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Fiscal capacity in non-democratic states: the origins and expansion of income tax

Per F. Andersson*

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Abstract: The origins of fiscal capacity have traditionally been linked to warfare and democratization. However, non-democratic states also invest in fiscal capacity, even in times of peace. In fact, the majority of income taxes—a cornerstone of government finance—were introduced by non-democratic states in peacetime. This paper is concerned with how autocratic politics shape fiscal capacity. Political institutions in non-democratic states help overcome a commitment problem related to investments in taxation. In order not to risk being deposed by his or her elite supporters, a ruler needs to guarantee that new fiscal tools will not be used opportunistically (e.g. for expropriation of the elite). If the elite supporters can effectively monitor the government, any transgressions will be detected and punishable. Institutions such as legislatures solve commitment problems related to investments in fiscal capacity when they allow oversight and monitoring over the executive branch. The empirical implications are straightforward: in places with strong institutional oversight, which allows the elite to monitor the executive, we should observe higher fiscal capacity. I find support for this notion by analysing newly available historical datasets over tax revenues, tax introduction dates, and political institutions.

Key words: fiscal capacity, autocratic politics, income tax

JEL classification: D78, H24, N40, P16

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* Copenhagen University, Copenhagen, Demark, and Stockholm University, Stockholm, Sweden: corresponding author: per.andersson@statsvet.su.se

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Katajanokanlaituri 6 B, 00160 Helsinki, Finland

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1 Introduction

Scholars across the social sciences emphasize state capacity—the ability of the state to implement various policies—as a key factor behind the success of today's developed countries (for a review see Johnson and Koyama 2017). A strong and capable state can protect private property rights and invest in growth-promoting public goods such as education (Besley and Persson 2011). However, we still have a poor understanding of when and why (and why not) governments choose to expand this capacity. One view is that more open and democratic political institutions promote higher state capacity, as well as economic growth (Besley and Persson 2009; Dincecco 2011; Levi 1988). Others hold that state capacity is most readily explained by interstate warfare (e.g. Gennaioli and Voth 2015) or by the state competing with civil society (Acemoglu and Robinson 2019).

In this paper I argue that earlier explanations are incomplete when considering one of the key investments on the fiscal side of state capacity during the last two centuries: income tax. The rise of the modern fiscal state is very much a story of income tax. From modest beginnings in the early nineteenth century, by the 1950s it generated around half of governments' tax revenues.[1] Not only has it been a cornerstone of government budgets for almost a century, scholars also routinely use income tax revenue as an indicator of state capacity (Rogers and Weller 2014). Surprisingly, given the focus in the literature on war and democracy, most income taxes were introduced by non-democratic states in peacetime. In fact, in a sample of 77 independent countries, only 9 introduced a permanent income tax in wartime, and only 24 introduced it while being democratic.[2] In the majority of cases (53) income tax was introduced in the absence of both democracy and war. This fact is not well explained by the dominant theories of state-building and fiscal capacity.

In this paper I propose that in order to explain the global rise of income tax we need to understand it as an investment in fiscal capacity—not as redistribution or war finance—and that political institutions affect the decision to invest. This implies shifting the focus from redistribution (between classes or between elites) to the ability of political systems to solve commitment problems related to investments in fiscal capacity. I claim that these problems are more readily solved in undemocratic states with institutionalized power-sharing arrangements buttressed by executive oversight—for example, through legislatures, which allow the elites to monitor the behaviour of the ruler.

The empirical analysis of newly available historical data—covering the period from 1870 to 2012—reveals that countries with more extensive institutional oversight generate more revenue from income taxes and are also more likely to introduce them in the first place. These results are robust to the inclusion of a number of controls such as war, economic development, and government ideology, as well as to different econometric specifications. A short case study of the adoption of income tax in Sweden illustrates how political institutions play into actors' preferences for tax reform.

The paper is related to several literatures concerned with institutions, development, and taxation. One of the better-known explanations for tax reform is war. Warfare leads to a sharp increase in government spending that needs to be financed, for example by a tax on income.[3] Recent empirical efforts have shed more light on this link by using detailed historical case studies (Dincecco et al. 2011) and by considering the variegated nature of warfare in terms of fiscal pressure (Gennaioli and Voth 2015) and mass conscription (Scheve and Stasavage 2010). Interestingly, while war seems to be linked to taxation

[1] Using data from Andersson and Brambor (2019).

[2] Using data from Seelkopf et al. (2021) on tax introduction and V-Dem (Coppedge et al. 2020) on democracy.

[3] While this argument is most commonly associated with the work of Charles Tilly (in particular Tilly 1990), versions of it go back to at least Hintze (1970) and Schumpeter (1991).

in Europe, this is not the case in Latin America (Centeno 1997). There are two additional problems with explaining the adoption of permanent income taxes with interstate warfare. First, it takes time to develop a bureaucracy to administer the tax, too much time if the revenue is needed to finance an urgent crisis such as a war. Second, when the war is over there is no longer a need for the tax. Thus, we should be more likely to observe loan finance and temporary taxes in times of war instead of permanent investments in fiscal capacity. Alternatively, as pointed out by Morgan and Prasad (2009), states can increase the revenue extracted from existing taxes in times of war.[4]

Others have emphasized the redistributive potential of taxation and link income tax to inequality and democratization (e.g., Acemoglu and Robinson 2001; Boix 2003; Meltzer and Richard 1981). The underlying logic is that democracy grants effective representation of previously excluded poor citizens that demand more taxation overall, and in particular progressive taxes such as those on income. The empirical evidence, however, is mixed: Aidt and Jensen (2009a) find that an extension of the franchise does increase the likelihood of income tax introduction, but only when the suffrage is already fairly wide, but Mares and Queralt (2015) present evidence that autocracies in fact pioneered income tax. Moreover, there is evidence that democracies increase regressive taxes (Timmons 2010a,b), and that democratization has a positive impact on the share of income tax revenues only in highly urbanized states (Andersson 2018).

If income tax is not only the result of redistributive demands from newly enfranchised poor citizens or by the immediate exigency of war, what is missing? A recent explanation is offered by Mares and Queralt (2015), where income tax is still explained by redistribution, but redistribution between different elites. In particular, income tax is claimed to have been introduced in non-democracies as a way for the old landed elite to check the increasing economic influence of the new industrial elite, or when franchise is tied to payment of tax. Brambor (2016) instead explains the introduction of income tax in non-democratic states with reference to legacy effects: an income tax introduced by an undemocratic government generates less revenue than one introduced by a democratic government.

The notion that institutions matter, and under some circumstances facilitate taxation, is not new (see, e.g., Besley and Persson 2009, 2011; Dincecco 2009; Karaman and Pamuk 2013; North and Weingast 1989), but explaining the *general rise* in overall taxation is not the same as explaining the *origins of* specific fiscal capacity investments. In the early modern period, and well into the nineteenth century, taxes on international trade and specific goods were still the most important components of many governments' budgets. Focusing on one tax allows for a closer study of the mechanisms behind the decision compared to focusing on the overall development of tax revenue over a longer period of time. This strategy also reduces the risks of conflating fiscal capacity investments with a general willingness to pay, or taxation in exchange for representation, which is the case with earlier research focusing on the general rise in revenues and more fundamental constitutional changes.

My argument is closely related to work emphasizing representative and/or constraining institutions as key for the development of the modern fiscal state (e.g., Cox 2016; Dincecco 2009; Karaman and Pamuk 2013). Scholars have argued that constitutions constraining the ruler in autocratic states allow governments to credibly commit to honour promises (with respect to, for example, private property rights and loans), thus allowing the state to borrow at a lower interest rate (Cox 2016; North and Weingast 1989; Stasavage 2002) and attract more private investment (Gehlbach and Keefer 2011, 2012; Stasavage 2002).

[4] On a grander scale, Schumpeter saw war as the main driver behind the evolution from the domain state of medieval Europe to the modern tax state. A version of this argument is that war was an urgent factor forcing rulers to make representative concessions in exchange for taxation, setting in motion the 'taxation for representation' dynamic that ended in democracy (Tilly 1990). This paper is concerned with the introduction and expansion of a specific tax, not the general activity of taxation per se.

I build on this literature, but diverge from it in important ways. First, this literature primarily stresses commitment problems between the state and the private sector, but is largely silent on public investments in fiscal capacity and commitment problems within the ruling class.[5] Second, earlier research has primarily been concerned with how constitutions are linked to a general rise of government revenue and economic growth in the early modern period (for an exception, see Gehlbach and Keefer 2011), while this paper is concerned with the last two centuries, during which the foundation of the current fiscal system was laid. Moreover, instead of focusing on the general increase of tax revenues or the interest rate on government bonds, I am concerned with a specific political investment in fiscal capacity: income tax. My approach is also different in its focus on oversight rather than constraints over the executive.

A different literature is concerned with how policy is made in autocracies. In contrast to the vast literature on policy-making in democracies, we know less about how political institutions function in non-democratic contexts. These states are often treated as a residual category, only defined by them not being democratic, yet concealing large institutional variation within them (Svolik 2012: ch. 1). For instance, recent accounts of the rise of the tax state focusing on political institutions either treat institutions similarly to polarization (as in 'cohesiveness' in Besley and Persson 2011), or as a dichotomy between absolutist/authoritarian and representative regimes (Dincecco 2009; Karaman and Pamuk 2013). The literature on authoritarian politics provides a more comprehensive analysis of the unique challenges facing political actors in non-democratic states, and how institutions can solve them.[6] Scholars in this field have studied a range of issues, including regime survival (Boix and Svolik 2013), international conflict (Weeks 2012), and economic development (Wright 2008). However, as far as I know, the links between autocratic politics and state capacity have been overlooked.

While the first permanent income taxes were introduced in the nineteenth century (for example, the United Kingdom introduced the tax in 1842), others were introduced much later. Thus, a long-term perspective is crucial in order to properly investigate the origins of income tax. Earlier efforts with a historical perspective (e.g., Aidt and Jensen 2009b; Mares and Queralt 2015) have been constrained geographically by focusing heavily on Europe and English-speaking off-shoots (analysing samples of 15–17 democratic and non-democratic countries). Using newly available data on tax introductions and revenues I am able to analyse a much wider geographic sample, including both Americas, Australia, New Zealand, and Japan.

The next section presents the main argument of the paper, that institutional oversight can explain income tax adoption in undemocratic states. Section 3 presents the data and the statistical analyses. In Section 4 I provide a short illustration of the argument by describing the introduction of income tax in Sweden. The final section concludes.

2 Autocratic politics and fiscal capacity

Some argue that the important conflict in non-democratic politics is between the rich elite and the poor masses (e.g., Acemoglu and Robinson 2001), and others that it is between different elites—such as the old rural agrarian elite and the new urban industrial elite (e.g., Ansell and Samuels 2014; Mares and Queralt 2015). In contrast, my argument follows the literature on autocratic power-sharing (e.g.,

[5] In order to borrow money a state needs the capacity to generate revenue, and to be able to credibly commit to repaying the debt. North and Weingast (1989) assume the first one exists, and focus on the second challenge. I focus on the first.

[6] For an excellent review of this literature, see Gehlbach et al. (2016).

Myerson 2008; Svolik 2012) and concentrates on the conflict between the ruler and the support coalition, and challenges related to information asymmetry and monitoring/oversight.[7]

The argument has three components. First, income taxes in non-democratic states are investments in fiscal capacity. Second, these investments are associated with a commitment problem. Third, autocratic power-sharing can solve this commitment problem if there are institutions for monitoring and oversight (such as a legislature with the authority to conduct investigations).

I build on a key insight from recent scholarship on autocratic politics: in authoritarian states, constraints on the executive do not emanate from powerful, elected legislatures (as in democratic states), but from the threat of defection by the group of elites on whose support those executives depend to stay in power. Institutions such as legislatures still matter, however, but in different ways. While legislatures act as a powerful constraint on executives in many democratic systems, their main role in authoritarian states is to allow the elite to monitor the executive. Effective monitoring and oversight is crucial for the threat of defection to be credible (Svolik 2012).

2.1 Fiscal capacity and income tax

Fiscal capacity is an element of the broader concept of state capacity. I follow Lindvall and Teorell (2016) and define state capacity as 'the strength of the causal relationship between the policies that governments adopt and the outcomes that they intend to achieve' (p. 1). One of the key elements strengthening this relationship is the ability of the state to raise money, its *fiscal capacity*. States with a tax system capable of generating large amounts of revenue efficiently are said to have a high tax capacity.

Rogers and Weller (2014) demonstrate that income tax is not only theoretically but also empirically a valid indicator of capacity. Income taxes are particularly challenging for a state to collect and require significant investments in administration and bureaucracy (Lieberman 2002). In the empirical analysis in Sections 3.3 and 3.4 I explore both the introduction and the yield of income taxes in order to avoid the risk that some taxes exist on paper only.

During the time period under consideration—the late nineteenth and twentieth centuries—income tax was arguably the most important tax reform. In the evolution of the modern tax state, income taxes appeared after estate taxation and before general sales taxes. Modern taxes on inheritance started to appear already in the eighteenth century and had spread to many countries by the mid-nineteenth century (Genschel and Seelkopf 2021). With increasing need for government revenue in the second half of the nineteenth and first half of the twentieth century, countries began introducing income taxes. By the time general sales taxes (and modern value-added taxes) were implemented, most countries already had income taxes in place (Genschel and Seelkopf 2021).

The importance of income tax as a cornerstone of public finance is evident in its role as a facilitator of the rapidly increasing public spending in the twentieth century. Providing the types of services we associate with a modern state—from public education to social insurance—would be impossible without it. Figure 1 plots total tax revenues as a share of GDP before and after the introduction of income tax, showing that income tax allowed for an increase in overall tax take.[8]

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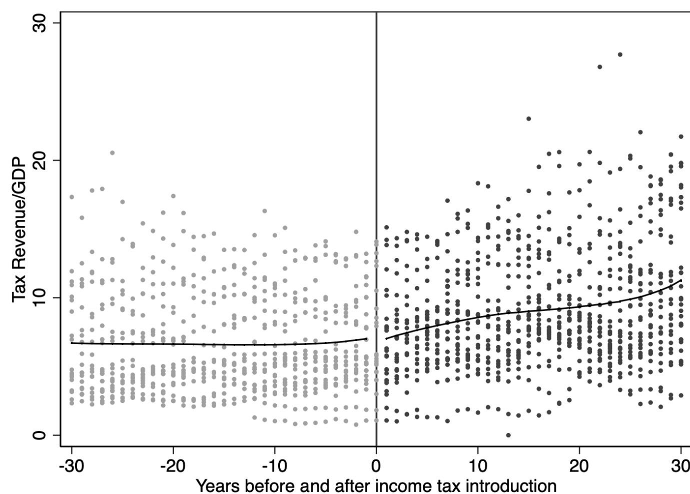
[7] Using the terminology in Svolik (2012), the most important actors in non-democratic politics are the leader and his/her support coalition—the group of elites on whose support the leader depends to stay in power. This could be a monarch and a group of influential barons, or a military dictator and a group of officers. What matters is that these actors are not different classes or elites, but actors within the ruling regime.

[8] Figure A1 (in Appendix A) shows the development of income, property, customs, excise, and consumption tax revenue from 1800 to 2012, documenting how income tax has become a key part of government budgets. In recent times, on average 40 per cent of total tax revenues come from income tax.

Figure 1: Tax revenues before and after income tax



Note: the line shown is the LOESS line.

Source: author's construction based on data from Andersson and Brambor (2019) and Genschel and Seelkopf (2019).

Income tax is usually explained with reference to redistribution, either between rich and poor or between different elite groups. But in non-democratic countries redistribution should be less salient as a motivation since the (poor) majority of the population is excluded from power, thus making income tax less relevant in terms of class-based redistribution (an exception might be communist dictatorships, where redistribution is part of the ruling ideology).[9] Instead, in non-democratic states income tax should be seen as an investment in fiscal capacity.

2.2 Power-sharing, oversight, and investments

Investments such as income tax are often associated with a dilemma. While regime insiders gain from a stronger, more effective state—not only since it increases the potential monetary rewards of supporting the ruler, but also since it increases the resilience of the regime to challengers—there is a risk involved: after the reform is implemented, how can they be sure that the capacity of the state will not be used against them?[10] In the case of income tax, there are two concrete aspects that pose a risk for the support coalition (the group of elites whose support is needed for the ruler to stay in power). First, income tax can be used to effectively redistribute resources by implementing a highly progressive rate while targeting spending in a way that does not benefit the support coalition. Second, since a working income tax is based on the assessment of income, it implies a powerful tax administration with the ability to collect information on the members of the support coalition. Not only will income tax increase what (Seligman 1911: 34–35) calls 'bureaucratic inquisition', but also the record-keeping requirements for taxpayers (Penndorf 1930). Introducing an income tax without the approval of the support coalition risks provoking defection and possibly a coup. Thus, when investing in fiscal capacity by introducing an income tax, the ruler needs to be able to commit to using this new tool in line with the preferences of the support coalition, or they will not support its introduction. In the absence of a commitment device there is nothing stopping the ruler in a future period from reneging on promises made when the income tax was introduced.[11]

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[9] The models in Sections 3.3 and 3.4 control for ideology.

[10] This problem is similar to that described by Weingast (1995): 'A government strong enough to protect property rights and enforce contracts is also strong enough to confiscate the wealth of its citizens' (p.1).

[11] The problem of time-inconsistent preferences and commitment problems is related to the literature on the 'inefficient use of power' (Powell 2004), exploring bureaucratic insulation (de Figueiredo 2002), wars (Fearon 1995) and civil wars (Fearon

I argue that this commitment problem associated with investments in fiscal capacity can be alleviated by political institutions. One of the main insights from the literature on non-democratic politics is that institutions such as parliaments play a different role in non-democracies than in democracies (Gandhi 2010; Gehlbach et al. 2016; Svolik 2009).[12] It highlights how information asymmetries exacerbate commitment problems between a ruler and his or her support coalition. For example, Svolik argues that a key concern for the support coalition is that the ruler will break their power-sharing agreement and secretly amass more power. The ruler has both exclusive access to information and incentives to not reveal that information truthfully to his or her coalition of supporters. The only constraint available to them—withdrawing support and instead backing a challenger—is not credible if they cannot verify that the dictator did in fact overstep. This problem is easier to overcome when there is institutionalized power-sharing between the leader and the group of elites that currently support him or her (Boix and Svolik 2013; Myerson 2008; Svolik 2012). The main role of institutions such as legislatures is not as a constraint on executive policy-making—as in most democracies—but rather a forum for interaction between elites and the dictator, or as a way of regime insiders getting information and exercising oversight (Svolik 2012: ch. 4). By empowering the support coalition—through, for instance, increasing legislative oversight of the executive—the ruler can be punished if she or he deviates from a previous agreement.[13] It is important to note here that there is a distinction between two different functions of legislatures: constraints and oversight. Since the constraint the support coalition exercises over the ruler emanates from the threat of revolt, the oversight function of legislatures is more important.

The emphasis on oversight sets the argument apart from previous literature concerned with constraining executive power directly. For instance, Besley and Persson (2011) focus on the fraction of years a country had the highest score (7) on the Polity IV executive constraints index. A score of 7 means that 'A legislature, ruling party, or council of nobles initiates much or most important legislation' and that 'The executive (president, premier, king, cabinet, council) is chosen by the accountability group and is dependent on its continued support to remain in office (as in most parliamentary systems)' (Marshall et al. 2017: 24–25). In general, Polity gives great importance to the ability of a legislature to initiate and block legislation. Similarly, Cox (2016) emphasizes the importance of de jure parliamentary power over budgets. Constraints—such as veto power over budgets or the constitutional ability to remove the executive—are different from oversight. The latter help facilitate autocratic power-sharing by making it easier for the support coalition to police bargains.

However, I share with these authors the view that institutional mechanisms limiting executive power (either through de jure rules or through oversight) are distinct from aspects of electoral democracy.[14]

There are two reasons for an autocratic leader not to impose an income tax without the consent of the support coalition even in the absence of institutional oversight. First, the elite might shift their support

2004), and coups (Acemoglu and Robinson 2000, 2001) as sub-optimal policies insuring against a future decline in power. In contrast, this paper is concerned with inefficient inaction.

[12] This literature focuses mainly on regime survival and emphasizes that the ruler needs a group of elites—the support coalition—to fend off challengers and to stay in power. By supporting the ruler, members of the support coalition gain access to benefits. However, once the ruler is safely in power (e.g. after a challenger has been defeated), he or she has an incentive not to provide the benefits promised. In Svolik (2012), in the absence of institutions, the support coalition observes the leader's behaviour only imperfectly, which may lead to unnecessary revolts, which is both costly and inefficient. Power-sharing institutions such as a parliament or council of nobles can decrease information and monitoring costs, reducing the probability of an inefficient rebellion. Thus, it is in the ruler's interest to introduce checks on his or her own power, since this allows commitment problems to be solved, and thus makes it easier to attract supporters and stay in power (Myerson 2008).

[13] Boix and Svolik (2013) present cross-sectional data from the 1980s and 1990s that suggest autocracies with legislatures and at least one party have better management of their petroleum sectors, and have greater statistical capacity.

[14] I thank Kunal Sen and Antonio Savoia for emphasizing this point.

to a potential challenger, jeopardizing the survival of the regime.[15] Second, without at least the tacit support of the elite, widespread evasion might render the tax ineffective in terms of generating revenue. Thus, potential resistance constrains the effectiveness of a tax without elite support. While an income tax in the absence of institutionalized power-sharing also has the advantage of giving the leader more discretion over spending, this is less of an advantage if the revenues generated are small and the tax threatens the survival of the regime. So even if a dictator manages to push through an income tax against the wishes of his or her support coalition (which is possible where dictators are particularly strong), it is not likely to yield as much revenue as one introduced with the blessing of the elite.

Thus, a system of regularized interaction wherein compliance and loyalty are exchanged for power over how the money is used is beneficial for both the leader and the support coalition. With institutionalized power-sharing the ruler gains from a high-yielding income tax with lower levels of evasion and low risk of rebellion, while the support coalition, in exchange for paying more in tax, have real influence over the budget. This is not possible without effective monitoring of the executive. In practice, monitoring and oversight can be implemented in a range of different ways, but the most important avenue—and the one I will focus on in the empirical section—is the legislature. There is variation in the ability of the legislature to investigate, to question officials, and to demand information from the executive branch. In some cases there is even a specific office answering directly to the legislature with the task of monitoring the executive branch.[16]

In sum, the way political institutions can help power-sharing agreements survive—and help the leader and support coalition to overcome commitment problems related to taxation—is through oversight and transparency. Political institutions facilitating the monitoring of the executive branch should increase the likelihood of introducing and expanding income tax in non-democratic states.

3 Data

3.1 Measuring fiscal capacity

I measure fiscal capacity in two ways: the share of total tax revenues from income tax and the permanent adoption of personal income tax. The share of revenues from income tax is frequently used as a proxy for fiscal capacity, and Rogers and Weller—presenting the case for the income tax share as an indicator of fiscal capacity—hold that 'In terms of state reach and administrative difficulty, the individual income tax may be the most challenging tax a state collects' (2014: 199).

A drawback to using the income tax share as an indicator has been a lack of historical information from a sample beyond a few countries in Western Europe. Recently, however, this situation has changed. The Financing the State: Government Tax Revenue from 1800 to 2012 dataset presents information on government budgets and their composition from 31 states in Western Europe, the Americas, Australia,

[15] In North and Weingast (1989) it is the demonstrated ability to remove monarchs through rebellions and civil war that lends credibility to the elite. Without these successful instances of toppling the regime, William III would never have agreed to the constraints on his power set out in the aftermath of the Glorious Revolution.

[16] For example, in the Swedish constitution of 1809, the office of the ombudsman of the parliament was instituted in order for the legislature to be able to uphold the power-sharing agreement between the king and the Riksdag.

New Zealand, and Japan (Andersson and Brambor 2019).[17] From this dataset I take the first dependent variable for this section: *income tax revenue as a share of total central tax revenues*.[18]

Using data on the introduction of income tax from the Tax Introduction Dataset (TID) Seelkopf et al. (2021) is a major advantage. While earlier contributions covered only small samples of Western states, the TID covers 220 countries that existed at some point between 1750 and 2015. I use the variable from TID indicating the adoption of a *personal* income tax (PIT).[19]

The two indicators both have weaknesses. For example, the general rise in income tax revenue can be the result of factors outside of government control, such as increased tax morale. The adoption of income tax does not suffer from this weakness, but has other problems. For instance, a tax might exist only on paper without the necessary administrative capacity to collect it. By using both indicators I am more confident that the results can tell us something meaningful about variation in fiscal capacity.

3.2 Measuring institutional oversight

Institutions allowing for the monitoring of the executive branch help leaders in non-democratic countries to overcome commitment problems associated with the introduction of an income tax. Previous research on the effects of autocratic institutions (e.g., Boix and Svolik 2013; Meng 2020; Svolik 2012; Weeks 2012; Wright 2008) focuses on the period after the Second World War. When explaining the origins of fiscal capacity, a longer time period is needed. For example, it was already in the nineteenth century that governments started to expand their capacity to collect and analyse information about their citizens through statistical agencies, population registries, and censuses (Brambor et al. 2020). It was also during the nineteenth century that states started to provide broad, modern, public services such as police, healthcare, and education (Ansell and Lindvall 2020). Most crucial for this paper, it was during the nineteenth century that countries began to tax income.[20]

Previous studies of the impact of autocratic institutions did not have access to high-quality, detailed, historical information on political variables. Thus, they have relied on rough proxies such as the mere existence of a legislature (Wright 2008), whether rulers were 'personalistic' or not (Weeks 2012), or how the legislature was selected (Svolik 2012).[21] None of these indicators are able to speak directly to the ability to monitor and exercise oversight. For example, the mere existence of a legislature can mean anything from a strong, democratically elected, parliament with extensive influence over policy, to a 'rubber stamp' legislature, rarely in session, and without any power to constrain or monitor. The recently released historical V-Dem dataset makes it possible to measure variation in legislative oversight over time.

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[17] Described in more detail in the codebook available at http://perfandersson.com/data.

[18] While an improvement compared to existing sources, this dataset does not include major socialist countries such as China and the Soviet Union. However, it is unlikely that standard political economy models apply to economies with little or no private sector.

[19] For more details about the definition and coding, see Genschel and Seelkopf (2019).

[20] Another drawback when using a short time period is that different types of non-democratic states are more common in certain periods. Covering the entire period from the nineteenth century to today means that my sample will include both monarchies and one-party states, for example.

[21] An additional problem with Svolik's conceptualization is that many elements in his index—such as the executive being selected by the majority in elections—are closely related to electoral democracy. Focusing more narrowly on the ability of the legislature to monitor the executive—and restricting the sample to non-democratic states only—reduces this risk of conflating autocratic institutions with the early stages of democratization.

In order to measure the degree of legislative oversight vis-à-vis the executive, I use the V-Dem legislative constraints on the executive index (Coppedge et al. 2020).[22] This index presents information on the extent to which the legislature (and other government agencies such as ombudsmen) questions officials, investigates in practice, exercises executive oversight, and the degree to which there are legislative opposition parties. Importantly, the emphasis is on de facto behaviour, not de jure provisions. It takes values from 0 to 1, where higher values indicate a higher degree of oversight. Importantly, this measure is not strongly correlated with key elements of electoral democracy such as suffrage ($r = -0.13$).[23] The V-Dem data cover (at most) 201 countries from 1789 to 2011.

I restrict my sample to closed autocracies and electoral autocracies using the Regimes of the World indicator in V-Dem. Electoral autocracies hold de jure elections for the legislature and executive, but lack one or more important democratic factors, such as elections being free and fair, parties not being banned, or broad rights to participate. Closed autocracies hold no multiparty elections for the executive or the legislature. Electoral and liberal democracies are dropped from the sample.[24] Restricting the sample in this way, combined with the limited data on tax revenues (31 countries from 1800 to 2012) and some of the covariates (e.g., historical data on ideology are only available for 33 countries from 1870 to 2012) means that the analyses in the following sections are based on 23–25 non-democratic, sovereign states.[25] While some countries are stable democracies or autocracies throughout the period, others move between categories. For instance, Venezuela is coded as democratic from 1953 until 2003, when it reverted back to autocracy.

In some countries the regime remained stable after the introduction of income tax, in others not. The overall sample contains countries that introduced income tax under democracy and later reverted to autocracy—such as Germany and Spain—but also countries that introduced income tax as a non-democratic state and later democratized (such as Italy and the United Kingdom).

3.3 Institutional oversight and tax revenues

In this section I present the results from a series of descriptive regressions analysing the link between institutional oversight and income tax revenue.

Formally, I estimate the following equation:

$$Taxshare_{i,t} = \alpha + Taxshare_{it-1} + \beta_1 Oversight_{it-1} + \beta_2 X_{it-1} + \delta_i + \zeta_t + \varepsilon_{it} \quad (1)$$

where i and t represent country and year, respectively. A lagged dependent variable is included in models 2 and 4. The terms δ_i represent country fixed effects (present in all model except for model 4), and ζ_t are year fixed effects. X_{it-1} is a vector of controls, described below.

There are several important possible confounders that need to be controlled for. First, it is possible that war causes both more power-sharing institutions (as predicted by Myerson 2008 and Svolik 2009), and an expansion of taxation (Hintze 1970; Tilly 1990). In the models that follow I therefore include an indicator of whether a country was involved in an international armed conflict using data from V-

[22] The main constitutional arena for elite influence during the period when most income taxes were introduced were national legislatures. Royal courts, emphasized by Myerson (2008), were more important in earlier periods.

[23] Compared to indicators focusing on constraints more broadly (such as the xconst indicator from Polity), the indicator used here follows more closely the point made in the autocratic politics literature that constitutions in non-democratic states have a different function, in particular that they facilitate monitoring of the executive. As pointed out by Weeks (2012), Polity explicitly excludes threat of coups, which is a key constraint in autocratic politics.

[24] The index only stretches back to 1900, but using the sub-indicators on which it is based I am able to extend it back in time.

[25] A sample of 23–25 is not small considering that there were only 55 sovereign states (including democracies) in the beginning of the twentieth century (Karatnycky 2000).

Dem (version 10, Coppedge et al. 2020) based on Brecke (2001). Another important factor is economic development, which might affect taxation (Hinrichs 1966) as well as political institutions (Lipset 1959). I control for GDP per capita (logged) using data from the Maddison Project (Bolt et al. 2018). Third, in order to account for the potential effect of partisanship, I include a binary variable indicating whether the head of government was left wing or not using data from Brambor et al. (2014). Fourth, the elite competition approach suggests that an influential rural elite should affect tax policy in non-democratic states. Using information in V-Dem, I construct a variable indicating whether the most important regime support group in a particular year was either the aristocracy or agrarian elites.

Finally, model 5 includes controls for suffrage and the number of social policy laws. Even though institutional oversight and the extent of voting rights are negatively correlated ($r = -0.13$), there might be a concern that institutional oversight is related to democratization. To alleviate this concern, I include a control for the share of population with suffrage from the V-Dem dataset. Another concern is that the variable for government ideology does not sufficiently pick up on the redistributive tendencies of the government. Using the information in Rasmussen (2016), I add a variable on the number of social programmes (such as old-age, unemployment, and sickness programmes) in place.[26]

I include country fixed effects to control for country-level features that do not change over time (such as geography) and year fixed effects to control for common shocks. Models 2 and 4 also include a lagged dependent variable to mitigate serial correlation. An additional advantage of including this variable is that it controls for the recent composition of tax revenues. All independent variables are lagged one year, and standard errors are clustered by country. To alleviate concerns about including both country fixed effects and a lagged dependent variable, models 3 and 4 presents results dropping the lagged dependent variable and country fixed effects, respectively.[27]

A final concern is stationarity. If the series are non-stationary, there is a risk of so-called spurious regression. However, both the dependent variable—income tax share—and the independent variable of interest—institutional oversight—are bounded, and thus cannot have an infinite variance. A bounded variable cannot be explosive, and an argument can be made that they therefore cannot be non-stationary (Williams 1992). Moreover, it is unclear why we would expect institutional oversight and the income tax share to vary randomly over time. Institutional oversight, for instance, is likely slow-moving due to changes in this variable being related to constitutional changes, which in turn are rare.

Standard unit root tests have low power, and are bad at distinguishing between slow-moving variables and unit roots, especially in small sample sizes (Podivinsky and King 2000). Moreover, short series make generalizations from unit root tests difficult, especially when variables are bounded (Williams 1992).[28]

An alternative approach is to estimate error correction models, which are appropriate both for stationary and non-stationary data (De Boef and Keele 2008). The results remain unchanged when using this approach.[29]

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[26] I thank Antonio Savoia and Kunal Sen for this suggestion.

[27] Following the recommendation in Angrist and Pischke (2008). However, as Beck and Katz (2009) show, concerns of Nickell (1981) bias diminishes as T becomes larger.

[28] Results from unit root tests are available in Section A3. Since the data are unbalanced, I use the Phillips–Perron and augmented Dickey–Fuller tests. As expected, given the nature of the data (i.e. bounded, slow moving, and short series) the results are inconclusive.

[29] Results are reported in Section A2.

Results

In line with the theoretical predictions, Table 1 reports a consistent positive and statistically measurable association between institutional oversight and income tax share. The associations are sizeable even when including a lagged dependent variable, time and year fixed effects, as well as a full battery of controls.

Table 1: Results

	1	2	3	4	5
Institutional oversight$_{t-1}$	19.6***	2.3**	14.7**	1.2***	2.6**
	(5.6)	(1.0)	(5.6)	(0.4)	(1.1)
Income tax share$_{t-1}$		0.9***		1.0***	0.9***
		(0.02)		(0.01)	(0.02)
Left HoG$_{t-1}$		–1.0**	–0.2	–1.2***	–0.8
		(0.4)	(2.2)	(0.4)	(0.5)
Rural elite$_{t-1}$		–0.8	–4.0*	–0.7	–0.6
		(0.6)	(2.1)	(0.5)	(0.5)
ln(per capita GDP)$_{t-1}$		2.1*	13.0***	0.08	2.3*
		(1.1)	(4.4)	(0.2)	(1.2)
War$_{t-1}$		–0.002	2.7	–0.2	–0.07
		(0.4)	(2.9)	(0.3)	(0.4)
Suffrage$_{t-1}$					0.5
					(1.5)
Social policy legislation$_{t-1}$					0.3
					(0.3)
Country FE	YES	YES	YES	NO	YES
Time FE	YES	YES	YES	YES	YES
Observations	1,090	839	867	839	839
R^2	0.486	0.935	0.275	0.943	0.927
Number of countries	25	25	25	25	25

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. Country-clustered robust standard errors in parentheses.

Source: author's compilation.

Going from Italy under Mussolini—with very little opportunity for the legislature to monitor the executive—to the Netherlands in 1893 (when PIT was introduced), which had a high degree of oversight over the executive (but with a suffrage rate of 14 per cent, far from democratic), implies an increase in the share of tax revenues from income tax of around 15 percentage points (using the estimates in model 3). Model 5—which is the most demanding in terms of controls—suggests a long-run effect (which is the preferred quantity given the inclusion of a lagged dependent variable) of roughly 26. This implies that going from a level of institutional constraints in the Brazilian Fourth Republic (around 0.6) to the military regime that succeeded it (around 0.1) is associated with a long-run decrease in the share of income tax of around 13 percentage points. After the coup in 1964 the share of income taxes did indeed start decreasing. A similar pattern is visible in Italy after Mussolini took power (and drastically reduced the level of oversight). This suggests that non-democracies with significant institutional oversight relied more on income taxes.[30]

Among the control variables, only economic development and left-wing head of government reached conventional levels of statistical significance. Interestingly, the sign of the latter is negative, suggesting that left-wing governments rely less on income tax.[31] That more developed countries rely more on income tax is in line with expectations.

[30] The long-term relationship estimated with the error correction model (Section A2) is also statistically significant ($p < 0.01$) (using the Bewley transformation to calculate standard errors, as recommended by De Boef and Keele (2008)).

[31] See Andersson (forthcoming) on left-wing tax strategy.

3.4 Institutional oversight and income tax adoption

While there are many advantages with using the share of income taxes as an indicator of fiscal capacity, there are also drawbacks. For example, countries with no income taxes are not in the sample. More seriously, it combines the will and the capacity to tax. Many countries have a high capacity to tax, but use it to different extents, depending on internal (e.g. government preferences over the size of the state) and external (e.g. the international security situation) circumstances. An additional tax increases tax capacity regardless of the extent to which it is actually used. For example, a country with a wide array of different taxes can collect the same amount of total revenues as a country with a few taxes. Tax introduction as an indicator does not suffer from these problems, and focuses on a discrete decision to expand the fiscal toolbox.

This section focuses on the introduction of *personal* income tax, which is a 'tax levied on the directly assessed income of a personal taxpayer' (Genschel and Seelkopf 2019: 5). The typical PIT was introduced in the decades before the Second World War, but the variation in introduction year is large (see figure 2 in Genschel et al. 2019). The median time from entering the sample to adopting income tax is 95 years, and the majority of countries had introduced the tax after 150 years.

The most widely used methods for estimating models with a binary dependent variable—such as tax introductions—are probit and logit regressions. However, these approaches are problematic since they ignore the temporal dimension of the data. In particular, the assumption that observations are temporally independent is likely to be violated in the case of income tax where the probability of adoption probably increases over time, which could cause t-values to be inflated.

A common way to solve this problem is to run logit/probit models and introduce natural splines (Beck et al. 1998) or cubic polynomials of time (Carter and Signorino 2010) to correct for temporal dependence. This is also the method used in earlier research on historical tax introductions (e.g., Aidt and Jensen 2009b; Mares and Queralt 2015).

A potential problem with this approach is that tax adoptions are rare events: in most years there are no new taxes introduced. It has been shown that logit estimates are biased and inefficient in these situations (King and Zeng 2001). Another problem is separation—when one or more covariates perfectly predict the outcome—which might result in the omission of relevant variables (Zorn 2005). Separation is more common with dichotomous predictors, a large number of covariates, small samples, and when there are many units not experiencing the outcome (Anderson et al. 2020). Both of these problems can be addressed by using the penalized maximum-likelihood (PMLE) estimator suggested by Firth (1993). I present results using both this approach and the standard logit approach with correction for temporal dependence.

In the results below, a country is defined as being at risk of introducing an income tax if it does not currently have one, and if it is sovereign according to V-Dem (Coppedge et al. 2020) (based on Gleditsch and Ward 1999).[32]

The models in Table 2 include the same controls as in the previous section: economic development, warfare, left-wing head of government, rural elite, suffrage, and social policy laws. While the previous models included country fixed effects, this is problematic for binary dependent variables (Beck and Katz 2001). In order to account for unobserved characteristics of the Old World, the models below all include Europe fixed effects.

[32] This is important since many income taxes were introduced in countries when they were colonies. As mentioned previously, this is one of the reasons the final sample is smaller than the available data on tax introductions. Income taxes had been introduced temporarily already in the eighteenth century (the first one being adopted in Massachusetts in 1706) (Aidt and Jensen 2009b).

Finally, a concern might be that states with a higher tax capacity, with many modern taxes in place, are more likely to introduce reforms increasing institutional oversight, and at the same time be less likely to introduce new taxes (since the capacity is already high). Moreover, already existing taxes—such as general sales tax—might make the introduction of income tax more likely (e.g., through already existing administrative capacity in the tax authority), while at the same time create demand for more transparency. In order to alleviate these and similar concerns I have included controls for the previous introduction of other modern taxes: inheritance tax (INH), corporate income tax (CIT), social security contributions (SSC), and general sales tax (GST).[33] However, since including other taxes as controls might introduce post-treatment bias, I also report results without these controls.

Results

Models 1–3 of Table 2 present results using logistic regression with duration dependence, with model 2 adding controls for ideology, rural elite, economic development, war, suffrage, and social policy legislation, and model 3 adding controls for existing taxes. Models 4 and 5 use the PMLE approach, with model 5 including controls for existing taxes.

Table 2: Results

	1	2	3	4	5
Institutional oversight	2.9**	4.8**	8.9**	4.2**	7.7***
	(1.3)	(2.0)	(3.8)	(1.8)	(2.5)
Left HoG		0.9	1.3	0.8	1.3
		(0.6)	(0.9)	(0.7)	(0.9)
Rural elite		–0.7	–1.9*	–0.6	–1.7**
		(0.6)	(1.0)	(0.6)	(0.7)
ln(per capita GDP)		–0.6	–1.9	–0.5	–1.7*
		(1.0)	(1.8)	(0.7)	(1.0)
War		–1.1	–4.4*	–0.4	–3.9
		(1.1)	(2.3)	(1.5)	(2.8)
Suffrage		–0.6	–0.1	–0.6	0.04
		(2.1)	(2.4)	(1.9)	(1.9)
Social policy legislation		0.3	0.4	0.3	0.4
		(0.2)	(0.3)	(0.2)	(0.2)
INH			–0.2		–0.2
			(0.8)		(0.7)
SSC			1.1		1.0
			(1.4)		(0.8)
CIT			3.1***		2.8***
			(0.9)		(0.8)
GST			1.7*		1.5*
			(1.0)		(0.8)
Constant	–6.3	–1.9	6.0	1.7	8.5
	(4.4)	(7.4)	(13.0)	(5.9)	(6.8)
Observations	926	926	926	926	926
Number of countries	23	23	23	23	23
Duration dependence	Yes	Yes	Yes	Yes	Yes
Europe FE	Yes	Yes	Yes	Yes	Yes

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. Models 1–3: logit with country-clustered robust standard errors. Models 4–5: logit with PMLE function.

Source: author's compilation.

Across specifications there is a clear positive association between oversight and the likelihood of income tax introduction. The sign and magnitude remain similar regardless of which estimator is used.

[33] I do not include value-added tax (VAT) since it was generally introduced much later than PIT. In my sample it is only Uruguay which had VAT in place before PIT. Importantly, the TID does not provide information on temporary taxes, so we do not know if, for example, there was a temporary GST in place when the PIT was permanently introduced, and only later a permanent GST was established.

Countries with a GST or CIT already in place are also more likely to introduce PIT. The results for the other control variables are less stable across specifications, but suggest that countries that are wealthy or have strong rural elite groups are *less* likely to introduce PIT. Warfare is only statistically measurable in model 3, and suggests a negative effect on PIT adoption, in contrast to expectations.

3.5 Summary of results

It is important to note that the results of these exercises are to be interpreted with caution. Historical patterns of political institutions and fiscal capacity can be very informative, but one should be careful about drawing causal conclusions from them. Future research using in-depth case studies with more detailed data will be crucial in order to investigate these results further.

However, while purely descriptive, the results do demonstrate a robust association between the ability to exercise oversight and the introduction and expansion of income taxes. The next section illustrates the proposed causal mechanism by looking closer at a non-democratic country that introduced income tax in peacetime: Sweden.

4 The non-democratic introduction of income tax in Sweden

The introduction of income tax in Sweden in 1902 is a case of income tax adoption in a non-democratic country with strong institutional oversight.[34] Already in 1809, the office of ombudsman was established in order for the legislature to be able to exercise oversight over the executive branch. This office, answering exclusively to the parliament, was seen as a key component in upholding the shared power between the king and the Diet of the estates. After the constitutional reform of 1866, in which the former four-chamber Diet was turned into a two-chamber parliament, the scope of institutional oversight increased even more (the indicator from V-Dem used in Section 3 increased from 0.795 to 0.826 on a scale from 0 to 1).

At the time of the tax reform of 1902, the bicameral parliament had considerable influence, but it could be dissolved by the king, who could also veto laws unilaterally. Democratic participation was very limited both in terms of who could run for parliament and in terms of who could vote. There were income and property requirements for the franchise, and more than 80 per cent of the adult (men and women) population did not have the right to vote.

As in most countries, an inheritance tax—as well as taxes on land—was already in place. Different types of taxes on inheritance existed throughout the nineteenth century, and a modern version of the tax was adopted in 1884 (Seelkopf et al. 2021). These existing sources of revenue were not enough to cover increasing expenditures, which was a major reason for the introduction of income tax in 1902.

The story about the income tax of 1902 starts with a major reform to defence and taxation in 1892. Ancient taxes on farmland were to be removed step by step during a ten-year period, reducing the tax by 10 per cent each year until 1902. At the same time, the old allotment system staffing—and to some degree financing—the armed forces was to come to an end by 1904 (Gårestad 1987). Thus, a new way of financing defence was needed.[35]

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[34] As in many other countries, Sweden did have temporary income taxes before, the first one in 1712 (Karlsson 1994), the second one in 1810 (Åkerman 1967).

[35] However, this was hardly a crisis. The recently removed taxes generated only around 10 per cent of tax revenue at the turn of the century (Gårestad 1987).

Although a proximate cause of the income tax was increasing defence expenditures, the late nineteenth century also saw structural economic changes that made the taxation of personal (and corporate) incomes easier (Rodriguez 1981)—for example, in 1905 industry surpassed agriculture in economic importance (Dahlgren 1990). Moreover, arguments focused not only on the need for more defence spending, but also for investments in infrastructure. According to Dahlgren (1990), there was a political consensus that the state needed to be more active in the economy, and the first step to increase this capacity of the state was to improve its finances. Income tax was seen as an attractive tool since it was less volatile and not as dependent on international circumstances as tariffs. Evidence of income tax as an effective money raiser came both from the earlier experience of the tax in 1809 and from neighbouring states such as Prussia.

However, many were also apprehensive of the tax; in particular, concerns were raised about the privacy of tax payers. The system of personal tax returns was coupled with wide-ranging bureaucratic powers and sanctions for tax fraud. The increased information on private citizens which would become available to government bureaucrats made many high-income earners anxious, and efforts were made to alleviate these concerns. For instance, revealing private information was made illegal and the tax returns were made confidential (Paradell 2010).[36]

The fact that some members of parliament were worried about the increased power of authorities, and that there were alternative tax reforms put forth focusing on indirect taxes, suggest that there was real concern about the tax.[37] These concerns were overcome thanks to certain aspects of the reform that increased the benefits to the elite and reduced the risks. First, the conservatives in parliament favoured a stable, and expanded, revenue system in order to invest in infrastructure (from which they would benefit) and modernize defences (Dahlgren and Stadin 1990). The price they paid was low since the rate was modest and progressivity weak, and the wealthy had many different sources of income and thus did not see the income tax as a major threat economically (Stenkula 2015).

Second, the tax reform was implemented in a way to ensure that there were constitutional checks protecting the wealthy elites represented in parliament from potential government overreach. The taxes removed from 1892 and onward were so-called ordinary revenues, controlled by the king. The new income tax was classified as an ‘extraordinary’ tax, and thus under firmer parliamentary control.[38] In practice, this meant taxes could be changed by the legislature without the king being able to veto them (Dahlgren 1990). Thus, the income tax meant moving revenue power from the executive to parliament.[39] Moreover, the tax did not change the suffrage (at the time the franchise was linked to tax payments), which protected the elite against potential redistributive demands from lower classes (cf. Mares and Queralt 2015). A final aspect of the 1902 reform that convinced sceptics was that it was supposed to be temporary.

Interestingly, among the main opponents to the new income tax in Sweden we find both landed nobility and business elites (since the old taxes on farmland did not hurt corporations) (Dahlgren and Stadin

[36] Making private tax returns confidential required changes in laws regulating freedom of information, delaying the implementation of the tax until 1903 (Paradell 2010).

[37] There were proposals for tax reform based on an expansion of indirect taxes—which would be preferable for the rich elite—but these were deemed insufficient to finance the new defence bill (Dahlgren 1990).

[38] Interestingly, a minority of conservative parliamentarians wanted the new income tax to be treated as a law in the lower chamber, meaning that the upper house and the king could veto it (in the belief that the king would be a guarantor against excessive taxation). However, this proposition failed. Importantly, both in 1902 and in 1910, there was a majority in both houses against any proposition regarding taxes that would imply a royal veto (Dahlgren 1990).

[39] The importance of giving parliament more power of taxation is interesting, given the political conflict over tariffs in the late nineteenth century, a conflict in which the king actively intervened at one point and dissolved the second chamber, triggering an election (Lewin 1992).

1990). Recent research on the estates of Swedish parliamentarians might explain why, while also casting doubt on the foundational assumptions of the elite competition approach. Bengtsson and Olsson (2018) present evidence showing that farmer members of parliament in mid to late nineteenth-century Sweden were not only wealthy in terms of the amount of land they owned, but they also had diverse sources of income and wealth. Among the most wealthy farmers in their sample (people who would most definitely belong to the 'landed elite' in terms of land ownership), the largest share of their wealth was not in livestock or land, but in urban real estate, shares in modern-sector companies such as railway and steamboat companies, as well as shares in banks. Moreover, wealthy farmers—as well as landed nobility—founded local modern factories and invested in stocks. Thus, among the landed elite in mid to late nineteenth-century Sweden (both noble and non-noble) there were no clear urban–rural or industrial–agricultural divides with respect to assets: the elite were invested in both sectors. While the wealthy farmers and estate owners had a shared interest in not extending the franchise (Bengtsson and Olsson 2018), it does not seem like the asset-based elite competition approach had much to offer with respect to income tax. This also explains why there was a low level of conflict among the ruling classes in relation to the introduction of the income tax.

The reform was successful: five years after its introduction, the income tax generated 15 per cent of total tax revenue, and overall revenues increased by almost 40 per cent. The support coalition in Sweden at the time had no qualms about increasing the fiscal capacity of the state since it controlled parliament, through which it was able to effectively monitor the executive branch. They were also able to push through additional legal provisions protecting sensitive information contained in tax returns. It is likely that the decision of the elite was affected by the fact that they knew they could use their monitoring power to detect any executive transgressions in the future. This meant increasing certainty that the income tax would not be used against their interests, and that they could ensure that the revenue would be spent on their preferred activities.

5 Conclusion

The rise of the fiscal state cannot be explained by democracy and war alone. In fact, many of the investments in fiscal capacity were made by non-democratic states, a puzzle that has only recently received attention from social scientists. The first point made in this paper is that when analysing the introduction of taxes it is crucial to consider the motivation behind it. Adopting a tax to invest in fiscal capacity is very different from adopting a tax to reach distributive goals. The second point is that there are important institutional differences between non-democratic states, differences that matters when explaining tax policy.

Using newly available historical tax data and historical information on political institutions, the analysis in this paper suggests that institutional oversight is positively related to the adoption and expansion of income tax in non-democratic states. The results indicate that when investigating the institutional origins of fiscal capacity, it is important to distinguish not only between democracy and autocracy, but also between different institutional configurations within non-democratic countries.

The short case study illustrated how the support coalition used existing institutions to ensure power over the new income tax by avoiding the royal veto. This was important since there was serious concern not only about the redistributive potential of the tax, but also about the increased capacity of the state to gather information on its citizens. The Swedish case also provided insights into the interests of elite groups: some members of the old landed elite and the new business class opposed the income tax, and many farmer politicians had a diverse portfolio of wealth and income, blurring the lines between rural and urban tax preferences.

The empirical analysis suggests a different channel through which power-sharing leads to stability: state capacity. Income tax strengthens state capacity, making it easier for the ruler to defeat challengers and co-opt opposition.

An important area for future research in historical fiscal capacity is communist states. Not only is this a distinct autocratic institutional configuration, but standard models of taxation are likely to be less applicable in these cases. For instance, the political coalitions relevant to PIT or CIT are likely to be different if all (or most) corporations are government-owned.

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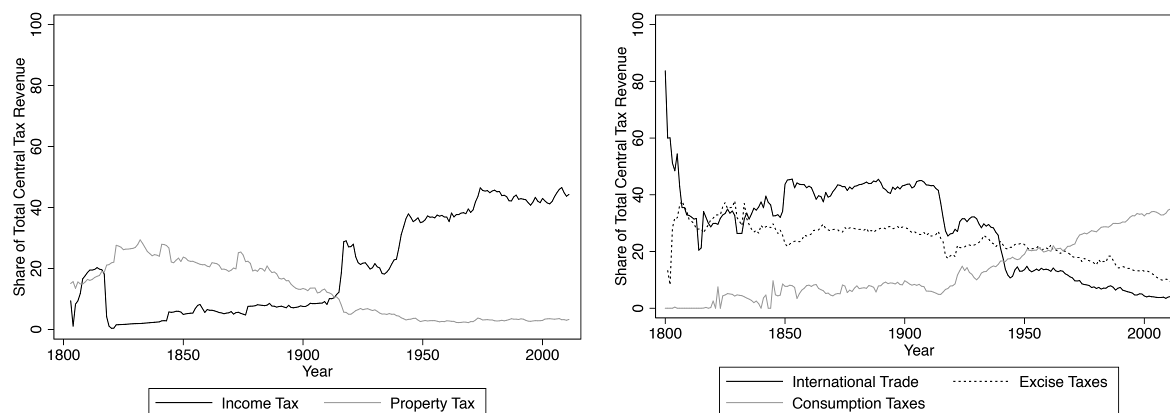
Appendix A

A1 Financing the state: 1800–2012

Figure A1: Share of direct and indirect taxes



Source: author's compilation.

A2 List of countries

Income tax share	PIT introduction
Argentina	Argentina
Austria	Belgium
Belgium	Bolivia
Brazil	Brazil
Canada	Canada
Chile	Chile
Colombia	Colombia
Denmark	Costa Rica
Ecuador	Denmark
Finland	Ecuador
France	France
Italy	Germany
Japan	Greece
Mexico	Mexico
Netherlands	Netherlands
Norway	Paraguay
Paraguay	Peru
Peru	Portugal
Portugal	Spain
Spain	Sweden
Sweden	United States
United Kingdom	Uruguay
United States	Venezuela
Uruguay	
Venezuela	

A3 Unit root tests

Table A1: Panel unit roots tests

Augmented DF demeaned				
Variable	Income tax share		Institutional oversight	
Lags	χ^2	p	χ^2	p
0	48.164	0.466	34.147	0.934
1	75.352	0.004	33.897	0.938
2	53.528	0.208	36.391	0.890
3	39.635	0.659	43.314	0.585
4	25.158	0.982	46.755	0.283
5	32.132	0.808	60.958	0.029
Augmented DF demeaned with trend				
Variable	Income tax share		Institutional oversight	
Lags	χ^2	p	χ^2	p
0	45.355	0.582	34.648	0.926
1	39.521	0.739	31.944	0.964
2	29.938	0.968	35.473	0.910
3	22.084	0.998	43.411	0.581
4	16.687	1.000	51.818	0.143
5	24.028	0.978	76.325	0.001
Augmented DF demeaned with drift				
Variable	Income tax share		Institutional oversight	
Lags	χ^2	p	χ^2	p
0	128.411	0.000	106.021	0.000
1	127.871	0.000	104.871	0.000
2	106.814	0.000	106.466	0.000
3	96.976	0.000	115.908	0.000
4	76.838	0.000	120.227	0.000
5	74.896	0.000	126.405	0.000
Phillips–Perron demeaned				
Variable	Income tax share		Institutional oversight	
Lags	χ^2	p	χ^2	p
0	48.164	0.466	34.147	0.934
1	49.781	0.402	34.599	0.927
2	51.520	0.338	34.226	0.933
3	52.777	0.295	35.199	0.915
4	56.332	0.191	35.843	0.902
5	59.671	0.120	36.053	0.898
Phillips–Perron demeaned with trend				
Variable	Income tax share		Institutional oversight	
Lags	χ^2	p	χ^2	p
0	45.355	0.582	34.648	0.926
1	53.842	0.261	45.293	0.584
2	73.031	0.011	54.217	0.249
3	84.524	0.001	64.503	0.056
4	94.209	0.000	74.074	0.009
5	101.873	0.000	82.655	0.001

Source: author's compilation.

I report results from the inverse χ^2 test since the number of panels is finite.

A4 Error correction models

The long-run multiplier (calculated using the Bewley transformation) is 23.9 and is significant at the 1 per cent level.

Table A2: Results: error correction models

	1	2
Income tax share$_{t-1}$	–0.1***	–0.1***
	(0.02)	(0.02)
Institutional oversight$_{t-1}$	2.3**	2.8**
	(1.0)	(1.1)
Δ Institutional oversight	0.3	0.3
	(2.4)	(2.0)
Left HoG$_{t-1}$	–1.1***	–0.6
	(0.3)	(0.4)
Δ Left HoG	0.3	0.4
	(0.9)	(0.9)
Rural elite$_{t-1}$	–0.8	–0.4
	(0.7)	(0.6)
Δ Rural elite	0.8	1.0
	(1.0)	(1.0)
ln(per capita GDP)$_{t-1}$	1.7	2.0
	(1.2)	(1.2)
Δ ln(per capita GDP)	–2.6	–2.5
	(3.5)	(3.6)
War$_{t-1}$	–0.4	–0.6
	(0.4)	(0.4)
Δ War	–0.3	–0.5
	(0.7)	(0.6)
Suffrage$_{t-1}$		0.7
		(1.7)
Δ Suffrage		1.3
		(2.2)
Social policy legislation$_{t-1}$		0.5*
		(0.3)
Δ Social policy legislation		1.0
		(0.8)
Country FE	YES	YES
Year FE	YES	YES
Observations	823	823
R^2	0.159	0.118
Number of countries	25	25

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. Country-clustered robust standard errors in parentheses.

Source: author's compilation.