

Does taxation lose its role in contemporary democratisation? State revenue production revisited in the third wave of democratisation

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Abstract. Echoing the call for ‘no taxation without representation’, the development of modern taxation went hand-in-hand with Western democratisation. However, taxation appears to have lost its role in the third wave of democratisation. Unlike early democratisers, contemporary autocracies tend to introduce a ready-made modern taxation system before democratisation. With advice from international organisations, the value added tax (VAT), which mature democracies innovated, has been adopted for economic adjustment and development in globalised markets. Despite these divergences, it is argued in this article that a fundamental relationship between taxation and representation remains. Taxation inherently involves a social contract between revenue-seeking rulers and citizens, and thus involves their bargaining over representation. Therefore, the production of state revenue intervenes in contemporary democratisation as well. By factoring in the effect of the VAT in 143 developing countries between 1960 and 2007, an entropy-balancing analysis has confirmed its important role in contemporary democratisation. The taxation-democratisation linkage has travelled from early to contemporary democratisation.

Keywords: democratisation; taxation; value added tax (VAT); equality; globalisation

Introduction

Taxation involves the institutionalisation of the revenue-raising capacity of a modern state and, at the same time, it can motivate citizens to hold the government accountable and facilitate collective bargaining between the ruler and the ruled (Bräutigam 2008; Levi 1988; North 1981). During the state-building of Western democracies, the revenue production of emerging nation-states was the focal point of such a bargaining process (Almond & Coleman 1960; Huntington 1968; Lipset 1959; Tilly 1992). As in the phrase ‘no taxation without representation’, which was a major, public cause of the American Revolution, the imposition of taxation served to increase awareness of the right to representation and promoted collective bargaining with rulers (Bates & Lien 1985). Furthermore, it was a *progressive* taxation on income that improved state revenue production during early democratisation (Levi 1988: Chapters 6 and 7; Lindert 2004; Scheve & Stasavage 2012, 2016; Webber & Wildavsky 1986).¹

However, contemporary democratisers since the third wave of democratisation have failed to imitate the hallmark measure of revenue of their early counterparts (Genschel & Seelkopf 2016). Their main source of revenue is now a general tax on consumption (Carnahan 2015). More specifically, unlike the first and second wave democracies,² the tendency is to adopt a newly innovated system of value-added tax (VAT), which imposes a flat-rate levy on general consumption and is thus, by nature, *regressive* taxation. VAT is

also considered to be more effective than progressive income taxation because it can raise revenue without interfering with economic adjustment and development (Bird & Gendron 2007; Bräutigam 2008; Corbacho et al. 2013; Ebrill et al. 2001; Gordon 2010b; Profeta & Scabrosetti 2010; Sandford 2000). Accordingly, most developing economies today prefer to adopt VAT *without* implementing effective income taxes.³

Democratisers since the third wave have faced distinct circumstances compared to the regime transition of the early waves of democratisers (see also Freeman & Quinn 2012). Developing countries today are in a globalised world where free trade and capital flight are the market norm, and modern regressive taxation is introduced as a means to adjust to globalised markets. International organisations representing the interests of advanced economies in the stability of developing economies have guided developing economies to implement VAT.⁴ In this sense, modern tax systems in these countries have not evolved from the domestic politics of state revenue production, whereas the turbulence of domestic politics was key for early democratisation. In addition, VAT is an indirect taxation that is generally assumed to be 'invisible' and less likely to mobilise taxpayers for collective, domestic bargaining that emulates the process of early democratisation. The apparent lack of domestic contention over the introduction of VAT may suggest that taxation no longer constitutes an important process of political modernisation. This may also explain why the literature largely ignores the role of regressive taxation in regime transition.

In contrast, by revisiting state revenue production, we argue that taxation plays an important role in contemporary democratisation. Once implemented, taxation is inevitably implicated in the collective bargaining between the ruler and the ruled, and motivates the latter to hold the government accountable (Paler 2013). VAT in the third wave democratisers is no exception. VAT tends to raise public awareness of tax burdens and politicise the government's tax imposition, which in turn promotes collective bargaining between the ruler and the ruled over fiscal contracts and democratic accountability. The politicisation tends to lead to collective action against 'taxation without representation' because contemporary autocrats often fail to provide public goods that are commensurate with the increased burdens of modern, regressive taxation (see also Ross 2004, 2012). Accordingly, we argue that VAT's coercive imposition and effective extraction tend to result in democratisation in the contemporary world (see also Moore 2007).

Using time-series cross-national analyses, the present study examines the relevance of the tax–democratisation thesis in the third wave of democratisation. This new taxation–democratisation linkage did not emerge in a vacuum of socioeconomic circumstances. Other contextual and structural factors, such as economic development, trade liberalisation, natural resource endowment and an actual level of inequality may have affected it. To control for these factors, we employ a matching technique called 'entropy-balancing'. Although the taxation–democratisation linkage emerged in historical and geopolitical contexts in which many other events intervened, the entropy-balancing technique enables us to extrapolate from circumstantial conditions. Our analysis demonstrates that the fundamental relationship between taxation and democratisation survives in the contemporary world, even when controlling for factors that may affect both VAT introduction and regime transition. Our analysis also examines and provides evidence for one implication of the argument: collective actions such as riots can induce democratisation after a country introduces VAT through the politicisation of the tax burden.

We make two main contributions to the literature. First, we provide descriptive narratives of tax development in the third wave democratisers. We demonstrate that third wave democratisers historically have distinct tax development; therefore, we need to examine the tax–democratisation linkage in the third wave democratisers separately from the ones in the first and second waves. The discussion also highlights some misperceptions about contemporary taxation. In particular, we clarify that, unlike their predecessors, third wave democratisers tend not to employ effective income taxes and often rely heavily on VAT for their state revenue. Because the literature assumes that progressive income taxation still plays a role in democratisation, clarifying the distinctive tax development in the third wave democratisers should contribute to studies on contemporary democratisation.

The article's second contribution is that, building on a small number of exceptional studies of regressive taxation and democracies (Baskaran 2014; Timmons 2010a), we explore an under-examined process of how taxation leads to contemporary democratisation. Specifically, we investigate how the politicisation of VAT's tax burden affects the likelihood of democratisation in the contemporary world.

The view that democratisation can be explained by the level of inequality in a society (Acemoglu & Robinson 2006; Boix 2003) and rent from natural resources (Aslaksen 2010; Beblawi 1990; Herb 2005; Jensen & Wantchekon 2004; Mahdavy 1970; Mitchell 2011; Papaioannou & Siourounis 2008; Ramsay 2011; Ross 2001, 2012) dominates recent literature. Shedding new light on taxation qualifies these explanations, which pay little attention to the role of taxation in political modernisation. In this sense, this article brings taxation back into the third wave of democratisation and demonstrates that the fundamental premise of the taxation–democratisation thesis has travelled from early to contemporary democratisation.

In the remainder of this article, we first describe how VAT evolved historically and why developing countries adopted it as their main revenue source. The discussion should clarify our contribution and the historical contexts for our argument. We then propose our main argument that regressive taxation leads to democratisation through the politicisation of tax burdens. In the empirical sections, we first introduce our research design and cross-national times-series dataset, and then present the main findings. Finally, we discuss the implications of our results for the existing literature and conclude with a summary.

Bringing taxation back into contemporary democratisation

VAT is specific to the third wave democratisation

A total of 122 developed and developing countries had introduced VAT by 2006. With its increased diffusion (Figure 1), VAT has attracted scholarly attention regarding its relationship with democracies. Timmons (2010a) finds that both mature and young democracies tend to raise revenue from regressive taxes on consumption (i.e., VAT) rather than from progressive income taxation and questions whether democracies thus decrease inequality. Baskaran (2014) demonstrates that VAT is an important tool to increase government revenue effectively and is more likely found in democracies.⁵ Together, these studies indirectly question the prevailing focus on progressive income taxation in

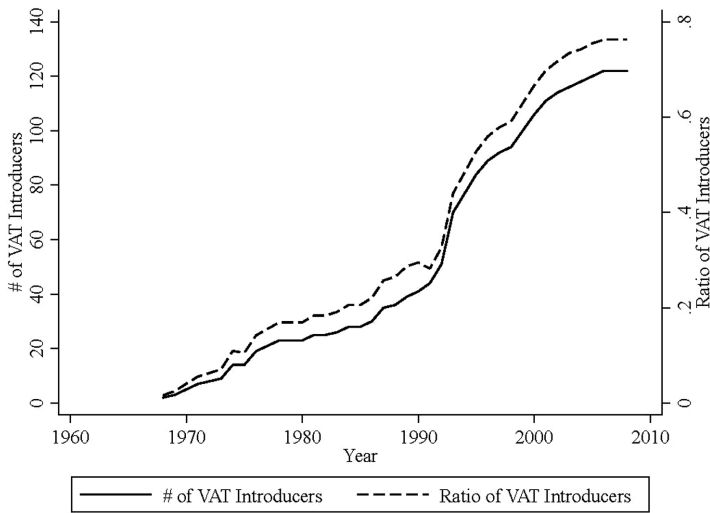


Figure 1. Trends in VAT between 1960 and 2007.
Source: Data are from Bird and Gendron (2007).

the democratisation literature and shed new light on the relationship between VAT and democracies.

Building on the growing interest in the relationship between regressive taxation and regime type, the present study explores the effect of VAT on regime transition by distinguishing early democratisers from contemporary ones.⁶ Paying close attention to the historical development of VAT as detailed in the following section, we show that the VAT–democratisation linkage is unique to third wave democratisers. Because the VAT system was not innovated until the 1950s (Sandford 2000; Kato 2003), technically only the democratisers since the third wave have had an opportunity to introduce VAT *before democratisation*. Thus, they constitute appropriate cases for examining the effect of VAT on democratisation. By contrast, their predecessors had no choice but to implement VAT *after democratic consolidation* (see below for more discussion). We thus focus on the third wave countries and examine how the introduction of VAT affects democratisation.

It is important to note that these different tax developments across different waves of democratisation tend to result in variation in revenue reliance (as a proportion of total tax revenue) on income and consumption taxes (Figure 2).⁷ The first wave democratisers still rely heavily on income taxes. The second wave democratisers follow those trends, but, to some extent, they also extract their revenue from consumption taxes.⁸ By contrast, third wave democratisers do not rely much on income taxes for their tax revenue, but instead rely heavily on consumption taxes because they adopted VAT rather than income taxes as a major form of taxation.

For third wave countries, VAT is thus a major form of taxation that finances the modern state before and/or from the outset of democratisation. Roughly 75 per cent of the sub-Saharan African and Asia-Pacific countries, nearly half of the North African and Middle East countries, and one-third of the small island countries in the Caribbean and the Pacific have introduced VAT (Bird & Gendron 2007: 17). Unlike their

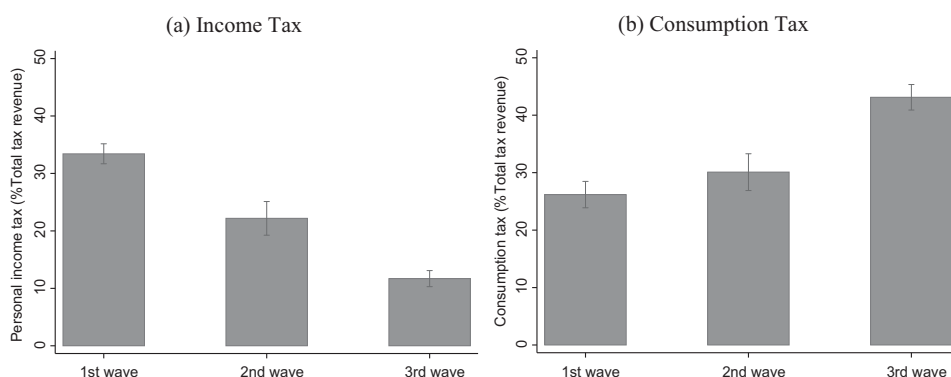


Figure 2. Revenue reliance on income and consumption taxes by different waves of democratisation in 2014. Notes: The figure displays the mean value of revenue production type as a percentage of total government revenue by three different waves as of 2014. ‘3rd wave’ countries include a mix of democratic and autocratic countries. We use Huntington (1991) for the definition of the waves. The error bars indicate standard errors for each value. The income and consumption tax data come from the OECD Revenue Statistics (<https://stats.oecd.org/Index.aspx?DataSetCode=REV>).

predecessors, third wave democracies have failed to institutionalise income taxes during democratisation. Existing theories of democratisation tend to focus on the distributional consequences of domestic conflicts – namely the expected reduction in inequality to which tax progressivity would contribute after a transition (Boix 2003; Acemoglu & Robinson 2006). The assumption is, however, more plausible for early democratisers than for third wave ones, and we observe the general tendency to rely more on taxes on consumption than on income taxes in the third wave countries.⁹ Consequently, we claim that it is critical to study the third wave countries separately from the first and second wave countries when one examines the effect of taxation – particularly VAT – on contemporary democratisation.

Why do the third wave countries adopt VAT as a major form of taxation for modernisation?

As mentioned above, developing countries today tend to introduce and rely on VAT for their state revenue. Why then do contemporary democratisers fail to rely on income tax revenue that had once financed the state-building of early democratisers? Before introducing our argument about the contemporary linkage between taxation and democratisation, this section traces the development of taxation in the contemporary world and clarifies circumstantial conditions that facilitated the adoption of VAT in autocratic states. The historical overview in turn illustrates that developing countries introduce VAT for economic reasons that are largely independent of transition in the political regime. This allows us to focus on how VAT affects democratisation *after* its introduction. First, it is important to note that the advantage of being late developers permits democratising countries to skip the trials and tribulations of their predecessors to raise state revenue, which leads to collective bargaining between the ruler and the ruled.¹⁰ In the 1970s, when the third wave countries embarked on regime transition, VAT had already been devised and implemented in developed economies.

Furthermore, in the contemporary world where free trade and capital flight are the norm, tax policy is not only a domestic policy but also a means to comply with trade and financial openness in globalised markets.¹¹ Compared with income taxes, VAT is neutral to economic activities without interfering with development and is thus a suitable revenue-raising measure for developing economies that need to rationalise and stabilise their domestic, economic systems in the globalised economy (Bird & Gendron 2007; Bräutigam 2008; Corbacho et al. 2013; Ebrill et al. 2001; Gordon 2010b; Profeta & Scabrosetti 2010; Sandford 2000).¹² Consequently, developing countries tend to introduce VAT rather than income tax as a major revenue source because they need to implement a modern form of taxation that helps them to adjust to global markets *and* develop at the same time.¹³

The tax literature (Bird & Gendron 2007; Emran & Stiglitz 2005; Tanzi & Zee 2000) agrees that the pressure for economic liberalisation facilitates the diffusion of VAT, which subsequently contributes to increasing the total government revenue in developing countries (Aizenman & Jinjark 2009; Bird & Gendron 2006; Keen & Lockwood 2010; Rakner & Gloppen 2003).¹⁴ VAT constituted a critical part of revenue reform proposed by the International Monetary Fund (IMF) (Crivelli & Gupta 2016), and the Fiscal Affairs Department of the IMF was the main agent of the adoption of VAT (Bird & Gendron 2007: 16; Keen 2009: 160). Experts from the World Bank and regional banks also facilitated its adoption and implementation.¹⁵ Because of advice from international organisations and foreign experts, developing countries could introduce a consistent and standard model of VAT (Bird & Gendron 2006, 2007; Tanzi & Zee 2000).¹⁶

In a nutshell, the historical background and tax literature indicate that governments in the third wave countries have failed to implement income taxes because VAT, which has been around since the 1960s, allows them to raise revenue more effectively in a globalised world. The development of taxation clarifies the historical (albeit not necessarily causal) sequence that many countries in the third wave first introduced VAT for economic considerations followed by the experience of democratic transition.¹⁷ This brings us to our main question about the relationship between taxation and the third wave of democratisation: Is the introduction of VAT more likely to lead to democratic transition and if so, how?

Argument

During the first wave of democratisation, the bargaining over tax revenue production shaped the evolution of modern states that were often required to survive external wars and recurrent financial stresses (Tilly 1975). At the same time, taxation induced collective action, as demonstrated in protests against the autocratic extraction of tax revenue (Levi 1988). Based on the experience of early democratisation, Bates and Lien (1985) proposed a model of collective bargaining between citizens and a revenue-seeking ruler over the new burden and allocation of public goods.

As mentioned above, unlike the introduction of taxation for the early democratisers, the introduction of VAT was driven by external factors. Yet, contemporary democratisers could not escape the collective bargaining over taxation that their early counterparts experienced. In this sense, VAT is not different from other taxation once rulers impose it as a levy on citizens because it generally motivates citizens to monitor and hold the

government accountable as well as leading to increased collective bargaining between leaders and citizens (Bates & Lien 1985; Levi 1988). Experimental evidence also confirms that taxation motivates citizens politically and induces collective bargaining with political leaders (Martin 2016; Paler 2013). Accordingly, the state's extraction of revenue from society through VAT is also expected to contribute to citizens' increased awareness of the distributional consequences of taxation and motivate them to monitor and hold the government accountable (Bird & Gendron 2007: 76; Mahon 2011).¹⁸

We thus argue that the introduction of VAT, although externally driven as already demonstrated, results in the politicisation of the government's tax imposition. In this regard, we highlight several unique features of VAT to understand why it raises awareness of tax imposition and fuels political opposition from citizens as well as interest groups. First, VAT¹⁹ makes industries and enterprises comply with new, tax-filing obligations and government regulations about tax enforcement and compliance. Although industries and enterprises can transfer the tax burden to consumers, they still have to fulfill additional and complicated record-keeping obligations, which incur significant costs on their tax returns (Pomeranz 2015). The tax system thus tends to stir up opposition from trade organisations.²⁰

Second, the flat-rate levy of VAT also affects all of society because of increasing prices (Kosonen 2015) that threaten the livelihoods of the poor and are counter to the interests of the household.²¹

Third, the regressive nature of the VAT further increases the opposition of citizens to a newly imposed burden. Unlike progressive income taxation, by design, the flat-rate levy of VAT does not have a direct effect on reducing income inequality; rather, because it imposes the same tax rate on the rich and poor, it is often regarded as a regressive burden with grievances. These effects can easily increase citizens' awareness of tax burdens and politicise the lack of accountability between citizens and the government. They can lead to collective bargaining and possibly violent protest actions.

In fact, the adoption of VAT 'considerably increases the potential for collective action' (Moore 2004: 312) and 'has sometimes led to demonstrations and violent confrontations' (Anuradha & Aye 2008: 189). Several case studies provide firsthand evidence that the introduction and/or the attempt to introduce VAT has led to both violent and non-violent collective action ranging from street demonstrations and protests to riots in countries such as Ghana (Moore 2004; Osei 2000; Rakner & Gloppen 2003; Terkper 1996), Venezuela (Kornblith 1998: 5), the Dominican Republic,²² Kenya (Prichard 2015: Chapter 6), Bolivia (Bird & Gendron 2007: 24) and Mexico (Bird & Gendron 2007: 24).

The case of Ghana illustrates how collective action associated with VAT – sometimes called 'VAT riots' – can occur (Moore 2004).²³ The government of Ghana introduced a 17 per cent VAT for the first time in 1995 amid the nation's political development. This development resulted in democratic transition in 2000 when a peaceful change of power occurred.²⁴ But the introduction of the VAT provoked several demonstrations and riots within two months of it becoming effective. The riot in the capital of Accra was especially brutal and resulted in several deaths and approximately 40 injuries.²⁵ A series of collective actions eventually forced the government to withdraw the newly introduced VAT system. The opposition to VAT in Ghana arose because of the increased costs of the tax returns, grievances against commodity price increases and VAT's regressivity. These effects can typically be observed in similar protests in other countries that have introduced

VAT (e.g., see Terkper 1996: 1812). The Ghanaian government then attempted to make the VAT system more politically acceptable to the public, for example, by introducing compensatory measures demanded by taxpayers as well as reducing the costs of tax filing, with the result that the VAT system was eventually restored in 1998.²⁶ In this sense, taxpayers in Ghana successfully mobilised when VAT was introduced to make their voices heard. The government responded to the apprehension and opposition of the taxpayers with policy compromises and a public education campaign, which made VAT more acceptable to consumers and organised interests.²⁷ Overall, the VAT riots in Ghana indicate that taxation, although adopted based on technical advice from foreign specialists, cannot be insulated from domestic, political bargaining between citizens and the government.

The empirical observation suggests that the imposition of VAT provides an opportunity to increase public awareness of financial expropriation by autocratic states, thereby leading to collective bargaining and actions with rulers for more democratic accountability. Once citizens recognise the exploitation of the state, they are less likely to tolerate the lack of accountability of an autocratic government unless rulers offer them a representative voice in policy making (Bates & Lien 1985; Levi 1988; Ross 2004).²⁸

In the face of collective action elites are unlikely to remove VAT and may accept democratisation relatively easily because the flat-rate levy does not result in radical redistribution after democratisation. Effective extraction of revenue generally increases the elites' resistance to democratisation, but, because of the regressive nature of taxation, from the perspectives of the economic cost-benefit analysis of elites, VAT involves relatively more positive implications for democratisation than income taxes (Albertus & Menaldo 2014; see also Boix 2003; Acemoglu & Robinson 2006). Consequently, with VAT introduction (compared to income taxes), the relative value of autocracy *vis-à-vis* democracy is expected to decrease for elites as well as citizens.²⁹

With the complex mechanisms of the VAT–democratisation linkage in mind, we derive two observable implications of our argument: first, the introduction of VAT increases the likelihood of democracy; and second, riots are more likely to lead to democratisation in countries with VAT than their counterparts without it. In the next section, we examine empirically our argument about a tax–democratisation linkage in the contemporary world, particularly the two observable implications stated above.

Quantitative analysis

Data and variables

To explore the tax–democratization linkage that is specific to the contemporary world, we focus on 143 developing countries during the period 1960–2007, excluding countries in the first and second waves of democratisation that introduced VAT after democratic consolidation.³⁰ To estimate the effect of VAT on the likelihood of democracy, the analysis employs the regime-type variable *Democracy*, based on Cheibub et al. (2010), which is coded 1 if a country is a democracy and 0 otherwise.³¹ In addition to the binary variable, we use Polity scores *vis-à-vis* these binary categorisations in some of the specifications. The *Polity* variable is constructed by normalising Polity scores to run from 0 to 1.

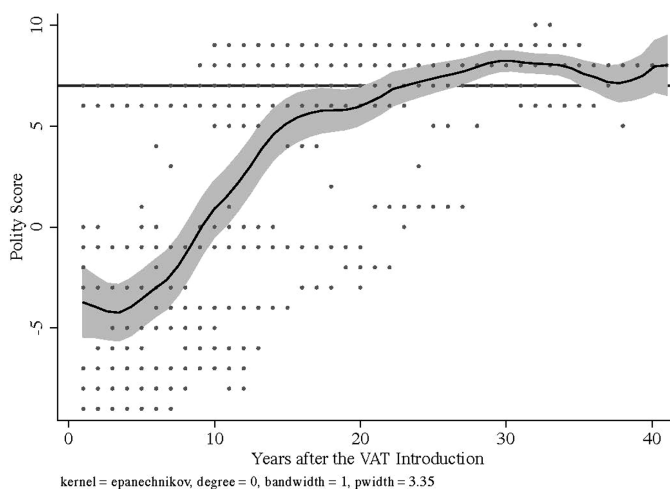


Figure 3. Trends in polity score since the introduction of VAT: Kernel-weighted local polynomial smoothing. Notes: The figure displays the results of a local polynomial regression of VAT introduction on Polity score (bandwidth = 1.0) with 95 per cent upper and lower bands. Each dot represents a country's Polity score at a given year. Taxation data derive from Bird and Gendron (2007), and regime data derive from the Polity IV project.

The analysis employs three different measures for VAT as our main independent variable. The level of tax revenue may be an appropriate measure to examine the effect of VAT because it can capture variation in tax burdens. However, consistent and comprehensive data on revenue from VAT are not available among the third wave countries. We thus construct variables other than the revenue one. Because the tax literature concurs that the introduction and continued implementation of VAT generally ensures that its introducers successfully impose levies on citizens and extract increasing revenues (Bird & Gendron 2007; Gillis 1989; Gordon 2010a),³² the variables that represent the presence and duration of the VAT system are also appropriate for examining the role of taxation in democratisation. A uniform effect of VAT introduction is embodied in the *VAT introduction* variable, which is coded 1 in the subsequent years after the introduction of VAT and 0 otherwise. The *ln(VAT cumulative effect)* variable is calculated by taking the logarithm of the number of years after the introduction of VAT for each country³³ and represents the potential nonlinear effect (see also Figure 3).³⁴ Finally, with the above-mentioned caveat in mind, we use the *VAT (%GDP)* variable to represent the level of revenue by using the data on consumption taxes as a robustness check.³⁵ To examine the effects of other tax variables on democracy, the analysis also includes the *IMF income tax* and *IMF tax revenue* variables in some specifications, which represent general revenues from income tax and taxation, respectively, as proportions of gross domestic product (GDP).³⁶

Although our analysis focuses on VAT, we argue that neither its introduction nor its mere presence automatically lead to democratisation without political processes. Instead, we argue that VAT is more likely to result in democratisation when the imposition of the new levy is politicised and increases the possibility of collective action. To take these effects into consideration, we should employ direct measures capturing politicization and collective action against VAT. However, there are no available data to represent the explicit outbreak

of collective action against VAT or implicitly associated with it. Thus, to capture VAT's politicisation processes, our quantitative analysis compares the effects of collective action on democratisation with and without the presence of VAT.³⁷ We expect that because VAT increases grievances among the public and motivates citizens politically, collective action is more likely to increase the likelihood of democracy with the VAT than without it. Because as already demonstrated, outbreaks of riots have often been observed with the introduction of VAT, for specific measures of collective action we use the widely employed data on riots as a proxy and create a *Riot* variable which takes the logarithm of the number of riots.³⁸ We then construct an interaction term between collective action and our VAT variables and examine the process of politicisation that intervenes in the VAT–democratisation linkage.

The analysis also includes factors that the existing literature considers to facilitate contemporary democratisation and examine whether taxation has its own role in contemporary democratisation after controlling for these other correlates. The *Resource* variable represents a country's resource rent, which takes the logarithm of the division of the value of a country's annual oil and natural gas production by its population.³⁹ The *Capital share* variable is used to examine the impact of (in-)equality on democratisation, which estimates the capital share by the proportion of the added value that accrues to capital owners.⁴⁰ Other control variables are: economic growth (*Growth*); the logarithm of GDP per capita ($\ln(\text{GDP per capita})$); trade openness (*Trade openness*);⁴¹ the logarithm of length under autocracy ($\ln(\text{Years in autocracy})$); the mean polity scores of neighbouring countries within 1,000 km of the target country's capital (*Polity diffusion effect*); and a time-variant proportion of Muslim population (*Islam*).⁴² To control for temporal dependence that may affect our inferences, we follow Carter and Signorino's (2010) suggestion and include a third order, polynomial time counter, *Time*, *Time*² and *Time*³, which is considered more appropriate than, for example, time dummy variables that may raise problems of inefficiency and/or data separation in employing a binary-dependent variable. All the independent variables except the time counter are lagged one year. Table B in the Online Appendix shows summary statistics for the variables.

Models

The analysis employs time-series, cross-sectional logit regression over a binary categorisation of regimes, *Democracy*, with random and fixed effect models.⁴³ Our main specification model is as follows:

$$\text{Democracy}_{it} = \alpha + \beta_1 \text{VAT}_{it-1} + \beta X_{it-1} + \mu_{it-1} + \epsilon_{it-1} \quad (1)$$

where *i* denotes each country and *t* denotes the time period; *Democracy*_{*it*} indicates whether a country is a democracy; *VAT*_{*it*-1} is our proxy of VAT; *X*_{*it*-1} is a vector of control variables; μ_{it-1} is between-country error term; and ϵ_{it-1} is within-country error term.

In addition to the baseline model, we employ an entropy-balancing method to solve a selection bias problem in observational studies (Hainmueller 2012). For example, it is possible that countries with abundant natural resources tend not to introduce VAT because the resources allow them to survive without tax revenues. And because natural resources are negatively correlated with democratisation, we may over-estimate the effect of VAT

on the likelihood of democracy. Entropy-balancing enables one to adjust the imbalances in such observable factors that may intervene in the tax–democratisation linkage and thus to examine it without the interference of these covariant variables.⁴⁴ Specifically, we use the *VAT introduction* variable as a binary treatment variable and re-weight based on covariates, so that a treatment group (countries that introduced VAT) and a control group (countries that did not introduce VAT) share the same mean.⁴⁵ The entropy-balancing analysis also employs the *Riot* variable and an interaction term between the *VAT introduction* and *Riot* variables.

Results

Data exploration

Before we present analyses that control for other factors, an initial exploration provides the first piece of evidence, although preliminary, about the contemporary, taxation–democratisation linkage.⁴⁶ On average, countries that introduced VAT have a Polity score of 5.53 points higher than those that did not introduce it. The positive relationship also holds among VAT introducers, where an increase by 6.61 points on average is observed in the Polity score after the introduction of VAT. This implies that countries are more likely to experience a regime transition toward democracy with VAT than without it. We also show the simple time frame of the positive effect of the VAT on democratisation by a Kernel-weighted, local polynomial fitting (bandwidth = 1) over Polity scores and the number of years after the VAT introduction (Figure 3). Among 15 developing countries that institutionalised VAT more than 25 years ago, the regimes generally began to diverge from an autocracy towards a transition to a democracy (defined here as an increase in their Polity score above six) after approximately eight years. The democratisation trend continued until nearly 30 years after the introduction of VAT, and every country except one achieved democratic consolidation after 30 years.⁴⁷

Identifying the linkage between taxation and contemporary democratisation

Table 1 presents our baseline analyses where three specifications with different VAT-related variables (*VAT (%GDP)*, *ln(VAT cumulative effect)* and *VAT introduction*) are replicated using fixed effect and random effect models, respectively.⁴⁸

Overall, the analyses confirm both the uniform and cumulative effects of the presence of taxation on democratisation.⁴⁹ Country-fixed effect models lose significance with the *VAT (%GDP)* variable (model I),⁵⁰ but the *ln(VAT cumulative effect)* and *VAT introduction* variables remain significant at the 5 per cent level (models II and III, respectively). This suggests that the findings are not an artifact of omitted variables derived from time-invariant, unobserved heterogeneity across countries. Further, random effect models find that all the VAT-related variables are significant with the expected direction (models IV, V and VI). From this, we conclude that two dependent variables of our interest, *ln(VAT cumulative effect)* and *VAT introduction*, have positive and statistically significant impacts on the likelihood of democracy.⁵¹ In substantive terms, we calculate the simulated probability of democracy by drawing samples from the variance-covariance matrix of the estimates of

Table 1. Baseline analyses between 1960 and 2007

	(I)	(II)	(III)	(IV)	(V)	(VI)
Dependent variable: Democracy						
VAT (%GDP), $t-1$	0.124 (0.182)			0.156* (0.062)		
ln(VAT cumulative effect), $t-1$		0.841*** (0.263)	1.129** (0.495)		0.839*** (0.193)	1.485*** (0.386)
VAT introduction, $t-1$						-0.001 (0.021)
Growth, $t-1$	-0.074 (0.064)	0.007 (0.023)	0.002 (0.023)	-0.003 (0.043)	0.001 (0.021)	-0.709 (2.172)
Capital share, $t-1$	-18.881 (16.997)	-6.934 (4.303)	-5.626 (3.982)	2.700 (2.844)	-0.910 (2.231)	-0.103 (0.121)
Resource, $t-1$	-1.385** (2.685)	-0.369* (0.202)	-0.365* (0.198)	0.174 (0.149)	-0.089 (0.122)	0.516 (0.350)
ln(GDP per capita), $t-1$	6.952*** (2.685)	0.340 (0.773)	1.070 (0.697)	0.037 (0.405)	0.416 (0.353)	-2.050** (1.006)
Islam	1227755 (1567.585)	39.484 (36.274)	37728 (36.451)	-3.129*** (1.011)	-2.246** (1.022)	0.358*** (0.101)
Policy diffusion effect, $t-1$	0.887** (0.448)	0.357*** (0.129)	0.442** (0.126)	0.311** (0.135)	0.328*** (0.097)	-5.048*** (0.786)
ln(Year in autocracy), $t-1$	-5.211** (2.489)	-5.313*** (0.898)	-5.384*** (0.902)	-5.043*** (1.442)	-4.931*** (0.785)	0.783*** (0.304)
Time trend	1.050 (0.934)	1.100*** (0.352)	1.108*** (0.351)	0.464 (0.511)	0.736** (0.306)	-0.015 (0.013)
Time trend ²	-0.023 (0.041)	-0.032** (0.016)	-0.032** (0.016)	0.003 (0.021)	-0.012 (0.013)	0.000 (0.000)
Time trend ³	0.000 (0.001)	0.000* (0.000)	0.000* (0.000)	-0.000 (0.000)	0.000 (0.000)	-3.285 (3.150)
Constant						
Log likelihood	-30.63	-147.14	-149.72	-79.62	-272.34	-274.84
Observation	240	945	945	784	2,225	2,225
Fixed effect	Y	Y	Y	Y	Y	Y
Random effect						

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

model V. The calculation suggests that while holding all other covariates at sample means, if the number of years since a country has introduced the VAT increases from ten to twenty years, the probability of democracy in a given year for an observation increases by about 26.6 per cent.

Among factors that are considered important in the existing literature on democratisation, the *Resource* variable shows significant results in fixed effect models, but it is insignificant in random effect models. The *Islam* variable, which is correlated with oil countries in the Middle East (Ross 2001, 2012), is negatively associated with democracy in random effect models. The *Capital share* variable does not show a significant result in any model, and this is consistent with the no-findings in the recent literature (Haggard & Kaufman 2012; Houle 2009). The *Polity diffusion effect* variable shows a significant, positive result across all the models, indicating a domino effect of democracy. Finally, the *ln(Year in autocracy)* variable shows a negative result across all the models.

Examination of other tax variables and contextual variables

As a robustness check, we next examine alternative specifications with additional variables that may mitigate the effect of the VAT on democracy. First, we replicate the analysis of Table 1 by including income tax and total tax revenue as a proportion of GDP (see Table F in the Online Appendix).⁵² In particular, because higher total tax revenue enables a state to finance specific social programmes such as education and welfare, this increase in the tax revenue in general may contribute to democratisation. However, although the VAT-related variables remain positive and significant at the 5 per cent level, no significant result is found for other tax-related variables, including the total tax revenue variable.

We also examine factors that represent the contexts of the third wave democratisation that may affect a relationship between VAT and democratisation – that is, the fall of communist governments in Europe, economic liberalisation and economic development. Because the historical contingency of the demise of a communist regime accompanied both the transition to democracy and the adoption of VAT (for participation in the EU), the inclusion of these countries may over-estimate the effect of VAT. To deal with the problem, we dropped the Eastern European countries and conducted an analysis using a truncated sample. However, the VAT variables remain positive and significant at the 5 per cent level (see Table G in the Online Appendix). The taxation–democratisation linkage may also be explained by economic liberalisation in globalised markets, not specifically by VAT. As already discussed, VAT was sometimes introduced as a part of economic liberalisation reform. We examine this possibility using the *Trade openness* variable that captures the effect of liberalisation reform. However, the VAT variables remain positive and significant at the 1 per cent level, even when we include the *Trade openness* variable whose coefficients are insignificant (Table H in the Online Appendix). Finally, we examine the effect of economic development that modernisation theory once considered important in Western democratisation (Huntington 1968; Lipset 1959) but has revealed mixed empirical results in recent studies (Boix & Stokes 2003; Przeworski et al. 2000). In the specification of the model with an interaction term between VAT and *GDP per capita*, we found no significant effect of their interaction and thus confirm that the effect of VAT is independent of economic development (Table I in the Online Appendix).⁵³ Overall, the results confirm

Table 2. Analyses on the linkage between the VAT riot and democracy between 1960 and 2007

	(I)	(II)	(III)
	Dependent variable: Democracy		Dependent variable: Riot
VAT introduction, $t-1$	1.373*** (0.351)	0.996** (0.406)	0.098* (0.051)
VAT introduction \times Riot, $t-1$		1.199** (0.598)	
Riot, $t-1$		0.011 (0.362)	
Growth, $t-1$	0.010 (0.033)	0.020 (0.033)	0.002 (0.004)
Capital share, $t-1$	-0.469 (1.882)	-1.271 (1.557)	-0.024 (0.354)
Resource, $t-1$	0.061 (0.090)	0.072 (0.090)	0.017 (0.013)
ln(GDP per capita), $t-1$	0.256 (0.264)	0.203 (0.270)	-0.021 (0.044)
Islam	-0.619 (0.538)	-0.463 (0.584)	-0.074 (0.083)
Policy diffusion effect, $t-1$	0.160* (0.090)	0.208** (0.096)	-0.035** (0.016)
ln(Year in autocracy), $t-1$	-7.460*** (1.395)	-7.146*** (1.493)	-0.006 (0.019)
Constant	0.19 (2.285)	0.837 (2.177)	0.817 (0.515)
Log likelihood	-146.82	-142.80	
AIC	317.63	313.60	2926.64
BIC	386.12	392.95	3204.67
Observations	2,225	2,140	2,152
Entropy balancing	Y	Y	Y

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

that at least these factors do not interfere with the relationship between VAT and democracy, providing more support for our argument.

Entropy-balancing analysis

Using an entropy-balancing method, we next control for co-varied differences that exist between countries with and without VAT. We adjust the imbalances in all the observable variables that may plausibly explain the relationship between VAT and the likelihood of democracy. We confirm that the differences in the means after entropy-balancing are weighed between countries with and without VAT (Figure A in the Online Appendix).

Table 2 reports the full results. The *VAT introduction* variable remains statistically significant in model I which replicates model VI of Table 1 with the entropy-balancing method.⁵⁴ In model II, the interaction effect of *VAT introduction* and the *Riot* variable is statistically significant when the effect of *VAT introduction* is also significant. Because the *Riot* variable is insignificant, the result suggests that riots contribute to the likelihood of democracy only in countries that introduce VAT.

To supplement the regression analysis to interpret the interaction effects (Brambor et al. 2006), the marginal effects of riots (based on model II of Table 2) are plotted against the *VAT introduction* variable. Figure 4 shows that the effect of riots on the probability of democracy is conditional on the existence of VAT. More specifically, riots have a positive impact on democracy only with the presence of VAT. The results with the interaction

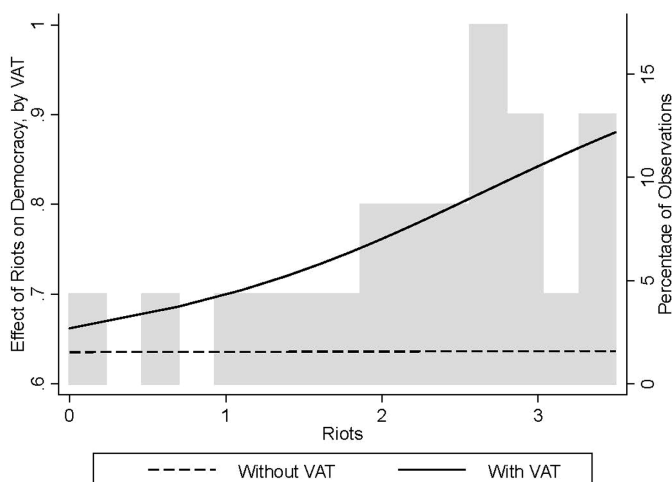


Figure 4. Marginal effects of riots, by VAT introduction.

Notes: The figure is based on model II of Table 2. The shaded bars indicate the number of observations.

variable themselves do not show that VAT induces riots. However, when combined with the qualitative information (Bond 2011; Moore 2004; Osei 2000; Patel & McMichael 2009; Rakner & Gloppen 2003; Walton & Ragin 1990; Walton & Seddon 1994), they suggest that VAT introduction tends to result in a perceived tax burden and facilitates collective action, such as riots, and increases the likelihood of democracy. To provide further evidence for this point, we report the result of a model with riots as dependent variable in model III. The analysis confirms that riots are more likely to occur in countries with VAT than without. Taken together, the results corroborate our argument about the linkage between VAT and contemporary democratisation.

Bringing taxation back into contemporary democratisation

Finally, we highlight our argument about the contemporary taxation–democratisation linkage by demonstrating how it is related to the recent literature. In particular, we believe our finding contributes to the discussion about other correlates of democratisation (i.e., inequality and resource rent) that dominate the recent literature.

Boix (2003) first proposes a negative, linear relationship between inequality and democratisation, whereas an opposing view claims an inverted U-shaped relationship – the adverse effect of either low or high inequality on democratisation, but the positive effect on it of intermediate levels of inequality (Acemoglu & Robinson 2006). These apparently contradictory views share an implicit assumption that elites fear redistributive equality under democracy *ex ante*. The median voter model posits that if the poor were permitted to vote, they would support policies that would transfer wealth from the rich to them (Meltzer & Richard 1981). Thus, elites who are enjoying a high level of wealth under an autocratic system tend to repress the demands of citizens for representation.

However, recent studies do not necessarily endorse the role of distributive conflict over equality in democratisation (Timmons 2010a, 2010b). Houle (2009) confirms the

negative effect of the level of inequality on consolidation but not on democratisation *per se*. The recent literature also goes beyond the conventional explanation that regards the evolution of income taxation as an equalisation process during democratisation. Scheve and Stasavage (2016) argue that governments tax the rich not only because of high and/or low inequality, but also because they want to compensate the bulk of the people for their unequal sacrifices in warfare. Haggard and Kaufman (2016) raise doubts about an attempt to apply an overarching theory of equality to different waves of democratisation. A cross-national comparison in the third wave countries contends that democratisation more likely depends on ‘incentives and capacities for collective action that are not, in fact, given by the level of inequality’ (Haggard & Kaufman 2012: 513) between elites and the masses.

More importantly, Ansell and Samuels (2014) shift the focal point of democratisation from mass protests for equal redistribution to resistance to the financial exploitation of the autocratic state by the enfranchised social classes. In this regard, they revisit the state control of revenue production and financial appropriation in the early democratisation literature (Almond & Coleman 1960; Huntington 1968; Levi 1988; Lipset 1959; North 1981; Tilly 1992).⁵⁵ Third wave democratisation is no exception. Ansell and Samuels (2014) argue that autocratic extraction of revenue resulted in resistance for the right of property protection and, thus, the demand for representation. Whereas the previous literature did not directly examine the state’s extraction of tax revenue, our study factors in VAT as a modern form of taxation for contemporary democratisers and provides a further exploration for this renewed interest in the financial expropriation of the state.

The availability of non-tax revenue in the contemporary world may cast doubt on the importance of tax revenue production in contemporary democratisation. Many contemporary, autocratic governments benefit from foreign investments and technological aid to raise non-tax revenue and exploit rents. The rentier states can afford to finance public spending with resource rents without taxing their citizens (Beblawi 1990; Herb 2005; Mahdavy 1970). An endowment of natural resources is believed to impede democratisation in developing countries (Andersen & Ross 2014; Aslaksen 2010; Jensen & Wantchekon 2004; Mitchell 2011; Papaioannou & Siourounis 2008; Ramsay 2011; Ross 2001, 2012; Tanaka 2013).⁵⁶

To counter this straightforward ‘resource-curse’ thesis, the recent literature considers the effects of resource wealth based on circumstantial conditions. For example, resources may be a blessing for democratisation, conditional on income inequality (Haber & Menaldo 2011). Depending on the relative importance of natural resources, resource wealth can also support both authoritarianism and democratisation; it promotes democratisation in large, non-resource-dependent economies where elites may use revenue from rents to redistribute income without taxation (Dunning 2008: 100–106).

Our study serves to enhance these arguments about the conditional effects of resource wealth by refuting the trade-off between non-tax and tax revenues that the existing literature assumes implicitly. Whereas resource wealth enables rulers to avoid taxation and contributes to stabilising autocracies (Morrison 2014),⁵⁷ democratisation may be facilitated, even in resource-rich countries, if public spending is financed by tax money (Ross 2004, 2012). The ultimate effect of non-tax revenue on democratisation is believed to lie in its use of resource wealth to appease public demand without inflicting costs on elites (Morrison 2014; see also Dunning 2008: 100–106; Tanaka 2013). But, as we explained above using the tax literature,

many developing economies prefer to adopt VAT because it allows them to adjust to global economies but not necessarily to raise revenue. In this regard, the presence of non-tax revenue from resource rents may not always guarantee contemporary autocracies being able to avoid the imposition of taxes that results in collective bargaining between the ruler and the ruled.

Conclusion

The contemporary taxation–democratisation linkage emerged from external circumstances that are peculiar to the third wave of democratisation. Facing pressure for economic liberalisation from globalised markets, many developing economies have implemented a modern tax system – VAT – which was already devised and implemented in developed countries. Although the introduction of VAT may not have originated from domestic politics in each country, we argue that when introduced, the effective extraction of revenue by modern taxation has the potential to motivate citizens to hold the government more accountable and leads to democratisation.

By using a cross-national time-series dataset, this study demonstrates that VAT indeed plays a role in democratisation in the contemporary world. Although concerns about unobservable, omitted variables always exist, the empirical analyses provide consistent evidence that the introduction of VAT increases the chances for democratisation, and that collective action, such as riots that politicise the financial expropriation of the state, intensifies the effect of VAT. If careful attention is paid to distinct tax developments, the fundamental premise of the taxation–democratisation thesis has travelled from early to contemporary democratisation.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Table A: Countries in the Dataset**Table B: Summary Statistics****Table C: Baseline Analyses without Controls****Table D: Analyses with Polity Scores****Table E: Baseline Analyses with Polity****Table F: Analyses with Other Tax Variables****Table G: Analyses without Former Communist Countries****Table H: Analyses with the Trade Openness Variable****Table I: Analyses with the Interaction with GDP per capita****Table J: Analyses with Entropy Balancing, Including the Trade Openness Variable****Table K: Analyses with Change in Democracy Variable****Table L: Dynamic Probit Analyses****Figure A: Entropy Balancing****Notes**

1. Scheve and Stasavage (2012) contend that the mass mobilisation for war, rather than the extension of suffrage, provided the political conditions to make taxation progressive. Their results consistently show that the evolution of progressive taxation, which had been advanced by the 'conscriptio of wealth' during wars, went hand-in-hand with democratisation in the nineteenth and twentieth centuries.
2. According to Huntington (1991), the first wave of democratisation started in the early nineteenth century and continued until the 1920s, but many of these democracies reverted to autocracy (the first reverse wave). The second wave started with the end of the Second World War and included the democratisation of the first reverse wave. However, this wave was relatively brief because many of them backslid to autocracy in the 1950s (the second reverse wave). The third wave began in the mid-1970s, continued through the 1990s and includes the former socialist regimes near the end of the Cold War. This article calls all the potential countries that may democratise since the third wave 'the third wave democratisers'. In this sense, we do not distinguish between third wave and potential fourth wave democratisations.
3. As we elaborate further, the tax literature agrees that VAT is now widely accepted as more development-friendly and effective in revenue-raising than the income tax, which remains weakly implemented (Genschel & Seelkopf 2016).
4. The recent literature on the rise of VAT considers the role of international organisations to be critical to the diffusion of VAT in developing economies (James 2015: Chapter 4). We will discuss this further later.
5. Baskaran (2014) also posits that autonomous fiscal authorities are important to increase fiscal burdens effectively.
6. Previous studies do not distinguish them (see, e.g., Baskaran 2014).
7. We distinguish countries by Huntington's (1991) definition.
8. The ideal of a comprehensive tax on income dominated tax policies in the early postwar period from the 1940s to the early 1950s and made a progressive income tax the prime revenue-raising measure in Western democracies. However, the problems of income taxation became apparent in the 1970s and facilitated the adoption of VAT in developing economies. Because of this historical sequence and path dependency, both VAT and income taxes are important revenue-raising measures for mature democracies. For a more detailed explanation, see Kato (2003).
9. Of course, distinct tax developments do not imply the absence of variation in taxation and state financing within each wave. The result here is compatible with the observation that there is cross-national variation in tax revenue structures. For example, some mature democracies tend to raise more revenue from income taxation than from VAT; and some autocracies raise VAT revenue more effectively than others (Kato 2003). In this sense, contemporary developing countries also observe variations in state financial

- systems (Cheibub 1998; Mulligan et al. 2004; Slater et al. 2014). We argue that, despite the variations, revenue reliance on income taxes and VAT distinguishes countries in different waves of democratisation.
10. As we discuss below, this does not mean that the third wave countries can avoid such collective bargaining *after* the introduction of VAT.
 11. To illustrate this perspective, Corbacho et al. (2013) conducted a comprehensive study of Latin American cases.
 12. More specifically, a flat-rate levy on the multiple stages of a transaction is expected to alleviate the adverse effects of large, informal sectors and thus result in a transparent economic environment for development. Developing countries also replace primitive taxes on consumption, such as tariffs and specific taxes on commodities, with VAT and are able to raise revenue more effectively.
 13. In this sense, the observation found in Figure 2 is not an artifact of time lag in development, and third wave countries are less likely to introduce and/or develop progressive income taxation in the near future.
 14. Also see Bahl and Bird (2008); Barreix et al. (2013); Boskin and McLure (1990); Bräutigam et al. (2008); Gordon (2010a); Stiglitz (2010); Sandford (2000). Recent decades observe progressive income tax reforms in several countries of Latin America, such as Uruguay and Chile, but successful reforms depend on background and political factors (Mahon et al. 2015). Because it remains difficult to raise income tax revenue effectively, a revenue dependence on VAT has not significantly changed.
 15. VAT is a part of a reform package that international economic organisations prepare for developing economies that have faced economic crises but failed to cope with them. In particular, participation in IMF-funded programmes seems to facilitate the introduction of VAT (Baskaran 2014; Keen & Lockwood 2010).
 16. However, the literature also observes that the mechanism of introducing a standard model may have changed over time and included more exemptions and special treatments, thus causing the consistency and efficiency of VAT to deteriorate.
 17. It is important to note that the quality of the VAT may change over time (such as tax rates), but, once introduced, it is rarely abolished. Three countries in our dataset (Malta, Vietnam and Ghana) removed VAT immediately after its introduction but eventually reintroduced it. Grenada and Belize are the only examples of countries that have not yet re-introduced abolished VAT.
 18. This is the case in particular when the government fails to provide public goods, because taxation is expected to entail the provision of such goods (see also Bodea & LeBas 2015).
 19. As mentioned above, VAT is considered a hidden and/or invisible form of taxation in the textbook definition of public finance because it is an indirect taxation that causes consumers to pay taxes but trading businesses to only file tax returns. In reality, however, VAT can easily be made 'visible'. Then the government imposition of the new tax burden becomes politicised for several reasons discussed here.
 20. This observation thus echoes the argument in the literature about the important role of the organised interests of economic actors in contemporary democratisation (Ansell & Samuels 2014).
 21. The price increase effect tends to happen in a short time period, but, because it happens every time there is a tax hike, and it can also be recurrent.
 22. We thank James Mahon for this point.
 23. This case was widely reported in the media, and specialists started calling similar cases 'VAT riots', as used by Moore (2004: 312).
 24. We address a possible reverse causality between VAT and democratisation in the empirical analysis below.
 25. We obtained this information from the academic literature (Moore 2004; Osei 2000; Rakner & Gloppen 2003; Terkper 1996), but similar information can be found in media reports (e.g., see www.refworld.org/docid/3ae6ab3b77.html; www.ghanaweb.com/GhanaHomePage/history/timeline.php).
 26. The literature concurs with this point. However, it is especially worthy of attention that a tax specialist admits the importance of political factors in considering both VAT introduction and implementation (Terkper 1996: 1812–1814).
 27. The World Bank staff regarded the government's political and policy response in Ghana as an exemplary practice of VAT introduction. They stipulate: '[b]ecause the introduction of a value added tax (VAT) can be highly sensitive, steps must be taken to ensure that the public concerns are fully addressed'

(see 'Introducing a valued added tax: Lessons for Ghana', *World Bank PREM notes Public Sector* 61, December 2001).

28. Although we argue that the introduction of VAT is likely to induce collective action, we do not exclude the possibility that collective action can happen regardless of the presence of VAT, for example, due to economic crises. Still, because VAT generally tends to increase grievances among the public, such non-VAT related collective action can also be easily associated with the grievances derived from the VAT and thus politicise the VAT tax burden. This suggests that collective action in general is more likely to lead to democratisation in countries with VAT than their counterparts without its introduction. Our quantitative analysis considers these complex relationships between VAT and collective action.
29. Elites may also pre-emptively introduce democratisation without collective action, particularly if they observe many citizens who are dissatisfied with increased tax burdens and under-provision of public goods and anticipate the outbreak of collective action. The regressive nature of taxation described here may also facilitate the elites' pre-emptive decision.
30. As is consistent with the previous analysis including early democratisers (Baskaran 2014), the main results did not change, even when mature democracies (countries that have been democratic since 1965 and OECD countries as of 1974) are included. See Table A in the Online Appendix for a full list of countries in the dataset.
31. The results remain similar substantively when we use a change in the democracy variable (Table K in the Online Appendix). We also report the results of a dynamic probit model that estimates both transition to and transition away from democracy (Table L in the Online Appendix).
32. Note that in our dataset, consumption tax revenue with VAT is 8.19 (%GDP), whereas its counterpart without VAT is only 4.74 (%GDP).
33. We code 0 if a country does not introduce VAT. The results remain largely similar even without using the log transformation. The year of introduction is based on Bird and Gendron (2007).
34. It also addresses the skewed distribution of the original variable.
35. To supplement a large number of missing values in the original data, we construct the *VAT (%GDP)* variable here by interacting the VAT introduction dummy variable with the consumption tax revenue data from the IMF's *Government Financial Statistics* (<http://data.imf.org/?sk=a0867067-d23c-4ebc-ad23-d3b015045405>).
36. Both are based on the IMF's *Government Financial Statistics*.
37. This is consistent with our theoretical discussion (e.g., see Note 28 above).
38. We use the data from Banks (2009), which take the logarithm of values with the skewed distribution of the number of riots per year in each country.
39. The *Resource* variable is based on data from Ross (2012). We also include the *Resource dependence* (Dunning 2008) instead of our *Resource* variable in some of the specifications, but the significant levels remain largely the same (not reported). The *Resource dependence* and *Resource* variables are obtained to divide the value of a country's annual oil and natural gas production, respectively, by the country's GDP and its population.
40. Capital share in manufacturing can be calculated by 1 minus the labour share – that is, the ratio of wages and salaries to manufacturing value added. High capital shares mean a higher degree of inequality because a large portion of the value added in production accrues to the capital owners rather than to the labour class. The data are from Houle (2009) in which an original variable was constructed based on data collected by the United Nations Industrial Development Organization (UNIDO). The recent literature has used this variable rather than Gini coefficients, which have a large number of missing data and inconsistent data sources (Dunning 2008; Houle 2009).
41. The variable is taken from the Penn World Table as a proxy for economic liberalisation (Heston et al. 2011).
42. The *Growth* variable is taken from the World Bank's *World Development Indicators* (<http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>); the *ln(GDP per capita)* variable derives from the Penn World Table (Heston et al 2011); and the *ln(Years in Autocracy)* variable comes from Ross (2012). Data and replication files for this study will be available at Dataverse (<http://thedata.harvard.edu/dvn/>). We follow Houle (2009) and Ross (2012), and include the *Islam* variable, but the results do not change without the variable.

43. Note that although the fixed effect model is factoring in time-invariant, unobserved heterogeneity across countries, the inclusion of a country-fixed effect leads to sample omission with a binary-dependent variable. We also employ binary time-series cross-section (BTSCS) models with a cubic smoothing spline (Beck et al. 1998), and confirm that the main results hold (not reported).
44. Reverse causality is another concern in our empirical analyses. To reduce the reverse causality concern, we excluded countries in the first and second waves of democratisation that introduced VAT after democratic consolidation. Further, to mitigate the concern, we conducted additional analyses in which we control for lagged Polity scores (see Table E in the Online Appendix).
45. Based on the potential outcome framework for causal inference, entropy balancing looks for the set of weights that remains as close as possible to uniform weights (Hainmueller 2012). The average treatment effect of VAT on democracy is eventually estimated with the weights obtained in the first step. Further, the analysis also controls for all the controls used in the first step to account for unexplained variance in the dependent variable.
46. So far, 29 developing countries in our dataset experienced a regime transition after introducing VAT. Among the third wave democratisers, three southern European countries and ten former socialist countries introduced VAT after the regime transition. The southern European countries (Portugal, Spain and Greece) democratised in the 1970s when VAT had just started to diffuse.
47. The one exception is Ecuador, whose Polity score was equal to 5 in 2008, although the country had introduced VAT more than 30 years earlier.
48. The fixed effect models automatically drop more than 50 per cent of the observations. See Table C in the Online Appendix for a specification without any controls.
49. For a robustness check with the *Polity* variable (see Table D in the Online Appendix for the results), we also find positive effects of VAT on democracy in most of the specifications.
50. The insignificant result suggests that a potential, time-invariant, unobserved heterogeneity may account for the relationship between the VAT and democracy. But a great number of missing values of the VAT revenue may also bias the result.
51. Inclusion of the *Polity* variable on the right-hand side to control for the degree of democracies in the past does not change the main results (Table E in the Online Appendix).
52. The fixed effect models did not converge, and all the estimation was done with random effect models.
53. We also tried a more specific modernisation theory variable – education – because improved education is hypothesised to result in democratisation. However, because of a large number of missing values, the results did not converge.
54. Note that entropy balancing allows only a binary treatment variable. Thus, we use only the *VAT introduction* variable in the entropy balancing analysis. The major result with other variables is not very different from the ones in Table 1, but the *Islam* variable is insignificant. We also include the *Trade openness* variable in the same model and find that the VAT variables remain positive and significant at the 1 per cent level, whereas the coefficient of the *Trade openness* variable is significant but negative (Table J in the Online Appendix). Levels of government debt may also influence a decision to adopt VAT, but the inclusion of such a variable does not change our main findings (not reported).
55. Ansell and Samuels (2014: 13) generalise Moore's (1966) thesis on the democratic alliance between weak landlords and rising, urban, middle and upper classes.
56. Non-tax revenue also includes income transfers from abroad (Ahmed 2012; Morrison 2009; Smith 2008).
57. Morrison (2014) contends that taxation generally destabilises all political regimes. Non-tax revenue, if used to finance increased spending and diminish taxation, may stabilise political regimes, either democratic or autocratic.

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