income tax tends to be fairly progressive, especially if compared to other tax instruments.
[25] Last update released January 2013.

the two biggest parties in government and the main party in the opposition.[26] Thus, high values for party age denote continuity in party alternatives and repeated interaction in party competition, which is a prerequisite for party system institutionalization in a broader sense (Randall and Svåsand, 2002). Also, average party age can be expected to be highly correlated with the level of social penetration by the main political parties. In this line, beyond the fact that this indicator captures the main dimension of party institutionalization that I am interested in, this indicator has major practical advantages, as it is available for a much broader geographical area and offers longer time series than other indicators associated with the party institutionalization debate.[27] The variable is logged for linearity issues, as I expect the effect of party system institutionalization to be stronger if the increase is at low levels.

The second key independent variable is bureaucratic capacity, for which I use the indicator "Bureaucratic Quality" from the ICRG Database (PRS Group, 2012). Compared to other alternatives, this source offers broad geographic and time coverage.[28]

4.2 Control Variables

Many variables affect tax collection, and thereby also tax composition. Based on the literature, I have included the most prominent variables. To control for economic structure, I include a variable on "Agriculture," value added as percentage of GDP (World Bank, 2012). To capture the development level, I use GDP per capita in constant U.S. dollars (World Bank, 2012). Trade openness might also influence the tax composition by forcing governments to de-emphasize certain tax types and focus on others. This aspect is captured by the variable "Economic Globalisation," which is a composite indicator based on actual transnational financial flows and capital restrictions (Dreher, 2006). I include the variable "Urban Population" to control for the fact that urban citizens are easier to monitor and tax. I further control for alternative sources of revenue that might disincentivize taxation by constructing a "Non Tax Revenue" variable, which is

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[26] Country-year observations for which the age of one party in the subset was not available were excluded from the sample.

[27] Marinova (2015) presents an extensive overview of the different measures for party system stability that have been used so far. Tavits (2012) discusses indicators of the more specific aspects of parties' organizational strength. She highlights how organizational continuity has also been used as an indicator to measure organizational strength, although she uses more specific indicators to measure different dimensions of the concept of party organizational strength. Her appealing approach, as she admits, is difficult to implement on a larger cross-national basis, as it is very resource-intensive and much of the required information is not easily accessible and potentially not reliable.

[28] I re-estimate the model using the legal institutions quality index as a proxy for bureaucratic capacity (Kunic, 2014). The results remain very similar.

operationalized as the difference between tax revenue and overall revenue (IMF, 2012). Finally, I include the Gini Index to control for the fact that higher levels of inequality might increase the pressure to use more progressive taxes (Solt, 2009).[29]

4.3 Econometric Approach

I estimate a progression of three specifications: a random-effects model, a model including country-fixed effects, and a model including country- and year-fixed effects.[30]

Tax performance and party institutionalization are phenomena that tend to vary little over time within countries. Thus, in comparison to fixed-effects approaches, using a random-effects approach is attractive, as it makes use of the between variation. However, this comes at a considerable cost. If time-invariant characteristics of countries not controlled for in the model are systematically correlated with the included variables, the estimations will be biased. This is likely to happen when analyzing taxation. Tax revenue and tax composition depend on a high number of highly correlated determinants (Focanti, Hallerberg and Scartascini, 2013), and including all potentially relevant determinants in the specification (e.g., labor composition, institutional inheritance, informality levels or political culture) is hardly feasible. Fortunately, most of these variables can be expected to vary little over time, which makes it feasible to control for them using fixed effects. Thus, to minimize the risk of omitted variable bias, in a second stage I estimate a model that includes country-fixed effects. The improvement in the identification comes at the cost of exploiting exclusively the within variation. In a third step, I estimate a model that includes year-fixed effects, which control for temporary effects such as global economic crises. Overall, employing all three approaches minimizes the risk of bias and represents cross-checks for the validity of individual estimations. All models include heteroskedasticity- and autocorrelation-consistent standard errors.[31]

In the following section, I focus on the results for the whole sample of countries. Potential heterogeneity on the effect of interest for different subsamples defined by regime type (democracy vs. autocracies) and nature of the prevalent types of parties in the system (programmatic and non-programmatic) is analyzed in Section 7.

[29] I am interested in including the Gini Index capturing market-income inequality (before taxes and transfers). Solt (2009) presents diverse estimations for this Gini Index. I use the average overall available estimations.
[30] For a discussion of the advantages of such a conservative approach, see Blaydes and Kayser (2011).
31 Non-stationarity does not appear to be a problem. The Lagram-Multiplier test for serial correlation suggests concerns about autocorrelation. Clustered standard error should solve this problem (Hoechle, 2007).

5. Main Results

Table 1 presents the results of the three models discussed above. The first column corresponds to the GLS random-effects model without country- and year-fixed effects. The second and third columns show results of fixed-effects models with and without year-fixed effects.

Table 1. Main Specifications

	PIT as share of total tax		
	(1)	(2)	(3)
Party Age (log)	2.531***	4.648***	4.505***
	(2.12)	(3.08)	(3.05)
Bureaucratic Capacity	1.651	3.294***	2.982***
	(1.28)	(2.18)	(2.00)
Party Age (log)* Bureaucratic Capacity	-0.353	-1.097***	-1.044***
	(-0.84)	(-2.25)	(-2.18)
Gini Index	0.0376	0.0466	0.0635
	(0.41)	(0.44)	(0.58)
GDP p.c. (log)	3.232***	-3.876	-3.142
	(2.73)	(-1.70)	(-1.20)
Trade Openness	0.0148	0.0339	0.0664
	(0.36)	(0.78)	(1.23)
Urban Pop. (%)	0.0491	0.109	0.185
	(0.68)	(0.74)	(1.06)
Agriculture (V.A.)	0.0533	-0.186	-0.213
	(0.55)	(-1.65)	(-1.75)
Non Tax Revenue	0.0813	0.0160	0.0213
	(1.00)	(0.21)	(0.29)
Constant	-22.36***	31.36	18.47
	(-2.08)	(1.53)	(0.70)
N.	1,251	1,244	1,244
N. of countries	95	95	95
Country FE	No	Yes	Yes
Year FE	No	No	Yes

t statistics in parentheses; $^{***}p<0.05$, $^{***}p<0.01$, $^{***}p<0.001$; the RE-model includes robust standard errors. Both FE- models include clustered standard errors by country.

The models work similarly in all three settings, and the control variables show the expected signs.[32] Only GDP per capita behaves erratically. Although it is highly significant and positive in the RE-model, it changes sign in the fixed-effect models and becomes not statistically significant.[33] Party system institutionalization consistently shows a positive association with the

[32] The Hausman test and the time-fixed effect test are positive. Consequently, I employ Model 3 in Table 1 as my core model and present further analysis based on it. From now on, I refer to it as the "main specification."

[33] An explanation for this is that GDP per capita varies little within countries but much between countries. In general, highly developed countries collect more personal income tax. Exploiting between variation, GDP per capita will have a strong and significant positive effect. Once country-fixed effects are included in the specification—as GDP per capita has low within variation—the estimated effect decreases and does not reach statistical significance.

relevance of personal income tax in the tax composition. Also, in all models the interaction term is negative.

Figure 1. Marginal Effect of Party System Institutionalization on the Relevance of Personal Income Tax in Tax Composition

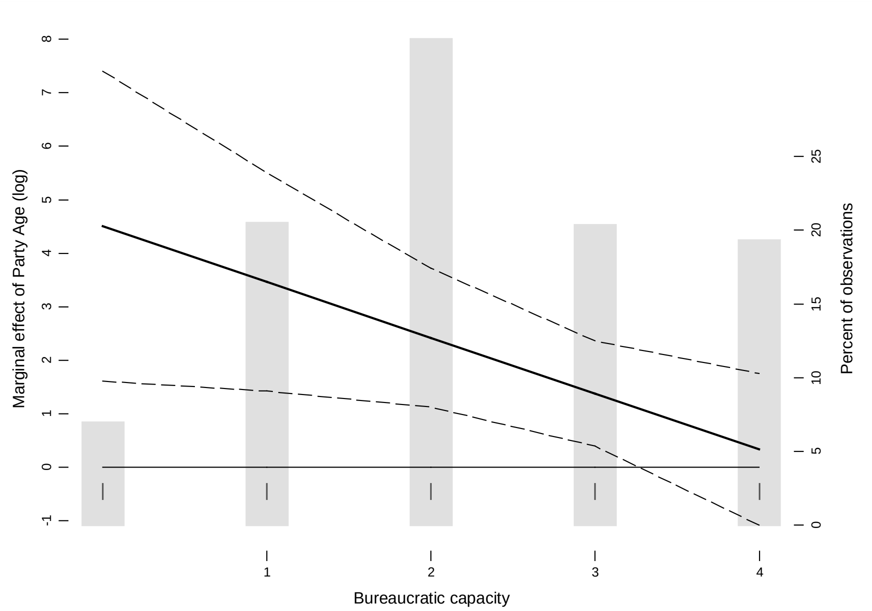

Figure based on Model 3 in Table 4.1. Choosing any other model leads to similar results.

Figure 1 illustrates the interaction effect.[34] The solid sloping line represents the marginal effect of party system institutionalization. The dashed lines delimit the 95 percent confidence interval. The histogram in the background shows the percentage of observations at different levels of bureaucratic capacity. The downwards slope suggests that the effect of party system institutionalization is weaker the higher the level of bureaucratic capacity. The fact that the lower dashed line crosses the zero line shortly before the highest level of bureaucratic capacity is reached indicates that the effect is not significant at this level (4). It is also noteworthy that, as the confidence intervals overlap at all levels of bureaucratic capacity, the analysis provides no evidence that the marginal effects of party system institutionalization at different levels of bureaucratic capacity are significantly different from each other. Thus, the marginal effect is not necessarily smaller at higher levels of bureaucratic capacity, but it is less statistically significant, up to the point of becoming non-significant at the highest level.

[34] The construction of the graph relies on the code provided by Brambor, Clark, and Golder (2006).

Overall, Figure 1 supports the hypothesis that bureaucratic capacity moderates the effect of party institutionalization. Given that most OECD countries have very high levels of bureaucratic capacity, the results suggest that party system institutionalization mainly has a significant effect in non-OECD countries.[35] At low and middle levels of bureaucratic capacity, the effect of party system institutionalization is considerable and highly significant. One standard deviation at the lowest level of bureaucratic capacity is associated with a 43 percent increase in the relevance of the personal income tax in the tax composition.[36]

In order to prove my argument, it is important to show that party institutionalization affects the collection of the more progressive tax types. Given the construction of my dependent variable, the greater relevance of the personal income tax might not be driven by stronger collection of that tax but by lower collection levels of others. This would contradict my causal chain, as rather than encouraging the performance of the more progressive personal income tax, higher levels of party system institutionalization would be connected to lower performance of more regressive tax types. Table 2 examines this aspect by running the same model as above, using the tax collection of other tax types (Corporate, General Sales, Trade and Income Taxes) as the dependent variable. Further, to focus on the raise in absolute tax collection, in this case, the dependent variable is measured as a percentage of GDP and not as a share of total tax.[37]

[35] Seventy-four per cent of the observations for OECD countries (359) have a value of 4.

[36] At this level of bureaucratic capacity, personal income tax only represents on average 9.6 percent of the total tax collection, and the estimated size of the marginal effect of one standard deviation is estimated to be 4.1 percent. The marginal effect of one standard deviation at a level of bureaucratic capacity of 1 is 3.1 percent, whereas the average value is 9.8 percent. At a level of bureaucratic capacity of 2, the effect of one standard deviation is 2.2 percent, given an average value of 12.8 percent. After that, the size of the effect decreases significantly. At a level of bureaucratic capacity of 3, one standard deviation is only associated with an increase of 1.3 percent, given an average value of 20.8 percent. The effect is no longer significant at a level of bureaucratic capacity of 4. In addition, I estimated an error-correction model based on Model 3 to assess short- and long-term effects of party system institutionalization at different levels of bureaucratic capacity. (A graph illustrating the development of the effect can be found in the Appendix, and regression tables can be provided upon request.) The point estimates for the short-term effect are lower and only significant at the 90 percent level at low levels of bureaucratic capacity. The point estimates for total long-term effects are 6.97, 4.56, 2.63, 1.17 and 0.19, respectively, for bureaucratic levels of 0, 1, 2, 3 and 4. These effects are all significant. For example, this means that the substantive marginal effect at the lowest levels of bureaucratic capacity represents an increase of 73 percent.

[37] In the main text, I only present the results of the model corresponding to Model 3 in Table 1. Results employing the alternative models in Table 1 do not vary substantively, although the effect of party system institutionalization barely misses statistical significance in the RE- model. I also estimate a seemingly unrelated regression model, including time- and country-fixed effects, to take account of the interrelation between the collection of each tax (Kenny and Winer, 2006). Results can also be found in the Appendix. They also support the idea that party system institutionalization is connected in particular to higher collection levels of personal income tax.

Table 2. Tax Collection of Different Tax Types as Percentage of GDP

	(1) PIT	(2) CIT	(3) GS	(4) TRD	(5) INC	(6) TOTAL TAX
Party Age (log)	0.844**	0.276	-0.312	-0.615	1.007*	-0.305
	(2.50)	(0.65)	(-0.61)	(-1.27)	(1.89)	(-0.43)
Bureaucratic Capacity	0.515	0.237	-0.534	-0.434	0.840*	-0.119
	(1.41)	(0.73)	(-0.82)	(-1.23)	(1.74)	(-0.13)
Party Age (log)*Bur. Cap.	-0.209*	-0.0311	0.149	0.0927	-0.267*	0.0390
	(-1.83)	(-0.26)	(0.86)	(0.71)	(-1.72)	(0.16)
Gini Index	0.0315	-0.0119	0.0442	0.00476	0.0125	0.0899**
	(1.46)	(-0.58)	(1.57)	(0.33)	(0.36)	(2.04)
GDP p.c. (log)	-0.399	2.487***	0.482	0.706	2.406**	2.235
	(-0.55)	(3.27)	(0.35)	(1.05)	(2.37)	(0.97)
Trade Openness	.0307**	0.00242	0.0688**	-0.0367***	0.0213	0.0567
	(2.45)	(0.10)	(2.10)	(-3.44)	(0.68)	(1.06)
Urban Pop. (%)	0.00672	-0.0367	0.0659	-0.0507	-0.00557	-0.0713
	(0.18)	(-0.73)	(0.79)	(-1.13)	(-0.07)	(-0.51)
Agriculture (V.A.)	-0.0312	0.0713*	-0.0980	0.0342	0.0388	-0.0562
	(-1.17)	(1.76)	(-1.27)	(1.08)	(0.65)	(-0.43)
Non Tax Revenue	0.00224	-0.00762	0.0667	0.00518	-0.0991	-0.0736
	(0.13)	(-0.26)	(1.34)	(0.50)	(-1.49)	(-0.96)
Constant	2.771	-17.23**	-4.428	2.769	-15.95	0.643
	(0.42)	(-2.54)	(-0.34)	(0.46)	(-1.58)	(0.03)
N.	1244	1279	1429	1316	1423	1437
N. of countries	96	98	102	103	102	103

PIT = Personal Income Tax; CIT=Corporate Income Tax; GS= General Sales Tax; TRD=Trade Tax; INC=Income Tax (PIT+ CIT); TOTAL TAX=Total tax collection
t statistics in parentheses; *0.1, ** 0.05, ***0.01.
All models include country- and year-fixed effects. Standard errors are clustered by country.
The model specification corresponds to Model 3 in Table 1.

The results presented in Table 2 provide additional support for the main argument in this paper. Party system institutionalization only has a statistically significant effect on the collection of personal income tax.[38] The fact that the effect on income tax is significant at a 90 percent level offers additional support to the argument. Although it is much harder to defend the idea that

[38] The size of the effect is also remarkable. One standard deviation at a level of bureaucratic capacity of 0 leads to an increase of 0.9 percent of PIT to GDP collection. Given an average value of 1.2 percent at this level of bureaucratic capacity, the effect represents an increase of 75 percent. One standard deviation at a level of bureaucratic capacity of 1 leads to an increase of 0.7 percent of PIT to GDP collection. Given an average value of PIT collection of 1.5 percent at this level, the effect represents an increase of 47 percent. At higher levels of bureaucratic capacity, the size of the effect decreases significantly. One standard deviation at a level of bureaucratic capacity of 2 leads to an increase of 0.4 percent in PIT to GDP collection (an increase of 18 percent). At a level of bureaucratic capacity of 4, the effect is no longer significant. A graph illustrating the interaction can be found in the Appendix.

income tax tends to have a progressive tax incidence, it has the advantage of broader coverage than my preferred option, the personal income tax.

Overall, the results suggest that the effect of party system institutionalization at low levels of bureaucratic capacity is mainly connected to higher levels of tax collection of more progressive tax types and not a de-emphasis of the collection of regressive ones. In addition, the model estimated for total tax collection as a percentage of GDP indicates that party system institutionalization is not connected to a general increase or decrease in tax collection but rather to a change in the tax composition.

6. Robustness

There are a number of factors that could call the results into question. In this section I discuss them, showing that the results are robust to a number of alternative specifications.

The inclusion of fixed effects controls for all time-invariant variables, but there are a number of time-variant variables that might bias the results. To deal with this concern, I re-estimate the main models, including in the specification, subsequently the following seven variables: "Age of the largest government party," "Years in office of the chief executive," "Years in office of the party of chief executive," "Regime Durability," "Transition to autocracy," "Transition to democracy" and "Participation in major violent conflict."[39] I include "Age of the largest government party" to control for the possibility that the effect attributed to party system institutionalization might not be related to the age of the parties in the party system but most prominently to the age of the main party in government. Similarly, "Years in office of the chief executive" and "Years in office of the party of chief executive"—by capturing the continuity in power of individual politicians or parties—control for the risk that continuity in power, rather than in the system, is key to credibility. The durability of the political regime, the occurrence of major regime transition as well as the participation in a major violent conflict are included in order to take into account the possibility that, rather than the institutionalization of parties, the absence of major events in the broader political scene might be the factor driving the results. All control

[39] These correspond to the variables gov1age, yrsoffice, prtyin in the Database of Political Institutions (Beck et al., 2001), durable in the Polity IV Dataset (Marshall, Gurr and Jaggers, 2014), democracy_trans (Boix, Miller and Rosato, 2013) based on sideA and Int (Themnér and Wallensteen, 2012). Further details can be found in the Appendix. An additional robustness test is provided by weighting the age of the parties by the number of seats in the government. This allows for taking into account that it is probably more relevant that all parties also have more power. The results remain robust to this specification. Results provided upon request.

variables—except the transition variables and the major conflict variable—are interacted with bureaucratic quality, as they are assumed to affect the dependent variables in a similar fashion as party age. Their effect should be stronger the lower the level of bureaucratic capacity.

For each individual additional control variable, I estimate a model (Columns 1–6).[40] The coefficients for the main independent variables do not change remarkably. This supports the robustness of the main specification. Only factors related to the broader socio-political context have a significant effect. Transitioning to an autocracy as well as being involved in a major armed conflict seem to be connected to lower relevance of the PIT in the tax composition. Regime durability has no significant effect at the lower level of bureaucratic capacity, but it has a significant effect negative effect where capacity levels are at high. This suggests that the more durable a regime, the less relevant personal income tax becomes in the tax composition. A possible explanation is that durable regimes with high levels of bureaucratic capacity are more successful in introducing and implementing modern taxes such as VAT. This possibility is in line with the argument that established political systems are better able to introduce modern tax legislation (e.g., Mahon, 2004).[41]

[40] An additional model estimate, including lagged variables of the main independent variables, was also estimated to partly address issues of endogeneity. The results remain very similar.

[41] The results of a regression model identical to those presented in Table 2—but including “Regime Durability” as a control—show that this variable has a significant positive effect on VAT collection.

Table 3. Models Including Additional Control Variables

	PIT as share of total tax					
	(1)	(2)	(3)	(4)	(5)	(6)
Party Age (log)	3.635**	4.356***	3.888**	4.807***	4.348***	4.397***
	(2.32)	(2.97)	(2.27)	(2.87)	(2.95)	(3.03)
Bureaucratic Capacity	2.689*	2.467	2.557	3.480**	2.731*	2.728*
	(1.84)	(1.65)	(1.49)	(2.38)	(1.86)	(1.85)
Party Age\ (log)* Bur. Cap	-0.807	-1.003**	-0.938	-1.023*	-0.990**	-0.997**
	(-1.48)	(-2.09)	(-1.64)	(-1.83)	(-2.07)	(-2.09)
Gini Index	0.0771	0.0591	0.0247	0.0246	0.0700	0.0730
	(0.70)	(0.53)	(0.28)	(0.24)	(0.64)	(0.69)
GDP p.c. (log)	-3.122	-3.083	-4.033	-1.848	-2.938	-2.933
	(-1.20)	(-1.17)	(-1.41)	(-0.66)	(-1.13)	(-1.13)
Trade Openness	0.0727	0.0796	0.0860	0.0727	0.0728	0.0696
	(1.33)	(1.42)	(1.53)	(1.37)	(1.33)	(1.29)
Urban Pop (\%)	0.188	0.210	0.166	0.185	0.204	0.206
	(1.06)	(1.23)	(0.85)	(1.06)	(1.15)	(1.17)
Agriculture (V.A.)	-0.191	-0.179	-0.144	-0.143	-0.187	-0.183
	(-1.55)	(-1.44)	(-1.24)	(-1.19)	(-1.52)	(-1.46)
Non Tax Revenue	0.0184	0.0332	0.0218	0.0296	0.0208	0.0194
	(0.25)	(0.44)	(0.30)	(0.38)	(0.28)	(0.26)
Age of largest government party (log)	0.748					
	(0.91)					
Age of largest government party (log)* Bur. Cap	-0.186					
	(-0.58)					
Chief executive (Years in office)		-0.0623				
		(-0.39)				
Chief executive (Years in office)* Bur. Cap		0.0607				
		(0.89)				
Party of chief executive (Years in office)			0.0374			
			(0.70)			
Party of chief executive (Years in office)* Bur. Cap			0.0386			
			(1.18)			
Regime Durability (log)				0.0590		
				(0.07)		
Regime Durability (log)* Bur. Cap				-0.340		
				(-1.00)		
Participation in large armed conflict					-1.040*	
					(-1.90)	
Transition to autocracy						-3.440**
						(-2.22)
Transition to democracy						0.0556
						(0.02)
Constant	17.68	16.32	28.61	8.597	15.45	15.07
	(0.66)	(0.61)	(0.98)	(0.30)	(0.58)	(0.56)
N.	1,244	1,244	1,144	1,172	1,244	1,244
N. of countries	95	95	95	94	95	95

t statistics in parentheses; * $p < 0:1$, ** $p < 0:05$, *** $p < 0:01$. All models include country- and year-fixed effects. Standard errors are clustered by country. The model specification corresponds to Model 3 in Table 1.

Another source of concern is that the results of the main specification might be driven by particular observations. To deal with that, I employ a number of approaches. Columns 1 and 2 in Table 4 show the results from specifications excluding extreme values of the main independent and dependent variables: party system institutionalization and personal income tax collection as percentage of total tax.[42] In column 3, I estimate a jackknife model to verify that the results presented in Table 1 are not dominated by observations in one specific country.[43] Also, the fact that there are only very few observations at the lowest level of bureaucratic capacity might be driving the results. To discard this, I re-estimate the analysis, excluding those observations with a value of zero for bureaucratic capacity (column 4). Similarly, one may argue that the data-generating processes in countries with very high levels of bureaucratic capacity might be different from the ones in developing countries, which are the main focus of the paper. To analyze this aspect, I re-estimate the regression, excluding those observations with a value of four for bureaucratic capacity (column 5). Finally, in column 6 the only observations included are those for which the change in Party Age is not simply due to the time passing but rather due to changes in the parties included in the measure.[44]

The results of the different robustness tests support the validity of previously presented estimations. The effect of party system institutionalization remains highly significant at lower and middle levels of bureaucratic capacity and the interaction term has the expected sign.[45]

[42] I define extreme values as those belonging to the highest or lowest 5 percent in the distribution of the variable in the sample. For fixed-effect models, I apply the difference to the previous observation; in practice, this means for the model presented below, excluding all observations where the difference in personal income tax as a percentage of total tax collection is lower than -2.8 percent or higher than 2.9 percent. Refereed to party age, the rule implies that observations where the difference in the party age (log) to the previous year is lower than -0.32 or higher than 0.26 are excluded from the analysis.

[43] A closely related concern might be that the fixed-effects estimation masks a significant heterogeneity of the effect of party age in individual countries. To account for this, I estimated the effect of party age in individual country estimations. Aggregated results can be found in the Appendix. The graph shows that, in fact, the effect of party age varies strongly within the different levels of bureaucratic capacity. However, the distribution at different levels—and especially the median values at different levels—of bureaucratic capacity support the main intuition and result of the analysis, namely that the effect of party age declines with increasing levels of bureaucratic quality.

[44] For instance, in democracies, if there are no changes in the coalitions, the "Party Age" variable will change only by one every year. Only in election years in which new parties become one of the two biggest parties in government or the main party in the opposition will the value differ substantially. In Model 6, only these observations are used. Further, the control variables correspond to the averages for the variable in the years between substantial changes in the "Party Age" variable.

[45] Graphs illustrating the interaction terms for the individual models are available upon request.

Table 4. Alternative Specifications with Sample Restrictions

	PIT as share of total tax					
	(1)	(2)	(3)	(4)	(5)	(6)
Party Age (log)	4.976***	5.116***	4.505***	5.004***	4.191**	4.393**
	(3.37)	(2.84)	(2.63)	(3.23)	(2.19)	(2.40)
Bureaucratic Capacity	3.288**	3.002*	2.982*	2.981*	3.224	2.686*
	(2.09)	(1.73)	(1.70)	(1.91)	(1.34)	(1.85)
Party Age (log)*Bur. Cap.	-1.169**	-1.093*	-1.044*	-1.201**	-1.006	-1.036**
	(-2.34)	(-1.91)	(-1.89)	(-2.38)	(-1.31)	(-2.03)
Gini Index	0.103	0.0679	0.0635	0.0626	0.163	0.146
	(0.82)	(0.60)	(0.55)	(0.55)	(0.97)	(0.73)
GDP p. c.(log)	-4.075	-3.500	-3.142	-3.263	-3.894	-7.850**
	(-1.49)	(-1.37)	(-1.10)	(-1.23)	(-1.15)	(-2.42)
Trade Openness	0.0666	0.0570	0.0664	0.0599	-0.0328	0.138**
	(1.13)	(1.06)	(1.13)	(1.12)	(-0.50)	(2.31)
Urban Pop. (%)	0.177	0.227	0.185	0.130	0.0417	0.00844
	(1.14)	(1.22)	(0.97)	(0.84)	(0.21)	(0.05)
Agriculture (V.A.)	-0.209*	-0.220*	-0.213	-0.224*	-0.0916	-0.186
	(-1.74)	(-1.82)	(-1.54)	(-1.80)	(-0.75)	(-1.23)
Non Tax Revenue	-0.0393	0.0550	0.0213	0.0134	0.0968	0.223
	(-0.45)	(0.71)	(0.26)	(0.18)	(1.15)	(0.97)
Constant	24.60	18.01	18.47	23.65	25.60	58.09*
	(0.87)	(0.67)	(0.65)	(0.92)	(1.01)	(1.77)
N.	1,092	1,115	1,244	1,218	852	312
N. of countries	96	96	96	93	79	89

t statistics in parentheses;**p*<0:05,***p*<0:01,****p*<0:001
All models include country- and year-fixed effects. Standard errors are clustered by country.
Variables in Model 6 correspond to average values over the different periods without major changes in the Party Age variable. Specification corresponds to Model 3 in Table 1.

7. Refinements and Qualifications

There are good reasons to expect that certain aspects of the political environment might moderate the relationship between party system institutionalization and the collection of personal income tax. In the following, I discuss two factors in order to investigate whether my main argument can be further elaborated and refined. These two factors are regime type and nature of the political parties.

From a theoretical perspective, it seems reasonable to expect that the effect of party institutionalization might differ in democracies and autocracies, especially considering the operationalization I am using for party institutionalization. In autocracies, electoral competition and the right to found political parties is restricted, so that higher levels of party system institutionalization, measured as party age, will predominantly capture the capacity of the main government party to survive politically.[46] As a result, party system institutionalization in this context can be expected to measure the consolidation of the autocratic regime and thereby also the ability of autocratic governments to coercively tax population outside their power base. However, party system institutionalization (as conceived in Section 3) should capture the existence of strong and stable roots of parties in the broader society. In democracies this can be expected to work better, as parties will represent different political alternatives as well as interact with broad segments of society. Thus, in both settings, it is possible to imagine party institutionalization having an effect on tax composition, although the causal mechanisms linking them might differ. Whereas a positive effect of party system institutionalization in autocracies might be connected to discriminatory taxation of the political opposition, in democracies the enhanced collection of progressive taxes will be connected to higher levels of credibility of the political actors and higher levels of quasi-voluntary compliance by wealthy taxpayers, as prominently argued in this paper.

To analyze this aspect, I re-estimate the main specification, including a triple interaction. In addition to the interaction between party age and bureaucratic capacity, I also interact these variables with an electoral democracy dummy.[47] The interactions in each of the contexts are illustrated in Figure 2.

[46] Gehlbach and Keefer (2012) analyze the effect of institutional specificities of autocracies and show their differential effects on private investment. However, taking this into account goes beyond the scope of this paper.

[47] To identify electoral democracies, I use two variables of the DPI dataset—fraud and Legislative Index of Electoral Competitiveness (LIEC). I code as democracies countries in which LIEC value is higher than 6 (“largest party got less than 75%”) and the fraud variable is zero (meaning no fraud was identified). As the groups are smaller, the risk of individual countries driving the results increases. Therefore, Figures 2 and 3 are based on jackknifed model estimations.

Figure 2. Marginal Effect of Party Age at Different Levels of Bureaucratic Capacity on Political Regimes

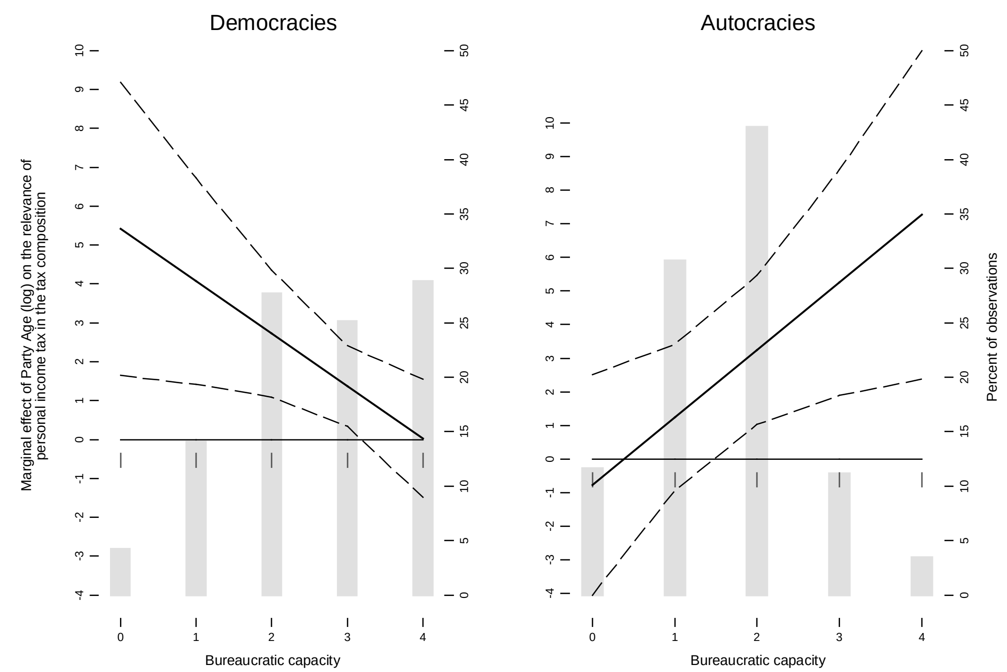

Figure based on Model 3 in Table 1. Point predictions correspond to the solid lines. Dotted lines delimit the 95% confidence intervals. Reestimating the results excluding observations for which bureaucratic capacity equals 4 does not change the results remarkably.

Figure 2 strongly suggests that the intuition of this paper holds better in electoral democracies.[48] Whereas in democracies the positive effect of party institutionalization decreases as bureaucratic capacity increases, the opposite is true for autocracies. A possible explanation is that taxpayers will only be able to resist coercive taxation of weak autocracies, not of strong ones. Moreover, a strong dictator will have few constraints on extracting as many resources as possible from his political opponents.[49] By contrast, it does not appear to be feasible for democracies to use their full coercive potential to tax predominantly their political opponents, as it would not only be illegal but also politically costly.

Another aspect that could potentially influence the strength of the causal mechanism linking party system institutionalization and reliance on personal income tax is the nature of the parties involved. My argument is that the durability of a party should lead to a stronger internal organization and more coherent and predictable behavior over time. However, one could argue

[48] Regression tables are available upon request. The marginal effects graph is based on a model that includes country-fixed and year-fixed effects.

[49] This is a setting that resonates with state-autonomy models of taxation, as presented in Timmons (2005: 533).

that the durability of the parties is not enough to capture how parties function in this regard. Political parties differ greatly in their internal organization and mobilization strategies towards citizens (Keefer, 2013). Programmatic parties in particular need to develop credibility, as per definition their main mobilization instrument—programmatic appeals—involves "an intertemporally drawn out exchange in which broad categories of voters receive benefits that often accrue with delay and indirectly (e.g., employment, growth, social security)" (Kitschelt and Kselman, 2013: 1455). Consequently, programmatic parties cannot afford to be labelled as incoherent and erratic. This is not as crucial for other types of parties, such as clientelist or machine parties because they tend to avoid committing themselves to specific policy goals and emphasize privately-targeted benefits to party supporters (Keefer, 2013).[50]

Consequently, party system institutionalization should be particularly relevant for programmatic parties trying to convince wealthy taxpayers to agree on a fiscal agreement. By contrast, non-programmatic parties are institutionally condemned to not be especially credible, and being part of the political system for a long time should not change this remarkably. I analyze this hypothesis by applying a similar strategy as above on the conditional effect of party age in autocracies and democracies. Concretely, I estimate the main specification including a triple interaction including party age, bureaucratic capacity and a dummy variable coding whether the largest party in government is programmatic.[51]

[50] A more elaborate discussion on the strategies of parties and the different incentives that leaders and members face in different setting can be found in Kitschelt (2000) and Keefer (2013).

[51] Following Keefer (2011), I code a party as programmatic if GOV1RLC from the Database of Political Institutions is equal to 1, 2 or 3 (Beck et al., 2001)—that is, if the party can be considered to have a specific and clearly recognizable orientation with respect to economic policy.

Figure 3. The Effect of Programmatic Government Parties

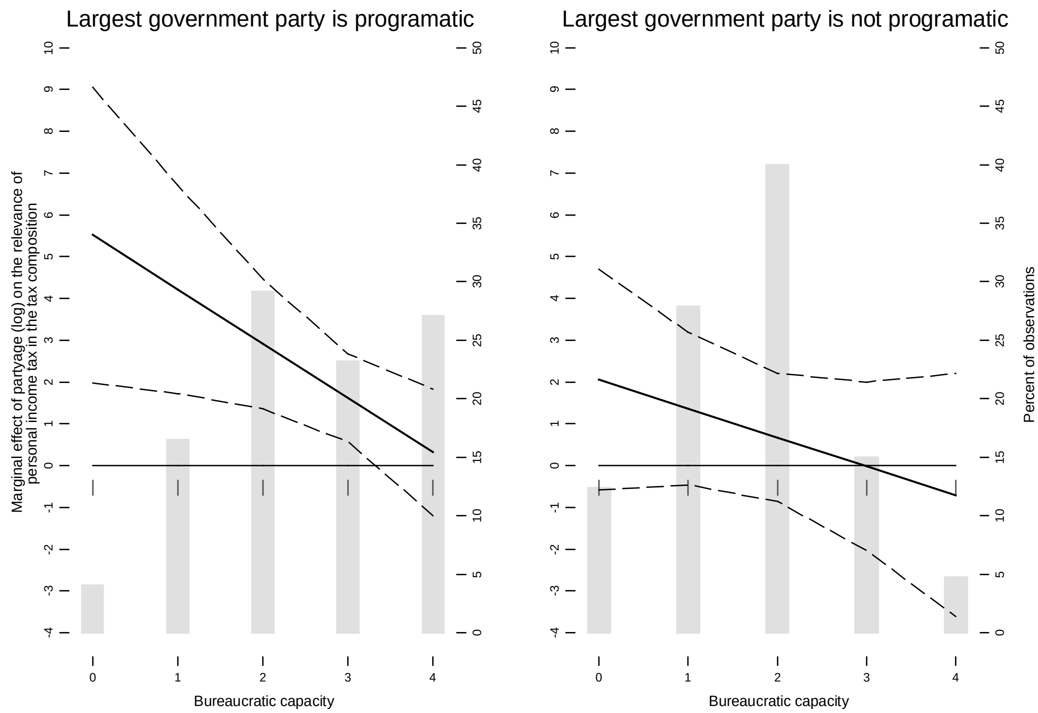

Figure based on Model 3 in Table 1. Point predictions correspond to the solid lines. Dotted lines delimit the 95% confidence intervals.

Figure 3 illustrates how the interaction behaves when the largest programmatic government party is present or absent. The results support the intuition asserting that the government party being programmatic is key to collecting more taxes via personal income tax. The nature of the government party moderates the effect of party system institutionalization at different levels of bureaucratic capacity. If the largest government party is programmatic, the effect of party system institutionalization is significant at all levels of bureaucratic capacity below 4. By contrast, if the largest government party is not programmatic, the effect of party system institutionalization is not significant at any level.[52] The fact that the government party is so crucial indicates that concerns about the capacity of parties to "act collectively to control shirking by leaders" (Keefer, 2013: 7) in the short term should not be underestimated. Solving this short-term concern appears to be a precondition for the variables that solve more long-term concerns to have an effect.

[52] As a robustness test, I estimate the model substituting the programmatic government dummy for dummies coding the specific political orientation of the largest government party. Whether the parties are left- or right-leaning has no notable effect.

The results presented in this section provide preliminary evidence that the effect of interest might be heterogeneous across different subsamples. Still, it is relevant to acknowledge that the subsamples for testing more fine-grained arguments are rather small, which might undermine the accuracy and precision of the estimations. Therefore, these results should be viewed with caution and not be overstated. In addition, the effects do not differ significantly from each other across subsamples, as the confidence intervals overlap at most levels of bureaucratic capacity.[53] Hence, for instance, we can say that the positive effect of party system institutionalization is more reliable in countries where the largest party in government is programmatic, but not that this effect is significantly different if the largest party in government is not. In sum, there is room for refining the general argument and taking into consideration more fine-grained institutional setups and identifying more precisely under which circumstances party institutionalization has the strongest effect. However, as for now, our ability to test this is limited due to data constraints.

8. Conclusion

Timmons underlines that "social scientists have expended considerable energy trying to answer who gets what, when and how. Far fewer papers have addressed the flipside of the question—who pays what, when, and how" (Timmons, 2010b: 191). The present paper represents an effort in this direction. Its most important contribution is to focus on the peculiarities of developing countries and the specific challenges they face when it comes to making wealthy taxpayers pay a fair share of the tax burden. In opposition to other approaches, the present paper has not set the strength of the state's bureaucratic capacities at the core of this challenge; rather, accepting that these capacities are weak, the paper analyses the circumstances under which wealthy taxpayers could be willing to accept higher levels of taxation in expectation of benefits in exchange.

The central argument of this article is that problems associated with low credibility of the political system are crucial to understanding the low relevance of progressive taxes in many developing countries. The analysis supports this argument. The fundamental conclusion of this paper is that where there are low levels of bureaucratic capacity, party system institutionalization has a strong positive effect on the relevance of personal income tax in tax composition. The results are robust to different specifications and the effect is particularly reliable in democratic settings

[53] One exception is the effect at the highest level of bureaucratic quality for democracies and autocracies; not only is the effect of party age positive and significant for autocracies, it also significantly differs from the effect estimate in democracies.

and when government parties have a programmatic orientation. Relying on common tax incidence assumptions, this implies that, in developing countries, where levels of bureaucratic capacity tend to be low, wealthy taxpayers assume a bigger part of the tax burden in the presence of credible institutions able to sustain fiscal agreements.

In this sense, the analysis has strong policy implications and complements the increasing amounts of research looking into the different political strategies that countries with limited bureaucratic capacities use to increase revenue collection (Gehlbach, 2006; Queralt, 2013; Fairfield, 2013). Acknowledging the relevance of bureaucratic capacities, this paper underlines the idea that taxation cannot be approached merely as a technical issue and highlights the necessity to also understand how socio-political institutions shape which tax systems are feasible. If governments cannot force taxpayers to comply, they have to convince them that paying taxes is a reasonable investment. To achieve this goal, the ability of core political institutions to credibly commit to fiscal agreements and sustain them over time is crucial. This paper shows that party systems are one of these pivotal institutions.

Although at first glance it might appear that the advice to improve party system institutionalization is abstract and unworkable, there are no reasons to consider that it is any more abstract or unworkable than the common advice given to developing countries: improve bureaucratic capacity. If we consider bureaucratic capacity to be part of a political equilibrium, changing it would not necessarily be any easier than applying a strategy that could be derived from the present analysis. Furthermore, using this strategy would have more positive spillover effects on governance and state-citizen relationships than improved coercive capacities, which might end up being used to increase tax pressure on those already paying a large amount of their income in taxes rather than on those where the scope for greater tax effort is bigger.

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Appendix.

A. List of countries included in the analysis (Table 1)

Albania, Algeria, Angola, Argentina, Armenia, Australia, Austria, Bangladesh, Belarus, Belgium, Botswana, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, China P.R., Colombia, Republic of Congo, Costa Rica, Cote d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Dominican Republic, Egypt, Estonia, Ethiopia, Finland, France, Gabon, Germany, Ghana, Guatemala, Guinea-Bissau, Guyana, Honduras, Hungary, Iceland, India, Indonesia, Ireland, Italy, Jamaica, Japan, Kazakhstan, Kenya, Republic of Korea, Latvia, Lithuania, Madagascar, Malawi, Malaysia, Mali, Malta, Moldova, Mongolia, Morocco, Mozambique, Namibia, Netherlands, New Zealand, Niger, Norway, Pakistan, Panama, Papua New Guinea, Peru, Philippines, Poland, Portugal, Russian Federation, Senegal, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Ukraine, United Kingdom, United States, Uruguay, Venezuela, Vietnam, Republic of Yemen

B. Correlation Matrix

	Party Age (log)	Bureau-cratic capacity	Gini Index	GDP p.c. (log)	Trade Open-ness	Urban Pop. (%)	Agri-culture (V.A.)	Non Tax Revenue
Party Age (log)	1							
Bureaucratic Cap.	0.444	1						
Gini Index	0.0542	-0.131	1					
GDP p.c. (log)	0.458	0.831	-0.178	1				
Trade Openness	0.359	0.639	-0.0579	0.740	1			
Urban Pop. (%)	0.329	0.556	-0.169	0.787	0.596	1		
Agriculture (V.A.)	-0.322	-0.629	0.0341	-0.845	-0.696	-0.751	1	
Non Tax Revenue	0.0727	0.368	-0.202	0.459	0.479	0.336	-0.404	1

Calculations based exclusively on observations included in Model 3 in Table 1 (N=1244)

C. Seemingly Unrelated Regression Model

	(1) PIT	(2) Trade	(3) CIT	(4) GS
Party Age (log)	3.262***	-0.886	1.685	-1.991
	(4.67)	(-1.16)	(1.82)	(-1.71)
Bureaucratic capacity	2.029**	-0.955	0.918	-3.276**
	(2.78)	(-1.19)	(0.95)	(-2.70)
Party Age (log)*Bur. Cap.	-0.725**	-0.129	-0.217	0.914*
	(-3.03)	(-0.49)	(-0.68)	(2.29)
Gini Index	-0.0434	0.0306	-0.00323	-0.218**
	(-1.09)	(0.70)	(-0.06)	(-3.27)
GDP p. c. (log)	-1.332	3.064*	9.473***	-10.55***
	(-0.99)	(2.07)	(5.32)	(-4.70)
Trade Openness	0.0667**	-0.273***	-0.000502	0.261***
	(2.64)	(-9.84)	(-0.02)	(6.21)
Urban Pop. (%)	0.152*	-0.452***	0.226*	0.282*
	(2.28)	(-6.18)	(2.57)	(2.54)
Agriculture (V.A.)	-0.121*	0.316***	0.565***	-0.871***
	(-2.03)	(4.84)	(7.18)	(-8.78)
Non Tax Revenue	-0.0226	0.0516	0.0597	0.333***
	(-0.57)	(1.18)	(1.13)	(5.02)

t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; N. of observations is 1,108.
All models include country- and year-fixed effects. Standard errors are clustered by country.
Dependent variables: (1)- Personal Income Tax as % of Total Tax Collection; (2)- Trade Tax as % of Total Tax Collection; (3)- Corporate Income Tax as % of Total Tax Collection; (4)- General Sales Tax as % of Total Tax Collection

D. Marginal Effect Graph Using the Legal Institutions Index

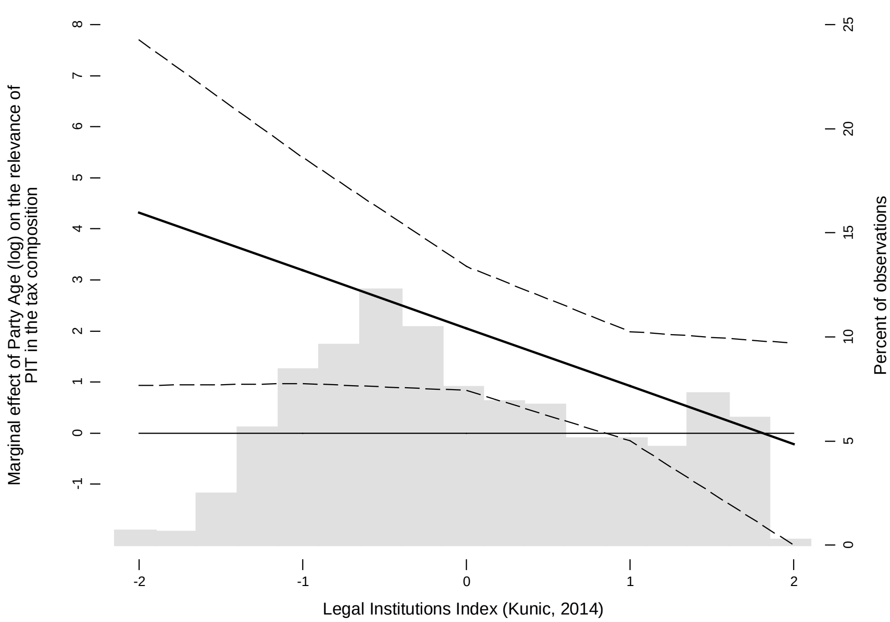


Figure based on Model 3 in Table 4.1. Choosing any other model leads to similar results

E. Marginal Effect Graph: Dependent Variable, PIT as % of GDP

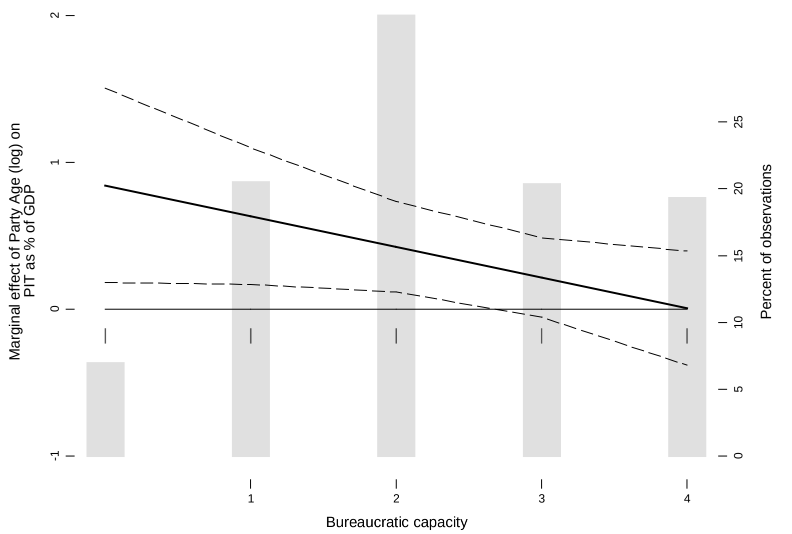
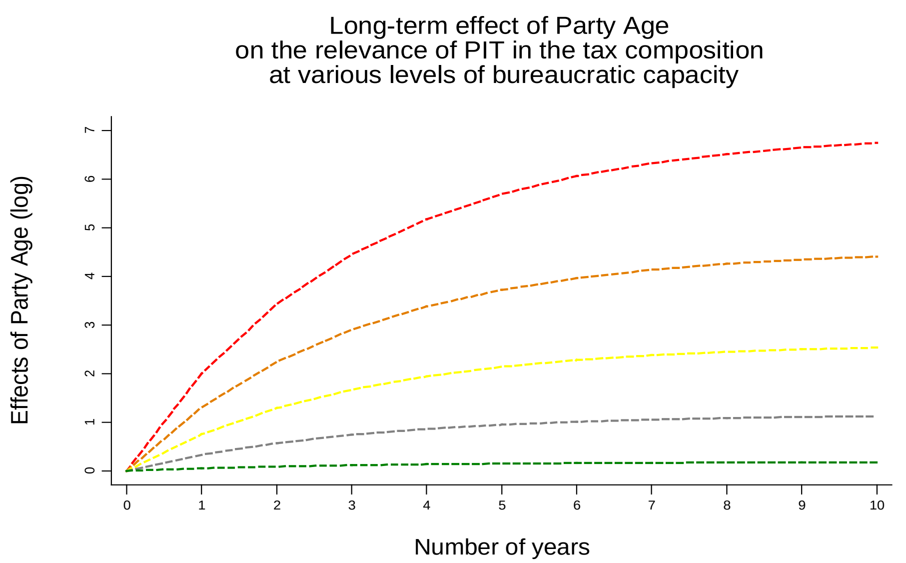


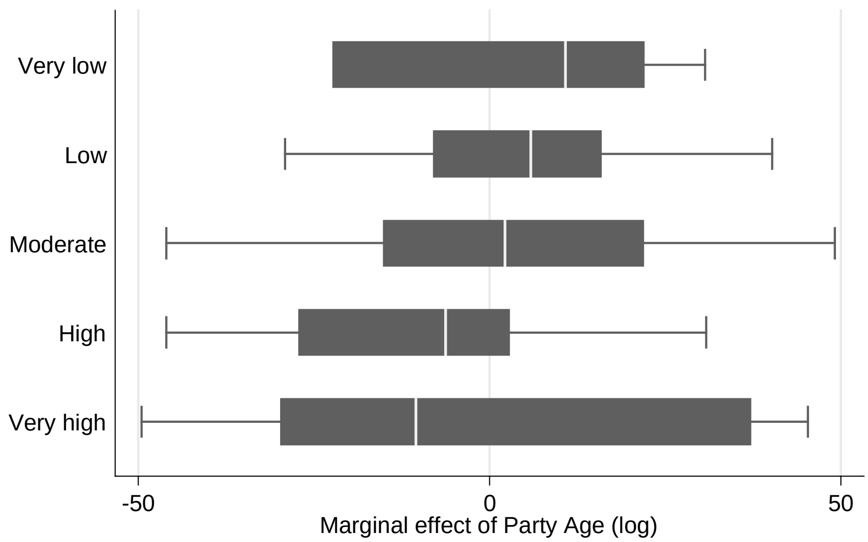
Figure based on Model 3 in Table 1. Choosing any other model leads to similar results.

F. Marginal Effect Graph: Estimation Using Error Correction Models



5 levels of bureaucratic capacity corresponding to the ICRG coding:
Red = lowest level; Green = highest level

G. Heterogeneity of Effects in Individual Countries Aggregated at Different Levels of Bureaucratic Capacity



The effect for individual countries is calculated based on Model 3 in Table 1. In practice an individual regression is calculated for each country.
No outside values are plotted. The boxplot shows the lower adjacent value, the 25th percentile, the median, the 75th percentile and the higher adjacent value.

H. Regression Tables for Models Estimate Exclusively on Democracies or Autocracies

	PIT as share of total tax	
	(1)	(2)
Party Age (log)	5.700**	-3.822
	(2.75)	(-1.27)
Bureaucratic Capacity	3.667	-7.788
	(1.87)	(-1.44)
Party Age (log)*Bur.Cap.	-1.447*	2.707
	(-2.23)	(1.61)
Gini Index	0.0407	0.528
	(0.30)	(1.96)
GDP p. c.(log)	-3.821	0.192
	(-0.97)	(0.03)
Trade Openness	0.0844	0.144
	(1.49)	(1.65)
Urban Pop. (%)	0.109	0.252
	(0.59)	(0.88)
Agriculture (V.A.)	-0.0535	-0.0659
	(-0.31)	(-0.47)
Non Tax Revenue	-0.0185	0.201
	(-0.19)	(1.84)
Constant	29.57	-22.11
	(0.71)	(-0.39)
N.	978	262
N. of countries	77	39

t statistics in parentheses; * *p*<0.1, ** *p*<0.05, *** *p*<0.01. All models include country- and year-fixed effects. Standard errors are clustered by country. The model specification corresponds to Model 3 in Table 1.