

Democracy and Reserves

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Abstract

Does democracy affect foreign exchange reserves? This paper identifies four possible explanations for the determinants of foreign exchange reserves. Using the relationship between public goods provision and political regime types as a conceptual centerpiece, it offers a theoretical framework in which these four arguments are pit against each other. The ‘insurance’ and ‘social cost’ arguments posit monotonously positive and negative relationships between democracy and reserves, respectively, each citing democratic governments’ propensity to provide public goods such as financial stability and public spending. The mercantilist and rentier state arguments together put forth a conditional hypothesis that autocracies serve particularistic interests of outwardly (inwardly) oriented elites more than democracies do through weak-currency/large-reserve (strong-currency/small-reserve) policies. Utilizing panel data covering 127 countries from 1975 to 2012, the paper finds that more democratic regimes are associated with larger (smaller) volumes of reserves when the size of exporting sectors is considerably small (large).

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Democracy and Reserves

1. Introduction

One notable global economic trend that started in the 1990s, and has amplified since, was the prevalence of financial volatility both in the developed and developing worlds. From the tumults of the 1990s such as European Exchange Rate Mechanism Crisis or Asian Financial Crisis, scholars and policymakers have learned that any national economy can fall victim to sudden changes in capital flows. As capital and trade liberalizations consistently erode nation states' abilities to hedge against these external shocks, governments are increasingly concerned about their preparedness for global financial volatility.

A conventional prescription to this concern is to build foreign exchange reserve stocks. Holding a large stock of foreign exchanges was widely considered "the most direct way for a country to achieve liquidity" (Feldstein 1999, 103). Depletion of foreign exchanges, in other words, would be an immediate trigger of a balance of payment disaster (Krugman 1979).

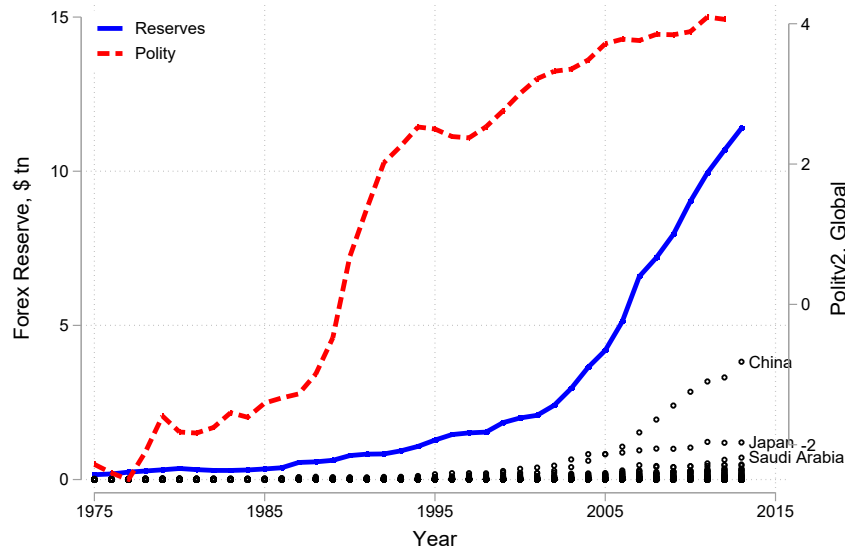
This understanding of reserves as insurance offers a room for political explanations on the determinants of reserves. In particular, given that 1) political liberalization leads to financial openness (Milner and Mukherjee 2009) and 2) elected officials have a relatively strong proclivity to avoid economic calamities, one can posit that democracies are more likely than autocracies to hoard reserves to insure against the increasing exposure to financial volatility. The explosive increases in the global reserve stock in the past decade in this sense would be a function of the growing number of democratic polities around the world.

The list of countries driving the recent surge in the global reserve stock, however, is not perfectly consistent with this inference. As Wyplosz (2007) suggests, it is those emerging economies generally not more democratic than the rest of the world that contributed disproportionately to the acceleration of the global reserve buildup around the early-to-mid 2000s.

A quick look at the cross-country reserve data reveals a similar puzzle. As seen in Figure 1, while the global democracy and reserve stocks move in the same upward direction, there seems to be a significant temporal discrepancy between their movements. While the global level of democracy (dashed line) increased dramatically in the late 1980s and early 1990s, the global reserve accumulation (solid line) picked up its pace roughly around a decade later and has been explosive since then.

The international political economy literature offers several ways to help us comprehend why the supposedly clear relationship between democracy and reserves does not seem to enjoy strong empirical support. The first explanation points to the countervailing forces in democratic politics to the thirst for insurance. Scholars focusing on the opportunity cost of accumulating foreign exchanges argue that democracy can actually be negatively related to reserves. Since reserves could have been used for public spending (Rodrik 2008), democracies responsive to the public demands for macroeconomic expansion are not better positioned than autocracies to hoard up foreign exchanges. Second, studies highlighting the importance of the elite interests in economic policies point to a more complex relationship between political regimes and reserves. They note that weak currency policies—undervaluation—lead to large reserve accumulation whereas strong currency policies—overvaluation—result in reduction in reserves. This relationship between currency policies and reserves suggests that governments committed to bringing about price advantages to their exporters through weak currency policies—which are often not democracies—are better poised than others to stock up reserves (Aizenman and Lee 2008). Conversely, autocrats in rentier states might drain foreign exchanges, purporting to serve the interests of their political allies who benefit from strong currencies and cheap prices (Sturzenegger 1991). In short, the supposedly dominant position of the insurance argument can actually actually be

Figure 1: Global Trend of Democracy and Reserve



The solid line represents the global sum of foreign exchange reserves for each year *minus* *China's* while the dashed line indicates global mean of democracy (measured by Polity) at each year. 'o' represents foreign exchange reserve stock of each country-year.

challenged by at least three different theoretical approaches to the determinants of reserves.

This tension has rarely been subject to a systematic scrutiny¹ and, thus, remains a ripe target for theoretical development and empirical investigation. On a theoretical front, this paper identifies four arguments implied, but often not clearly articulated, in the literature on reserves, namely, 'insurance,' 'social cost,' 'mercantilist,' and 'rentier state.' I argue that the first two (insurance and social cost) are consistent with the notion that reserve (non-) accumulation is a way of pursuing public goods provision, which democratic governments can better serve. The other two, mercantilist and rentier state arguments, by contrast, presume that reserve policies serve private interests of outwardly (large reserves and undervaluation) and inwardly (small reserves and overvaluation) oriented economic elites, respectively. Autocratic governments, in this sense, can be seen better poised than democratic ones to implement such policies of private goods provision.

Utilizing panel data covering 127 countries from 1975 to 2012, the paper reports that, in relative terms, more democratic regimes are associated with larger volumes of reserves when the size of their exporting sectors is small. When exports account for a considerably large portion of the national economy, it is in fact autocracies that would have larger reserve stocks. The mercantilist and rentier state arguments, in other words, enjoy stronger empirical support than the insurance and social cost arguments do.

The paper contributes to our understanding of the politics of foreign exchange reserves in three ways. First, with a theoretical framework based on public goods literature, the paper clearly delineates the relationship between the four explanations for the determinants of reserves in addition to empirically testing them against each other. While existing studies on monetary policies often identify some of these arguments, few, if any, synthesize all four of them in a coherent fashion as illustrated in Figure 2b. Second, the paper joins a growing group of studies that highlights the 'political' dimen-

¹Jäger (2016) and McGrath (2016), as discussed below, are two notable exceptions.

sion in the studies on reserves. In traditional studies on reserves, policymakers are essentially reduced to generous social planners. The paper, by contrast, builds on the assumption that political leaders are office-seekers who are highly responsive to their political allies. Third, the paper extends the theoretical purview of reserve studies to the realm of the traditional political economy research on state-society relationships and heterogeneities in economic policymakings of autocratic regimes (e.g., Amsden 1989; Evans, Rueschemeyer and Skocpol 1985), the empirical domains where the contemporary scholarship on reserves rarely navigates.

The remainder of this paper consists of five parts. The next section briefly reviews the recent, and relatively rare, literature on the determinants of reserves, delineating four major theoretical positions. The third section illuminates possible ways in which political regimes can be related to reserve accumulation and derives testable hypotheses from them. The fourth section presents the research design to test the hypotheses. The fifth section reports and discusses the result of the empirical analysis. The paper concludes with a brief summary of the primary findings and their implications to broader political economy literature.

2. What determines the size of reserve stock?

Studies on reserves come into prominence after the sudden increase in the global reserve stock following a series of financial crises during the late 1990s and the early 2000s. As shown by the solid line in Figure 1, the increase in the global foreign exchange reserve stock has been explosive since the late 1990s even if the largest contributor to this trend, China, is taken out. It was this shift in the global financial market that finally spawned a wave of diagnostic studies asking such questions like whether this new pattern is a “business as usual” (Wyplosz 2007) or “too much of a good thing” (Jeanne 2007).

One can glean from the contemporary political economy studies at least four distinctive approaches to the determinants of the level of foreign exchange stocks of a national economy. One concerns the ‘insurance’ argument. As the conventional wisdom such as ‘Greenspan-Guidotti-Fischer rule’ suggests, reserves can be perceived as a “war chest” for “sudden stops” of financial inflow (Calvo, Izquierdo and Loo-Kung 2012) or a deterrent to currency speculations (Steiner 2013) and banking crises (Dominguez 2012). In this approach, the size of reserve stock is the function of the government’s sensitivity and vulnerability to these potential financial disasters: the more the government fears crises, the larger the reserve stock it piles up.

The ‘social cost’ approach, on the other hand, focuses on the opportunity cost of hoarding reserves. Since reserves as an insurance are essentially governments’ financial resources stocked up unused, they generate opportunity costs as large as “the difference between the return on the reserves and the return on more profitable alternative investment opportunities” (Jeanne 2007, 25). Rodrik (2006) points out that reserve stockpiling is equivalent to losing short-term foreign borrowing or domestic public investment, estimating that the cost incurred by reserves worth of eight months of imports might be about 1% of GDP in developing countries. Aside from these direct costs, large reserve stocks tend to constrain national governments’ fiscal policies as they might face heightened interest payments for government bonds (Prasad 2014, 87–88). As such, the social cost argument implies that governments that cannot forgo the social demands for public spending would have a relatively small reserve stock.

The third approach concerns an alternative body of literature on nation states’ mercantilist aspirations² pertaining to establishing trade surplus through weak currency policies. With its particular

²Mercantilism in this paper is defined as a ‘policy regime that is focused on accumulating national wealth through trade surplus.’ While mercantilist policies may include a number of protectionist measures in trade policies, the present paper is primarily concerned about mercantilism in (weak) monetary policies such as competitive undervaluation.

attention to the rapid rise in foreign currency holdings of China and, to a lesser extent, a handful of Southeast Asian countries, this literature suggests that reserve holdings reflect implementation of competitive undervaluation, or the lack thereof (Dooley, Folkerts-Landau and Garber 2003). While national governments can resort to numerous tools for gaining and preserving the price competitiveness of their exports, weak currency policies are often the most effective and convenient tool to such an end. To implement weak currency policies, central banks sell off local currencies and buy foreign currencies, or foreign currency-denominated assets such as the United States Treasury Bond. Doing so almost invariably amounts to ‘removing’ foreign exchanges from the market and accumulating them instead in the form of reserves, a policy practice Hamilton-Hart (2014*b*) calls ‘monetary mercantilism.’

Lastly, the traditional rentier state literature (e.g., Shambayati 1994; Herbst 1993) highlights the mirror image of mercantilist monetary policies—i.e., *strong* currency policies resulting in a *small* volume of reserves. Less-developed economies are often concerned about the declining purchasing power of their national currencies particularly when the economy relies heavily upon imports of consumer goods such as food and fuel. Monetary authorities may buy domestic currencies and sell foreign exchanges to boost the purchasing power of domestic actors. The volume of reserves shrinks as a result.

Several researchers have ventured to test some, but not all, of these four arguments in a cross-sectional setting. The evidence these studies present, however, seems decidedly mixed (e.g., Aizenman and Lee 2007; Jeanne 2007) with their scope fairly limited cross-sectionally (i.e., emerging market sample) and cross-temporally (i.e., pre-Global Financial Crisis). More importantly, this line of literature overlooks the importance of politics in operationalizing the core concepts such as ‘insurance’ and ‘mercantilist.’ An economy’s need for insurance, for example, is usually measured by its exposure to foreign capital market (Aizenman and Lee 2007), which assumes that policymakers are ‘benevolent social planners’ who would respond uniformly to a certain level of external vulnerability. As Broz and Frieden (2001) convincingly point out, such a naive characterization of monetary policymaking essentially overlooks the diverse political incentives different policymakers may have and the different policy outcomes they can bring about. Similarly, unlike what Jeanne (2007) might suggest, a great deal of variation exists in monetary policies in each region, which contains a diverse group of countries in the realm of international economic policies.

A small number of latest political economy research has made a significant progress on these fronts. Utilizing a large cross-national sample covering the period between 1970 and 2011, McGrath (2016) finds that foreign exchange accumulation is strongly related to whether there were political consequences of currency crises. Consistent with the insurance argument, past crises that resulted in political turnovers inform the successive governments of the great need for stocking up reserves, he reports. Jäger (2016), on the other hand, contends that variations of reserve accumulation are driven by incumbent politicians who use reserves to their electoral advantage, particularly in the run-up to elections. Hence, political business cycles of reserves are likely in democracies. This finding resonates with the social cost argument in that it suggests that expansionary social pressures drive down the volume of reserves of democracies in election years.

These two studies certainly advance our understanding of reserves not only by utilizing much larger samples than previous studies usually used, but also by delineating the political nature of reserve policies. This contribution notwithstanding, these studies are hardly an attempt to directly adjudicate the four approaches to the relationship between political regimes and reserves. While McGrath (2016) and Jäger (2016) appear to espouse the insurance and social cost approaches, respectively, they do not explicitly pit their argument against the other approaches. In order to systematically evaluate these approaches, one needs an analytical framework that highlights the differing empirical expectations each approach puts forth. In the following section, I demonstrate that focusing on political regime types is key to formulating such a framework.

Table 1: Democracy, Public Goods, and Reserves: Theory

Approach	Nature of Reserves	Democracy \Rightarrow Reserves
Insurance	public goods	(+)
Social Cost	public goods	(-)
Mercantilist	private goods (exporting elites)	conditionally (-)
Rentier state	private goods (non-exporting elites)	conditionally (+)

3. Political Regimes and Reserves as Public (Private) Goods

The literature review above identifies four arguments about the determinants of reserve accumulation. I propose a conceptual reframing of these competing arguments, premised on the distinction between public and private goods provision as a goal of monetary policies. Such a reframing helps us derive clear empirical expectations about the effect of political regimes on reserves distinctive to each of the four arguments. The fact that these expectations can be structured within the democracy-reserve nexus enables us to test them together in a unified empirical framework. Table 1 presents a brief overview of these expectations.³

First, the underlying assumptions of both insurance and social cost arguments suggest that reserve policies concern governments' provision of public goods, although the types of public goods they highlight are markedly different. The insurance argument posits that insuring the national economy against external vulnerabilities benefits all members of the society (i.e., 'non-excludability') which might be seen as a public good that monetary authorities provide. A large volume of reserves in this sense is an indication of an effective delivery of public goods.

A diametrically opposite case can be made, however, by the social cost argument: a large stock of reserves is rather a sign of an under-provision of public goods. Instead, establishing and maintaining a substantial level of financial resources for government spending programs that benefit the entire society would be indeed public goods in this perspective. Given that financial resources that national governments can mobilize are usually limited, the fiscal implication of reserve accumulation is to undercut the potential supply of such public goods.

Second, alternatively, the mercantilist and rentier state arguments imply that reserve policies are a vehicle for serving particularistic interests of exporters and, thus, providing private, rather than public, goods. When central banks hoard up large stocks of reserves, for instance, the ones who benefit from the competitive price advantage generated by such weak currency policies are a small group of 'outwardly oriented' elites such as tradables producers, particularly exporters. These benefits accrue to them at the expense of the great majority of the population who would suffer from increased price levels, particularly those of immediate consumer goods such as fuel and foodstuffs (Baldacci, de Mello and Inchauste 2002; Levinsohn, Berry and Friedman 2003).

Conversely, draining reserves disproportionately benefits 'inwardly oriented' elites such as non-tradables producers and/or import-competing tradables producers deliberately protected by the government from foreign competitions. As their business operates primarily in the domestic market, strong currency policies (small reserve stocks) benefit them by lowering real labor costs (e.g., cheaper food) along with other input costs (e.g., cheaper fuel and raw materials) and inflate the values of their assets denominated by local currencies (Cardoso and Helwege 1991). Such gains, however, materialize by sacrificing the rest of the society as currency overvaluation increases the chances of financial crises

³Following the Olsonian tradition (Olson 1982), a working definition of public goods in the present paper is 'goods that benefit the great majority of the community.' Excluding individuals from the pool of the beneficiaries should be difficult. Private goods are those that benefit only a certain fraction of the community, usually at the expense of the rest.

in the short run (Goldfajn and Valdés 1998) and undermines the growth potential of the national economy in the long run (Rodrik 2008). In short, according to the mercantilist and rentier state arguments, governments pursuing private goods provision should maintain large and small stocks of reserves, respectively.

This discussion on the nature of foreign reserves as public/private goods has a direct implication on the relationship between political regimes and reserves. The expected relationship between democracies and reserves is rather simple. Political elites of democratic regimes, where competitive elections are held regularly, are generally concerned more about providing public goods than about offering private goods (Deacon 2009) given that the fate of the leaders hinges on appealing to a wide swath of audience. To the extent that reserves are viewed as public goods, the insurance and social cost arguments offer contradicting empirical predictions about the effect of democracy on reserves. The former would posit that the effect of democracy is positive, in that more democratic regimes are more likely to insure the national economy against external vulnerabilities and thus accumulate larger volumes of reserves. By contrast, the social cost argument would postulate that the effect of democracy is negative because more democratic regimes are more sensitive to the public needs of macroeconomic expansion. Hence, they are more reluctant to hoard reserves and instead more likely to divert financial resources towards public spending.

On the contrary, the relationship between autocracies and reserves can be more complex. The survival of autocratic regimes is undergirded by a much smaller group of elite allies, or ‘winning coalitions’ (Bueno de Mesquita et al. 2003). Autocrats are strongly incentivized to serve the interests of this minority even at the expense of the rest of the society. Although particularistic interests of elites do receive disproportionate representations in public policymaking even in democracies (Lindblom 1977), it is safe to assume that the degree of such over-representation of elites is unequivocally larger in autocracies than in democracies.

In this sense, autocratic governments can pursue monetary mercantilism with relatively little concerns over the public welfare. Autocratic political leaders can offer price advantages to export-oriented business elites through competitive devaluation (large stocks of reserves, therefore) and receive side payments in return, which can subsequently be used as rents for the entire ruling coalition. To the extent that the ruling coalitions’ loyalty to the regime is grounded on the rent distribution funded by exports, the reign of these autocrats rests much more upon the success of the exporting elites than upon the well-being of the society as a whole. These autocrats are accordingly motivated to keep pursuing the preferential mercantilist reserve policies. Indeed, it is not rare for autocrats in such a context to go “out of [their] way” to give exporters “everything they need” (Steinberg 2015, 95). Emerging economies in Southeast Asia, most notably Malaysia, make vivid examples for this autocratic monetary mercantilism where the ties between political leaders and economic elites owning major exporting firms made competitive undervaluation sustainable in the post-crisis period. Such a policy arrangement effectively “sidelined broad-based popular demand for greater domestic consumption” (Hamilton-Hart 2014a, 884).⁴

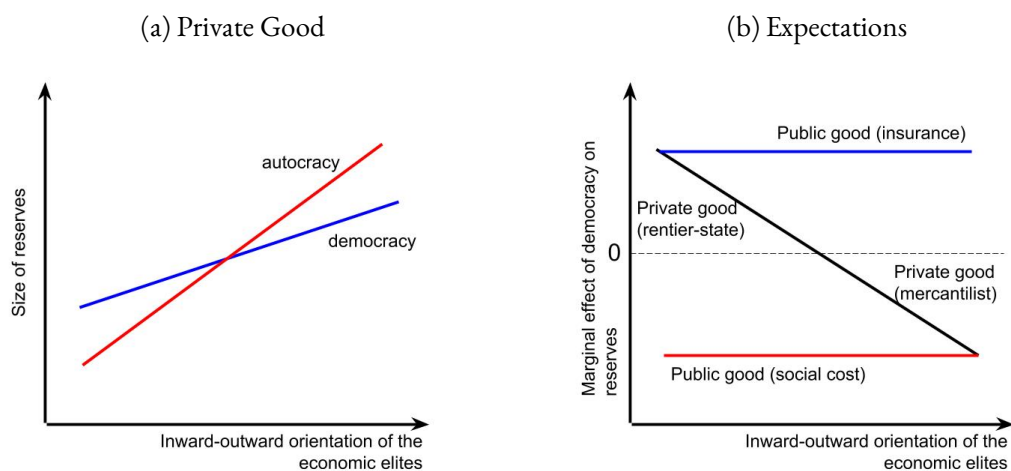
Similarly, the rentier state argument is also more applicable to autocratic regimes than to democratic ones. These autocrats draw on the alliance with inwardly oriented economic elites. To reiterate, low levels of reserves imply overvaluation of the national currency or the lack of sterilization which would otherwise have stemmed currency appreciation. As the traditional rentier state literature in the 1980s and 1990s has extensively demonstrated, such lax monetary policies serve the particularistic interests of non-exporting allies of dictators who have properties denominated by the local currency and rely on imported consumer goods for themselves and their employees. In autocratic economies where

⁴Although post-war Japan makes a *democratic* example where monetary mercantilism was pursued in this fashion (Pempel 1998), the conditions that enabled such policies—e.g., single party dominance and insulation from foreign capital market—were exceptionally untenable for a democracy.

autocrats rely heavily on these sort elites, therefore, strong currency policies (small reserve stocks) are expected. For instance, in a rentier state of Ghana in the early 1970s, the “more the exchange rate becomes overvalued, the greater the benefit a government can bestow on those few who are granted access to foreign good” (Herbst 1993, 40), even though such monetary policies paralyzed the national economy by stripping away the long-run growth potentials of manufacturing sectors as well as by increasing external vulnerabilities.

Taken together, accumulation of notably high and low levels of reserves can be seen as signs of private goods provision, which are more feasible in autocratic regimes than in democratic ones. Figure 2a depicts this relationship. The horizontal axis represents the orientation of economic elites in terms of the inwardness-outwardness of their business: the more export-oriented, the further right end of the axis the elites’ orientation would be found. The vertical axis represents the size of foreign exchange reserves, where higher levels indicate larger volumes. It is important to note here that even in democratic regimes, economic elites might wield political influence over monetary policies such that the inward-outward orientation of their business would determine the size of reserve stocks to a certain degree. However, the degree to which the government serves the particularistic interests of these economic elites is much more limited in democracies than in autocracies as the former’s political fate hinges more upon the provision of public goods than private goods. The ‘slope’ of the curve representing the relationship between elites’ inward-outward orientation and the level of reserves, therefore, is expected significantly steeper in cases of autocracies than in cases of democracies.

Figure 2: Democracy, Private (Public) Goods, and Reserves: Empirical Expectations



Based on the discussion above, we can situate the empirical expectations of each of the four arguments about reserve accumulation in a unified framework, which is demonstrated in Figure 2b. Again, the x-axis represents the economic orientation of elites. Unlike in Figure 2a, the y-axis in Figure 2b represents the ‘marginal’ effect of democracy—the difference between the effect of democracy and that of autocracy on the volume of reserves—such that area above (below) the zero indicates a positive (negative) relationship between the level of democracy and reserves.

Both insurance and social cost arguments would predict that the difference between democracy and autocracy in terms of the propensity to provide public goods does not vary over the elite orientations. This is because elite orientations concern the provision of private goods and have little to do with public goods. Therefore, the expected marginal effect of democracy on the level of reserves according to the insurance (social cost) argument is constantly positive (negative).

The mercantilist and rentier state arguments, on the other hand, predict the marginal effect of democracy on the levels of reserves to vary across business elites’ inward-outward orientations. Where the elites in alliance with the regime are inwardly oriented (e.g., Ghana), a private good serving their particularistic interests—overvaluation—is provided by autocrats and the level of reserves is kept low. In relative terms, democracies in this situation should have larger reserve stocks than do autocracies due to this under-accumulation of reserves by autocrats. The opposite is the case for societies where economic elites have outwardly oriented, exporting business. Since the private goods that cater to these elites’ interests—undervaluation—are provided via reserve accumulation, autocratic regimes are more likely than democracies to hoard large stocks of reserves. The diagonal curve that stays above zero on the left-hand side of Figure 2b (inwardly oriented elites) and turns below zero on the right-hand side (outwardly oriented elites) represents a conditional effect of democracy based on these two arguments. This marginal effect curve represents, conceptually, the difference between the democracy and autocracy curves in Figure 2a.

To summarize, each of these four arguments offers a unique empirical expectation about the relationship between democracy and reserves. First, the insurance argument predicts that *the level of democracy has a positive effect on the size of foreign exchange reserves* (Hypothesis 1). Second, the social cost argument predicts that *the level of democracy has a negative effect on the size of foreign exchange reserves* (Hypothesis 2). Third, the mercantilist argument maintains that *the effect of democracy is negative in the economy where economic elites tied to the ruling coalition are outwardly oriented* (Hypothesis 3a). Lastly, the rentier state argument suggests that *the effect of democracy is positive in the economy where economic elites tied to the ruling coalition are inwardly oriented* (Hypothesis 3b). Together, the predictions of the mercantilist and rentier state arguments offer a conditional hypothesis (Hypothesis 3).

It is important to note here that while these hypotheses represent theoretically distinctive positions on the political economy of reserves, the empirical reality of reserve policies is much fuzzier. It is highly probable that reserve policies reflect more than one of the four arguments delineated here. The volume of reserves of a country we actually observe is determined by which argument weighs heavier than others on reserve policies. Consequently, the result of empirical analysis below should be interpreted as indicative of the *relative* explanatory power of the argument compared to that of the others.⁵

4. Research Design

4.1. Variables

4.1.1. Dependent Variable: Reserves

The dependent variable takes natural logarithm of foreign exchange reserves of each country-year following Dominguez (2012) and Leblang (2005). Logging the reserve variable provides two practical advantages. First, it induces stationarity. The reserve data are strongly nonstationary even when taking into consideration the temporal trend. Second, it also normalizes the distribution. The reserve data are severely skewed as a disproportional share of the global reserve stock belongs to a handful of countries (Aizenman and Marion 2002). The dependent variable is not ‘scaled’ by macroeconomic indicators such as GDP or money supply not only because it is “unclear what lies behind the view that [certain types of indicators] are appropriate scaling variables” (Wyplosz 2007, 2) but also because the ‘denominator’ variable for such scaling is already included in the right-hand side of the benchmark

⁵Indeed, while the benchmark result below supports the mercantilist and rentier state arguments, I find evidence, albeit limited, for the insurance argument in an extraordinary circumstance. See Appendix 4 and Figure A1.

model as a covariate. I elaborate on this rationale in Appendix A3. Below, I also demonstrate that the choice of scaling reserves with GDP, money supply, or months of imports does not alter the benchmark result (see Table 3).

Following the literature, the data used for this variable come from International Financial Statistics provided by the IMF (IMF 2016). Specifically, “Total Reserves excluding Gold, Foreign Exchange, US Dollars” is used. Gold reserves are excluded because 1) gold is considered to add much less to liquidity than other types of assets do and 2) developing countries’ gold reserves are disproportionately small compared to developed ones’ (Bussière et al. 2015, 131).

4.1.2. Independent Variable: *polity* and *export/GDP*

Polity2 of POLITY IV (Marshall, Gurr and Jaggers 2014) is the primary independent variable (*polity*). The centerpiece of democracy, as opposed to autocracy, in determining the size of reserve stock is contested elections. In both insurance and social cost arguments, it is contested elections through which political leaders are held accountable to the public and for their performance in their public goods provision. The lack of contested elections implies policymakers’ insulation from the society, which opens up a possibility for preferential reserve policies based on mercantilism or rentier state. Among various democracy indices, the concept of ‘contestation’ (Dahl 1973) is best captured by POLITY IV where the procedural aspect of democracy is explicitly measured (Goldstone et al. 2010). Not surprisingly, however, using other popular democracy indices does not alter the benchmark result (see Table 5 below).

Another independent variable that conditions the effect of *polity* on reserves is the size of exporting sectors in the national economy. The variable approximates the size of exporting elites who benefit from competitive undervaluation resulting in large reserve stocks relative to the size of non-exporting elites who gain from currency appreciations consistent with low levels of reserves. Drawing upon studies on the political influence of economic sectors (e.g., Bearce 2003), I assume that the size of exporting sectors is proportional to the relative political significance of the exporting and non-exporting elites to the political leaders, particularly autocrats. In the context of the mercantilist argument, the variable can also be understood as the size of export rents that autocrats can expect to take from their exporting allies. I below demonstrate that replacing this variable with a list of alternatives that illuminate mercantilism in different from different analytical angles still yields results similar to the benchmark (see Table 4).

4.1.3. Control Variables

A host of control variables reflecting the findings of previous literature on reserves are employed to ward off an omitted variable bias. The first set of control variables involves political leaders’ fear of the consequences of financial crises and their inclination toward reserve accumulation. A plausible scenario regarding a country’s reserve holdings might be that democracies (autocracies) that underwent a financial crisis recently build up larger volumes of reserves than other democracies (autocracies) do. Including variables reflecting individual economies’ experience of crises is imperative, therefore. I create a dummy variable that identifies the onset of a currency, banking, or sovereign debt crisis in a given country-year. For currency crises, an observation identified as a crisis either by the definition of Frankel and Rose (1996) or that of Reinhart and Rogoff (2011) is coded as one. For the coding of banking and debt crises, I follow Laeven and Valencia (2013). Although limiting the conceptualization of financial crises to either type does not alter the benchmark result, I assume that any financial crises can be politically disastrous and, therefore, trigger an ardent reserve hoarding. The crisis variable is used to compute 1) cubic polynomials of the number of years that have elapsed since the last crisis to account for the trauma of the political leaders on the crisis changing over time in various functional

forms (*no crisis*, *no crisis*² and *no crisis*³) and 2) the cumulative number of a country's past crises to capture the 'history' of crises and the resultant policy adjustments (*all past crises*).

Another set of control variables are those related to the macroeconomic fundamentals of a country. The fundamentals can be either an indicator of a government's capacity to accumulate reserves or, alternatively, its vulnerability to the pending financial crises and the incentive to be prepared for them. Inflation (*inflation*) and GDP growth rates (*growth rates*) are employed accordingly.

In addition to the fundamentals, reserves might be strongly associated with the economic structure of a country. Larger economies, for example, are expected to maintain higher levels of reserves whereas richer countries may stand for smaller chances of crises and are expected to maintain less reserves, *ceteris paribus*. Consequently, natural logs of GDP ($\ln(GDP)$) and GDP per capita ($\ln(GDP \text{ per capita})$) are controlled for. To account for the trend of increasing reserve holdings implied in Figure 1, a time-trend variable counting the number of years that have elapsed since the start of the data (t), as well as its squared term (t^2), is also included. For emerging markets, global financial environments such as interest rates of advanced economies are also important determinants of the size of reserve stock. The level (*US Interest*) and yearly change ($\Delta US \text{ Interest}$) of the United States' real interest rates are used as control variables, accordingly.

Finally, two additional variables that can directly affect the size of reserve stocks are controlled for. First, the natural log of the amount of gold reserves, which was excluded from the dependent variable, is instead included as a covariate ($\ln(Gold)$). Second, a dummy variable capturing the country's membership of the Organization of the Petroleum Exporting Countries (OPEC) in the current year is also controlled for (*OPEC*). As Aizenman and Sun (2012) suggests, oil exporters' reserve holdings have recently been affected heavily by the fluctuation of fuel prices, a process that might operate independently of the linkage between regime types and reserves proposed here.

The data cover 127 countries between 1975 and 2012. With missing observations, particularly in developing countries' cases during the 1970s, the number of observation analyzed in the benchmark model is 3347. All independent variables are lagged one year to allow time for the explanatory factors to take effect on reserves although the result using contemporaneous values for the independent variables is nearly identical to the benchmark.⁶ The summary statistics tabulated over regime types are reported in Appendix Table A1, indicating that the data for each of the independent variables, including *Export/GDP*, are fairly evenly distributed between democracies and autocracies. Unless specified otherwise, all the economic variables come from the World Development Indicators (WDI, World Bank 2015).

4.2. Model

The benchmark estimator is ordinary least square (OLS) regression. Concerning the possible heteroskedasticity as well as serial correlations in the error term, panel-corrected standard errors (PCSE) with first-order panel-specific autoregressive disturbances (PSAR(1)) are used. The benchmark model can be written:

$$\begin{aligned} \ln(reserve)_t = & \beta_1 polity_{it-1} + \beta_2 export/GDP_{it-1} + \\ & \beta_3 (polity_{it-1} \times export/GDP_{it-1}) + \\ & \beta X_{it-1} + \varepsilon_{it}, \end{aligned}$$

where i stands for country, t is year, β is the coefficient for each explanatory variable, X is a vector of control variables, and ε is the error term. The multiplicative interaction term enables us to test the four hypotheses in a unified fashion. If Hypothesis 1 (Hypothesis 2) is supported, $\beta_1 + \beta_3$ should be

⁶A Pairwise Granger Causation Wald test indicates that $\ln(reserve)$ does not 'Granger-cause' *democracy* ($\chi=0.581$, $p=0.446$).

significantly positive (negative) regardless of the values of $export/GDP$. If the conditional hypothesis, Hypothesis 3, is to be supported, β_3 should be significant and $\beta_1 + \beta_3$ should be significantly negative where $export/GDP$ is large and positive where $export/GDP$ is small.

5. Analysis

5.1. Primary Results

Columns (1) and (2) of Table 2 report the results of the baseline and benchmark models, respectively. The significantly positive democracy variable ($polity$) in Model (1) appears to support the ‘insurance argument’ (Hypothesis 1) against the other three. The result of the benchmark model (Model 2), however, indicates that this hasty conclusion needs to be revised. The interaction between $export/GDP$ and $polity$ is significant in Model (2), implying that Hypothesis 3 can be supported.

The visual representation of this relationship in Figure 3, which bears a striking resemblance with the empirical expectation of ‘reserve as private-goods’ presented in Figure 2b, offers more reassuring evidence for Hypothesis 3. The horizontal axis here indicates the relative size of export sectors and the solid line represents the marginal effect of democracy (i.e., the effect of one-unit increase in democracy) on the volume of reserves ($\ln(reserves)$). The bars at the bottom indicate the distribution of the observations across different sizes of exporting sectors. When the size of exporting sectors is smaller than about 35% of the country’s GDP, where about half of the sample falls, the marginal effect of democracy on foreign exchange reserves is significantly positive. Consistent with the rentier state argument, this result implies that in economies with inwardly-oriented economic elites, autocracies have significantly less reserves than democracies. When the exporting sectors account for more than 55% of the national economy, which is the case for about 20% of the sample, the marginal effect of democracy on reserves is significantly negative. Autocracies, the result indicates, are more likely to hoard reserves when the exporting elites account for a large portion of the national economy. The finding is in line with the mercantilist argument.

Figure 3 also suggests that the effect of $polity$ is not only statistically significant but also substantively large. In strictly closed economies where export accounts for about 6 percent of the GDP (e.g., pre-1990 India and Turkey), one unit increase in the democracy index is associated with about extra 4% of the reserve stock. On the contrary, in highly open economies where export explains as large as 120% of the GDP (e.g., Singapore and Malaysia), one unit decrease in the democracy index leads to about 10% increase in reserves, the figure implies.

In order to further demonstrate how reserve policies of democracies and autocracies differ depending on the size of exporting sectors, Figure 4 presents two hypothetical cases based on the benchmark model. The solid line represents a typical autocratic case which is one-standard deviation less democratic ($polity_2 \approx -2$, dashed line) than the global mean ($polity_2 \approx 4$) while the dashed line indicates a typical democratic case that is one-standard deviation more democratic ($polity_2 \approx 10$ solid line) than the global mean.

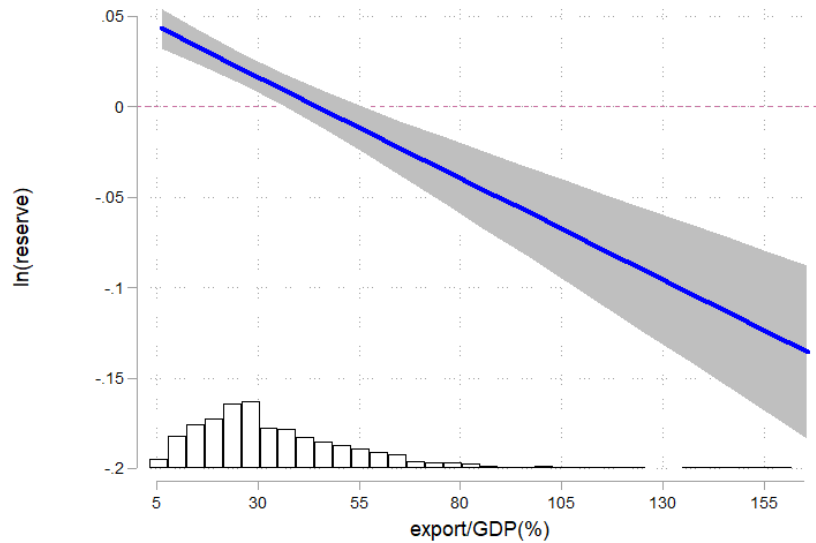
Again, the figure comes fairly close to Figure 2a, confirming that the conditional effect demonstrated in Figure 3 is indeed driven by markedly different sensitivities of autocracies and democracies to the orientations of business elites. When all other explanatory variables are held constant at their mean levels, the expected volume of reserves of the democratic case stays roughly the same regardless of the size of exporting sectors. By contrast, the rather steep solid line suggests that, unlike elected officials in democracies, autocrats’ preferred level of reserves varies wildly with the nature of the business elites operationalized as the size of the exporting sectors.

Table 2: Benchmark Model

	(1) baseline	(2) benchmark	(3) LDV	(4) FE
reserve _{t-1}			0.883*** [0.025]	
polity	0.020*** [0.005]	0.050*** [0.007]	0.011** [0.004]	0.029*** [0.008]
export/GDP	0.001 [0.001]	0.010*** [0.002]	0.002** [0.001]	0.010*** [0.002]
polity × export/GDP		-0.001*** [0.000]	-0.000** [0.000]	-0.001*** [0.000]
ln(gold)	0.045*** [0.017]	0.046*** [0.016]	0.000 [0.006]	-0.020 [0.025]
ln(GDP)	0.904*** [0.042]	0.932*** [0.040]	0.114*** [0.022]	1.377*** [0.104]
ln(GDP per capita)	-0.166*** [0.054]	-0.226*** [0.053]	-0.032** [0.013]	-1.348*** [0.284]
inflation	-0.000* [0.000]	-0.000** [0.000]	-0.000 [0.000]	0.000 [0.000]
Δ US Interest	0.027** [0.011]	0.027** [0.011]	0.024** [0.011]	0.022*** [0.008]
US Interest	-0.024 [0.016]	-0.026* [0.016]	-0.046*** [0.010]	-0.024** [0.011]
OPEC	0.507*** [0.157]	0.349** [0.151]	0.048 [0.052]	1.314** [0.547]
GDP growth	0.001 [0.003]	0.000 [0.003]	0.003 [0.003]	-0.002 [0.002]
t	0.027 [0.018]	0.030* [0.017]	0.026*** [0.008]	0.085*** [0.024]
t ²	0.001** [0.000]	0.001** [0.000]	-0.001*** [0.000]	0.000 [0.001]
all past crises	0.011*** [0.004]	0.009** [0.004]	0.001 [0.001]	-0.123*** [0.016]
no crisis	0.019 [0.013]	0.021 [0.013]	0.000 [0.008]	0.019* [0.011]
no crisis ²	-0.001 [0.001]	-0.001 [0.001]	-0.000 [0.001]	-0.001 [0.001]
no crisis ³	0.000 [0.000]	0.000 [0.000]	-0.000 [0.000]	0.000 [0.000]
Constant	-1.475* [0.772]	-1.911*** [0.730]	-0.090 [0.141]	0.897*** [0.162]
Observations	3347	3347	3342	3220
R ²	0.981	0.981	0.992	0.356

* p<0.10; ** p<0.05; *** p<0.01. OLS estimates with panel corrected standard errors in brackets in Models (1) through (3). PSAR(1) is applied for Models (1) and (2). (3) contains the lagged dependent variable ($\ln(reserve)_{t-1}$). Model (4) reports the OLS estimates with standard errors clustered over countries. Country- and year-fixed effects are applied to Model (4).

Figure 3: Marginal Effect of Democracy



Based on the result of the benchmark model. Marginal effect of democracy on $\ln(\text{reserve})$ with 95% confidence intervals when all other variables are set at their mean levels. The bars indicate the distribution of observations over export/GDP .

6. Robustness Check

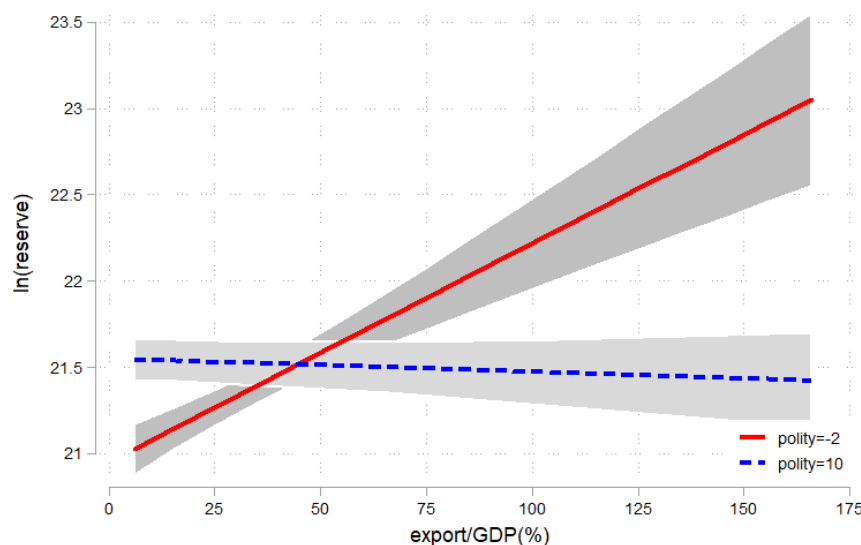
6.1. Models

While the OLS estimates with PCSE reported in the benchmark result are a standard practice for researchers utilizing a panel dataset, this choice comes with several caveats that merit additional empirical scrutinies. First, for an unbalanced panel dataset like the present one, PCSE can be incorrectly computed through pairwise deletions (Bailey and Katz 2011). Second, PSAR might not fully capture the dynamic nature of the dependent variable, a current reserve stock, which is strongly affected by the reserve stock in the previous year. Finally, given the large number of countries covered, the unit heterogeneity in the sample might need to receive further empirical treatments. The first and second concerns are addressed using a lagged dependent variable in an OLS model with standard errors clustered over countries whereas the third concern is alleviated by applying country- and year-fixed effects to the benchmark model. The results for these alternatives are summarized in Models (3) and (4) in Table 2, which affirms the robustness of the benchmark result. This robustness remains uncompromised even when a series of permutations of fixed and random effect models along with panel-specific time trends are applied (see Appendix Table A7).

6.2. Measurement and Model Sensitivity

Although the variables employed in the paper rely on the measures fairly standard in the literature, further scrutinies into their alternatives should foster our confidence in the benchmark result. First, while logged reserve stock is the preferred dependent variable to obtain the least-biased estimates, given that a number of studies use ‘scaled’ measures of reserves, it should be helpful to see if the benchmark result holds when the dependent variable is replaced with these alternatives. Table 3 reports the results using such alternatives. In Columns (1) and (2), where the total reserve stock for each country-year is divided by the size of the economy (GDP) and monetary base (M3), respectively, the conditional effect of democracy stays unaltered regarding its size and significance. The effect is slightly

Figure 4: Marginal Effect of Democracy, hypothetical cases



Based on the result of the benchmark model. Predicted values of $\ln(\text{reserve})$ with 95% confidence intervals when the effect of all other explanatory variables are set at their means.

less significant, though still within the traditionally acceptable range, in Model (3) where the reserve stock is scaled by months of imports. I conjecture that this reduction in significance is driven by the high correlation between the sizes of exports, which is one of the independent variables, and imports.

Table 3: Scaled Reserve Variables

	(1)	(2)	(3)
reserves scaled by:	GDP	M3	months of imports
polity	0.002*** [0.001]	0.006*** [0.002]	0.044** [0.019]
export/GDP	0.001*** [0.000]	0.002*** [0.000]	0.017*** [0.005]
polity \times export/GDP	-0.000*** [0.000]	-0.000*** [0.000]	-0.001** [0.000]
Observations	3266	2836	2976
R^2	0.314	0.335	0.326

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. OLS estimates with panel corrected standard errors in brackets. PSAR(1) applied in all models. The results for control variables and constant are not reported to spare space. The full result is available in Appendix Table A4.

Another concern rests upon the conditioning variable, export/GDP . First, the variable might be too inclusive. While it aptly highlights the general makeup of economic elites in terms of the inward- and outward-orientations of their business, it is possible that the variable does not capture the heterogeneity amongst exporters. Specifically, the degree to which exporters benefit from competitive currency undervaluation (and, thus, large reserve stocks) can vary significantly across industries and mercantilist governments should not be strongly motivated to pursue weak currency policies when the gains accruing to their elite allies are limited. It is therefore worth investigating if disaggregating the exporting sectors into the ones that are highly sensitive to monetary mercantilism and those that are

not alters the benchmark result. Following Steinberg (2015), I use the size of the manufacturing sectors in terms of the size of the national economy (*manu1*) as well as in terms of total export (*manu2*). In addition, given that 1) exchange rate pass-through also plays a role in the effectiveness of competitive undervaluation and 2) pass-through is high in industries producing undifferentiated, standardized goods (Broz and Werfel 2014), I also use the size of non-high tech exports in terms of total exports (*non-hitech*) in lieu of *export/GDP* to approximate the size of business elites who are particularly likely to benefit from mercantilist monetary policies. If the benchmark result is simply a statistical artifact of lumping different kinds of exporters together into one variable, *export/GDP*, then there should be a meaningful reduction in the level of significance for the interaction term (*polity* × *export*) when using these alternative measures.

Second, one can also take an entirely different empirical strategy in highlighting the government's willingness to pursue weak currency (large reserves) policies. In particular, as Aizenman and Lee (2007) suggest, changes in the volume of total exports (Δexport) can be an effective proxy variable for monetary mercantilism. Increases in exports form appreciative pressures on the exchange rates. Monetary authorities imbued with mercantilism would try to counter such pressures (that is, sterilize) by resorting to weak currency policies, which results in large reserve stocks. Although this approach might not explain why some autocracies have much smaller reserve stocks than democracies do, a result using this variable being consistent with the benchmark should at least lend further assurance to the mercantilist argument. Finally, the distribution of observations for *export/GDP* is not normal, which can be a source of bias. A straightforward way to see if this is the case is to take a natural log of the total volume of export ($\ln(\text{export})$) and to check if replacing this variable with *export/GDP* alters the benchmark result.

Table 4 reports the result for these five empirical scenarios. In all models, the benchmark result is not altered in any meaningful way. In Model (3), the significance of the interaction term is reduced, though to a traditionally acceptable level. I interpret this as a function of a much smaller sample and the reduced variation in the variable as there are a disproportionately large number of missing observations, rather than small values, for *non-hitech* in the cases of less-developed countries.

Table 4: Alternatives to export/GDP

	(1)	(2)	(3)	(4)	(5)
	<i>manu1</i>	<i>manu2</i>	<i>non-hitech</i>	$\ln(\text{export})$	Δexport
<i>polity</i>	0.035*** [0.007]	0.040*** [0.005]	0.011 [0.009]	0.330*** [0.045]	0.043*** [0.010]
<i>export</i>	0.004*** [0.002]	1.120*** [0.175]	0.001 [0.001]	0.287*** [0.050]	0.004 [0.003]
<i>polity</i> × <i>export</i>	-0.001*** [0.000]	-0.231*** [0.038]	-0.000** [0.000]	-0.014*** [0.002]	-0.001*** [0.000]
Observations	2942	2908	1931	3372	3311
R^2	0.985	0.985	0.993	0.985	0.981

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. OLS estimates with panel corrected standard errors in brackets. PSAR(1) applied in all models. The alternative conditioning variables ('export sector') used in Models (1) through (4) are 'size of manufactured goods in terms of GDP (%)', 'size of manufactured goods in total exports of goods and services (%)', 'size of non-hightech manufactured exports (%)', and 'natural log of the total volume of exports of goods and services,' and 'two-year lagged, three-year moving average of export growth,' respectively. The results for control variables and constant are not reported to spare space. The full result is available in Appendix Table A8.

Similarly, one can question if the benchmark result is simply a statistical artifact of using the Polity index and might suspect that the result does not stay robust to alternative democracy indexes. Alterna-

tive democratic indices illuminating electoral competitiveness of political regimes from various angles can be used to see if these concerns are warranted. The electoral democracy index of Variety of Democracy Project (V-dem, Lindberg et al. 2014), the dichotomous measure of democracy from Cheibub, Gandhi and Vreeland (2010), the electoral competitiveness index from the Database of Political Institutions (Beck et al. 2001), and the Freedom House index are particularly useful here. In a similar vein, the heterogeneity of the autocratic regimes can also be a source of bias. It is possible that a certain type of autocratic regimes are particularly likely to have large exporting sectors, driving the significance of the interaction term in the benchmark model. Hadenius and Teorell (2007) offer a regime dataset where dictatorships are characterized into five different forms, which I utilize to address this concern.

Table 5: Alternative Regime Variables

	(1) HT	(2) V-dem	(3) DPI	(4) DD	(5) FH
military dictator	-0.725*** [0.228]				
one-party dictator	-1.771*** [0.447]				
multi-party dictator	-0.859*** [0.225]				
other dictator	-0.505 [0.384]				
democracy	-0.309 [0.214]				
military dictator × export/GDP	-0.009 [0.007]				
one-party dictator × export/GDP	0.011 [0.015]				
multi-party dictator × export/GDP	-0.005 [0.004]				
other dictator × export/GDP	-0.012 [0.018]				
democracy × export/GDP	-0.018*** [0.004]				
democracy index		1.308*** [0.225]	0.084*** [0.019]	0.543*** [0.118]	0.118*** [0.016]
interaction w/ export/GDP		-0.026*** [0.006]	-0.002*** [0.001]	-0.012*** [0.004]	-0.003*** [0.000]
export/GDP	0.018***	0.021***	0.017***	0.011***	0.028***
Observations	3309	3249	3345	2974	3272
R^2	0.979	0.984	0.981	0.983	0.982

* p<0.10; ** p<0.05; *** p<0.01. OLS estimates with panel corrected standard errors in brackets. PSAR(1) applied in all models. The results for control variables and constant are not reported to spare space. The full result is available in Appendix Table A5. HT: authoritarian regime type from Hadenius and Teorell (2007); V-dem: electoral democracy index from V-dem project (Lindberg et al. 2014); DPI: electoral competitiveness from Beck et al. (2001); DD: democracy dummy from Cheibub, Gandhi and Vreeland (2010); FH: reversed Freedom House index from Freedom House (2006).

Table 5 reports the result of exploring these empirical possibilities to which the benchmark result remains robust. In the first model, where the dictatorships are broken down into five different cate-

gories, none of their interaction terms with *export/GDP* is significant while the interaction term for ‘democracy’ is significant in the expected direction. Similarly, in Models (2) through (5), the interaction terms between *export/GDP* and the alternative democracy variables are consistently significant in the expected direction. The substantive effects of these alternative regime variables are also similar (see Appendix Figure A2).

In addition, it is also plausible that the theoretical mechanism delineated above is not relevant to the non-Western economies where the political dynamics surrounding elections and economic policy-making are not unique to each country case. Appendix Table A3 reports the result straightforwardly examining these possibilities, adding to the confidence in the robustness of the benchmark result.

6.2.1. Omitted Variables

While a number of control variables are employed in the benchmark model to minimize an omitted variable bias, it is possible that it still misses important covariates. One of such is central bank independence (CBI). Independent central banks could negate the political use of monetary policies in general (Keefer and Knack 2002) and reserve policies in particular (Jäger 2016). Two measures of CBI (Garriga 2016; Bodea and Hicks 2015) are employed. As Table 6 reports, including these measures does not alter the benchmark result although doing so significantly reduces the number of observations (by about 20%).

Table 6: Central Bank Independence

	(1)		(2)	
	Garriga CBI		Bodea-Hicks CBI	
polity	0.046***	[0.007]	0.028***	[0.008]
export/GDP	0.011***	[0.001]	0.011***	[0.001]
Democracy × export/GDP	-0.001***	[0.000]	-0.001***	[0.000]
CBI Garriga (weighted)	-0.395***	[0.149]		
CBI Bodea-Hicks IO			0.025	[0.104]
Observations	2635		1640	
R^2	0.984		0.994	

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. OLS estimates with panel corrected standard errors in brackets. PSAR(1) applied in both models. The estimates the control variables are abbreviated to spare space. See Appendix Table A6 for the full result.

In addition, a host of alternative specifications are applied to ward off potential omitted variable biases. This includes 1) dropping euro-zone cases; 2) using fixed effects; 3) increasing number of observations dramatically by dropping two control variables; and 4) using additional covariates that might highlight dimensions of political regimes that are not captured by the Polity index such as exchange rate regimes, veto players, institutional quality, policy data transparency, level of financial development, and current account balance. In none of these alternative empirical scenarios, the benchmark result was meaningfully altered. Appendix A2 discusses this sensitivity analysis in a greater detail.

7. Conclusion

Does politics play a role in determining the volume of a country’s foreign exchange reserves? Although the ‘insurance’ argument, a supposedly dominant position in the literature on reserves, implies that democratic countries should be more inclined than autocratic ones to build up large reserves in the

age of financial uncertainty, such an intuition has rarely been subject to a thorough theoretical development, let alone systematic empirical investigations.

This paper fills this lacuna by studying the relationship between political regimes and reserve policies around the world. It reports that such a relationship is conditioned by the relative size of exporting sectors in the national economy. Given that autocratic regimes are concerned with serving particularistic interests of their elite allies, such regimes are likely to resort to weak (strong) currency policies resulting in significantly large (small) reserve stocks to benefit outwardly (inwardly) oriented business elites. Democratic regimes are limited in providing such private goods and, thus, their reserve stocks do not vary much along the size of exporting sectors.

The most notable contribution of this paper to the studies on reserves is that it is the first comprehensive and systematic attempt to theoretically synthesize, and empirically adjudicate, contending expectations about the political determinants of reserves. In particular, the findings of this paper adds an interesting nuance to the configuration of existing studies on reserves built primarily around the insurance and mercantilist arguments. The mercantilist argument has been put forth primarily by journalistic and policy-oriented accounts on woes over the large ‘war chest’ of China (e.g., Rickards 2011; Mbaye n.d.) as well as by the classical comparative political economy literature on developmental states (Amsden 1989). The international political economy literature drawing on the ‘open economy politics,’ on the contrary, seems to lean toward the insurance argument (Aizenman and Marion 2004; Leblang 2005; McGrath 2016) citing the increasing vulnerabilities of national economies to external financial conditions. These two seemed to be two entirely separate groups of thoughts given that they draw on completely different empirical strategies.⁷ While the former engages in in-depth case studies highlighting certain countries’ experiences in particular policy domains, the latter usually resorts to cross-national analyses tapping into generalizable characteristics of political regimes. The paper utilizes the empirical methods of the latter and offers findings closer to the former’s although it identifies under what conditions the mercantilist argument holds.

The paper also extends the purview of the studies on reserves in particular and those on exchange rates in general to the non-democratic cases. Despite notable exceptions in the recent years (e.g., Steinberg and Malhotra 2014), the great majority of systematic, cross-sectional political economy studies are focused on democratic political processes, leaving monetary policies of autocracies in the realm of qualitative case studies. Researchers had, for instance, little recourse to explaining why Latin American autocracies had very small reserve stocks while their counterparts in Asia had almost excessively large ones. The paper offers an analytical framework in which such an empirical question can be answered: while Asian dictators hoard reserves to provide competitive advantages to their highly outwardly-oriented allies, Latin American dictators drained reserves to cater to the interests of their protected, inwardly-oriented allies.

⁷One exception is Aizenman and Lee (2007).

Supplementary File: Online Appendix

A1. Summary Statistics

Table A1. Summary Statistics

A2. Sensitivity Analysis: Detail

Table A2. Robustness Check: Additional control variables

Table A3. Different Samples

A3. Not scaling the dependent variable

A4. Insurance Argument: Limited Evidence

Figure A1. Marginal Effect of Democracy Conditioned by the Number of Crises

A5. Full results for the tables discussed in the main text and appendix

Table A4. Scaled Reserve Variables

Table A5. Alternative Regime Variables

Table A6. Central Bank Independence

Table A7. Fixed and Random Effects

Table A8. Alternatives to export/GDP

Figure A2. Effects of Alternative Democracy Variables

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