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Abstract

In this paper we argue that democracies tend to run (larger)current account deficits than autocracies. Our argument is based on the different incentives faced by democratic and autocratic leaders. The main theoretical hypothesis are tested on a dataset that consists of 121 countries over the period 1980-2012, using five year averages and a fixed effects panel data model. The empirical findings suggest that autocracies run lower current account deficits than democracies. Special focus is given in the issue of endogeneity by estimating an IV Fixed Effects model, using as instruments of Democracy the share of Christian adherents in each country and also the level of democracy in neighboring countries. These results are found to be robust across alternative empirical specifications.

Keywords: Current Account, Democracy, Autocracy

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1. Introduction

There is a huge literature analyzing the determinants of current account imbalances (Chinn and Prasad,2003; Chinn and Ito, 2007; Imam, 2007; Endegnanew et al., 2012; Gruber and Kamin, 2005 etc). Most of these studies find that economic factors such as the net foreign asset position, the budget balance, the real effective exchange rate and the economic openness of the country affect the current account position. This literature however seems to ignore the political institutions that may shape the external balance of the economy. In the present paper we try to examine these forces, by establishing a link between current account deficits and the political regime type. Specifically we argue and empirically establish a relationship between the level of democracy and the current account deficit and show that more autocratic regimes deliver lower current account deficits than do democratic ones.

The effect of democracy on the external sector of the economy, has been a subject of research for a number of papers. For example Harms and Ursprung (2002), Adam and Filippaios (2007) and others, examine the effect of democracy on the flow of Foreign Direct Investments. The general finding is that democracy increases FDI as long as FDI are not targeted towards the extraction of natural resources (Asiedu and Lien, 2011). Similarly there is a vast literature which examines the effect of democracy on trade. For example Milner and Kubota (2005) and O'Rourke and Taylor (2006) find that democratization results into more liberal trade policies in countries where workers stand to gain from free trade. On the other hand Yu (2010), using a gravity model of trade find that democracy increases exports as it improves the quality of the exportables. This effect might dominate the negative effect of democracy on trade policies and overall it may be the case that democracy increases trade flows. The present paper is related to this literature, however it examines the effect of the political regime on the current account balance instead of focusing on just one of its components. To our knowledge this is the first paper that examines this relationship.

Since democracy affects the international flow of goods and capital it is natural to expect

that it will also affect the overall current account position. In Section 2 we justify theoretically our empirical model and derive our main testable hypothesis, i.e. that democracies tend to run (larger) current account deficits. Our arguments are as follows: Firstly, following Anderson(1988), we expect that dictators are immune from public pressures relatively to democratically elected politicians. Therefore they are more able to temporary increase taxes or reduce the government expenditures without facing severe opposition by the general public. This implies that current account consolidations are more easily achieved in an autocratic environment. Secondly, as autocracies tend to be less safe for foreign investment the supply of foreign capital will tend to be lower. And even when there is high capital inflow this can be rather threatening for the survival of the regime (Kalyvitis and Vlachaki, 2012): increased holdings of capital by foreigners will result into pressures on the dictator for democratization. Consequently, dictators that fear such foreign pressures will try to use policies that keep the current account balanced in order to decrease the reliance on net foreign assets. Finally, following Rodrik (1999) we expect democracies to pay higher wages than autocracies. This results into a real effective exchange rate appreciation and consequently higher current account deficits.

In order to examine empirically the above theoretical hypotheses and to establish a causal relationship between democracy and the current account balance we estimate a Fixed Effects panel model. Our sample consists of 121 countries over the period 1980-2012. All variables are expressed as five year averages in order to eliminate the effect of short run fluctuations, and examine the long run causal effects of the political regime. The dependent variable is the current account balance as percent of GDP and the rest of the explanatory variables are similar to Chinn and Prassad (2003). The main proxy of democracy is the Polity IV index of democracy, which provides the coding of the authority characteristics of states around the world and calculates various measures of how a country is governed from 1800 (or the year that the state gained its independence) onwards. To examine the robustness of our results

we also employ the Freedom House index of democracy, which provides an index of the civil and political freedoms allowed by the political regime. Our main finding is that autocracies run lower current account deficits than democracies.

To get a first insight about the relationship between current account deficits and democracy, we present Figure 1. This figure depicts the dynamics of the current account balance after an one (blue line) or two point (red line) increase in the Polity IV index. The figure indicates that after an increase in the level of democracy at time zero, there is an associated decline on the average, across countries, current account balance for up to ten years onwards. Even though the results of this graph are suggestive about an important negative effect of democracy on the current account balance, they do not capture the effect of other macroeconomic variables, or country specific fixed effects. Moreover the figure shows that the long run effect of a change in democracy is much larger than the short run one. For these reasons our empirical results rely on a Fixed Effects panel model on five year averages.

To further strengthen our results, we also provide a series of robustness checks in order to verify that the empirical results are robust to the country sample employed and the estimation method. As we are interested in the causal relationship between democracy and the current account balance we also perform an instrumental variable analysis so as to eliminate the existence of possible endogeneity. We use two instruments. Our first instrument is the share of Christian adherents in each country; according to Huntington (1993) Christianity played a key role on the democratization process during the previous years. This correlation is evident from just the simple correlation of the instrument with democracy (almost 50%). At the same time our data reveal a virtually zero correlation with the current account balance (correlation coefficient 0.001). Moreover following Persson and Tabellini (2009) we use the average weighted democracy index of each country's neighbors. Following the literature we expect a positive association between the Polity score of a country with its neighbors. This is consistent with the democratization waves theory of Huntington (1993) and the regional

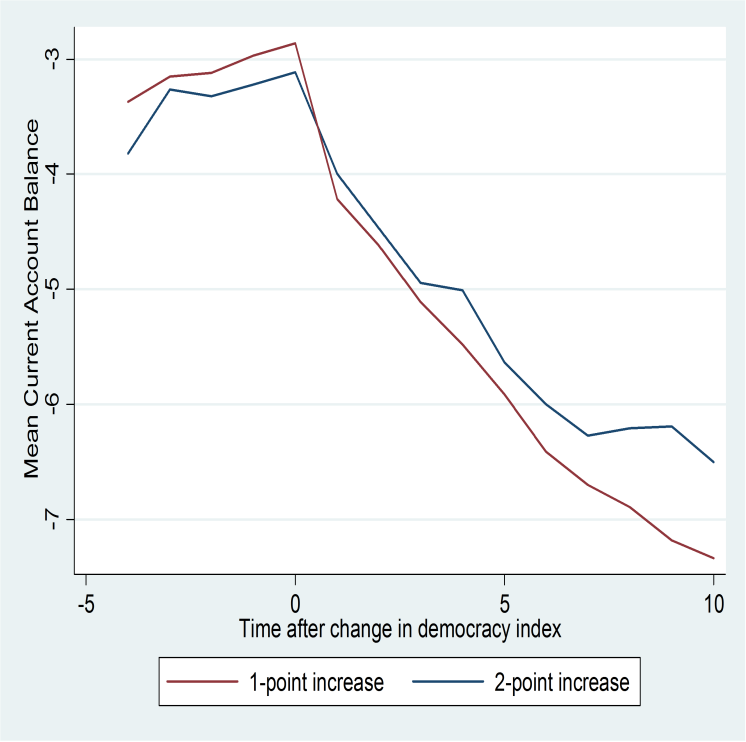

Figure 1: The effect of a change in democracy on the Current Account Balance

clusters of democracy and autocracy observed by Persson and Tabellini (2009).

The Instrumental Variables analysis verifies the negative relationship between Democracy and Current Account balance while in the first stage we find a positive relationship between Christianity, Regioanl Democracy and the Polity variable. At the same time all relevant test indicate that our instruments are valid. Furthermore a standard Durbin- Wu- Hausman test indicates weak evidence against the exogeneity of the democracy variable. We can therefore conclude that our results are robust. Finally, in the robustness section we perform a number of additional tests, which verify the theoretical channels through which democracy affect the current account balance.

The rest of the paper is structured as follows: in Section 2 we elaborate on our hypothesis that more autocratic regimes face lower current account deficits relatively to more democratic. In Section 3 we introduce the empirical methodology and the data. In Section 4 we present

our empirical results. In Section 5 we present the results of the instrumental variable analysis. Section 6 concludes.

2. Theoretical Framework

In this section we try to explore the channel via which democracy affects the current account balance. We also explain why autocracies tend to run lower current account deficits relatively to democracies.

According to Anderson(1989) autocracies are less sensitive to public pressures relative to democratic elected governments. Therefore they are more likely to follow unpopular policies compared to their democratic counterparts. Following the literature on the economics of dictatorship (e.g. Wintrobe, 1998, Acemoglu and Robinson, 2005) we conceive the dictator to be maximizing a weighted social utility function which places more weight to an elite. In contrast a democratic elected government, wishes to be re- elected and thus places more weight on the wishes of the majority of the population (Acemoglu and Robinson , 2005). The underlying mechanism behind this effect stems from the fact that the cost of overthrowing a government in a democracy is lower than the associated cost in an autocracy, as the cost of voting is lower than the cost of a revolution. [2] Therefore democratic governments face more constraints in their choice of policies. Similarly Brough and Kimenyi (1986), argue that the time horizon of a typical dictator is longer than that of a democratically elected politician. These effects have been verified in the empirical literature. For example Aidt and Jensen (2013) show that democratization leads to higher public spending. Similarly, Amin and Djankov (2014) show that authoritarian regimes may undertake reforms that are painful as they do not worry about the public opinion. This is consistent also with some

[2]This rests on the collective action problem introduced by Olson (1965) and extended by Tullock (1971) which applies it in revolution activities. If someone takes part in a revolution he faces a direct cost of effort. He also faces two indirect costs. The first one is the danger of taking part in illegal activities and the second is an opportunity cost as he does not work and takes part in the revolution (Acemoglu and Robinson, 2006).

historical accounts, as the case of the Ceausescu regime in 1985 Romania- where strong austerity measures were introduced in order to fully repay all external debt.[3]

The above imply that dictators can more easily impose the strict fiscal measures that a current consolidation requires. And even when currency depreciations are required in order to correct current account deficits, democratically elected governments also face huge losses in political support. According to Frankel (2005) , large currency depreciations are associated with loss of support to the government, and higher probability of losing the elections.

What this discussion reveals is the tendency of the democratically elected governments to avoid large current account consolidations and delay them until after the elections, or after a new party comes into power (Alesina and Drazen, 1991). In contrast there are no such motives for dictators: they can easily impose fiscal measures or allow a large currency depreciation. Therefore, current account imbalances are not expected to exist for a large period of time in autocracies, as they are corrected more easily than in democracies. In other words we expect democracies to run larger current account deficits than dictatorships.

And even though dictators can more easily correct current account imbalances, they have also more to fear from foreign indebtedness, either in the form of holdings of government bonds or more importantly foreign investment in the home economy. The accumulation of foreign assets leads to increased political power of the foreigners which hold these assets (see Kalyvitis and Vlachaki, 2011). Since typically democracies pressure autocracies in order to democratize (Levitsky and Way,2010), dictators will not fare well with this increase in foreign "power" within the country. And as long as they can correct external imbalances either through fiscal measures or currency depreciation, they would refrain from large and

[3]These measures included for example the full exporting of all Romania's agricultural goods, which of course led to huge decline in the standard of living of the whole population (Mungiu-Pippidi, 2001). In our sample the average current account balance over GDP for Romania before democratization run on 1.61%, implying a non negligible current account surplus. After the fall of communism and the democratization of the country the respective number to -6.12%. Even if we take the years after 2000, when democracy appears more consolidated, the average current account deficit in Romania is 1.41% of GDP.

extended current account imbalances which eventually lead to increases in foreign debt. But even if dictators have "nothing to fear" from the accumulation of foreign assets, it can be the case that sovereign lending markets imperfections may prevent domestic borrowing. In this case it is no the decision of the dictator not accumulate foreign debt, but the lower creditworthiness that constraints dictatorships from borrowing. Democracies tend to exhibit higher stability (see e.g. Feng , 1997), better protect property rights (see e.g.; Roe and Siegel, 2008 Acemoglu et al. [2]) and have more developed finanacial markets (e.g. Bhattacharyy, 1993). Democracies then are a safer place for foreign investment than dictatorships and are more able to attract foreign capital. For example, many foreigners want to invest in the United States, both in private capital markets and by buying government bonds, because they are safer than investing where property rights are poorly protected. In all cases the end result is the same, i.e. dictatorships will run lower current account deficits.

The above argument can be related to a long standing hypothesis that globalization promotes the diffusion of democratic ideas (Shumpeter,1950; Lipset, 1959; Kant, 1975 ; Hayek 1978). Recent evidence verify this relationship between openness and democracy, especially during the third wave of democratization (Papaioannou and Siourounis, 2008). According to this view, free trade and capital flows raise incomes and economic development, which in effect foster democratization by enhancing the efficiency of the resource allocation. Therefore there are reasons to expect that autocratic regimes will favor restrictions to trade and capital flows and lower exposure to the global markets.

Finally, Rodrik (1999) has shown that typically democracies pay higher wages than non-democracies. This occurs as in democracies, the bargaining power of workers is higher relatively to the associated bargaining power in autocracies. As a consequence, the prices of domestically produced products in democratic countries are higher resulting into a real effective exchange rate appreciation. This ultimately suggest that ceteris paribus it is expected that democracies will tend to have larger trade deficits.

All the above arguments point to the same theoretical hypothesis to be tested in the empirical section, i.e. democracies run higher current account deficits than autocracies. The sections that follow establish that this is indeed the case.

3. Data

Our sample consists of 121 countries over the 1980- 2012 period. All variables are expressed in five year averages in order to eliminate the effect of short run fluctuations. This sample of 121 countries, include all countries for which data are available, excluding countries with an average (over the whole period) population of less than 2 million. According to Endegnanew et al. (2012), micro-states display large changes in their current account balance which are not related to changes in economic policy but to the external environment, and thus their current account is affected by other variables than larger countries.

Our dependent variable is current account balance as percent of GDP ($cab_{i,t}$), as taken from the IMF's World Economic Outlook database.[4]

Our main variable of interest is the *Democracy* variable which captures the level of democracy in each country. This variable is taken from the Polity IV database. The Polity democracy index focuses on the institutional structure of the political regime. The variable *Democracy* takes values from -10 to 10. A score of *Democracy* equal to -10 (+10) indicates a strongly autocratic (democratic) state. According to Polity IV, a democratic state has three essential characteristics. First, the political participation is fully competitive; second, institutionalized constraints on executive power are present; and third, civil liberties are secured. In contrast, an absence of these three characteristics typifies an autocratic country. According to our theoretical priors set in the previous section, we expect the sign of this variable to be negative as we believe that more democratic countries tend to have higher current account deficits. To verify that our results are not driven by the choice of the

[4]Positive values of the variable imply current account surplus whereas negative ones imply deficit.

democracy index, we examine the robustness of our results when we use the the Gastil democracy index (Freedom House, 2015). The difference between the Polity and the Freedom House indices is that the latter places more emphasis on the political and civil liberties and, therefore, it defines democracy in a rather non-minimalist way.

To correctly specify our model we use a series of control variables consistent with the relevant literature (Chinn and Prassad 2003; Gruber and Kamin 2005; Chinn and Ito, 2007 ; Imam 2007 ;Endegnanew et al., 2012)

First of all, we use as proxy for the fiscal balance the *Cyclically Adjusted Budget Balance*.To this end we take the component of the Expenditure and Revenues (as percent of GDP) which are not explained by the growth rate of the economy or a time trend. These data are obtained from IMF's, World Economic Outlook. Then, our variable is defined as the ratio of the Change in Cyclically Adjusted Revenue (percent of GDP) minus the Change in the Cyclically Adjusted Expenditure (percent of GDP). According to Endegnanew et al.(2012) cyclical adjusted values are included in order to eliminate the common reaction to the business cycle. Following the twin deficits hypothesis we expect the sign of this variable to be positive.

As the *Net Foreign Asset* position is the accumulation of past current account balances, we expect this variable to affect the current account position (Gruber and Kamin,2005), even though the sign of the variable is a- priori ambiguous. Economies with high Net Foreign Assets can afford to run trade deficits longer which leads to lower current account balances. On the other hand, a positive relationship may exist as higher Net Foreign Assets lead to higher net income flows (Imam, 2008). The variable is expressed as a share of GDP and is taken from the World Bank.

Following Masson et al.(1998), and according to the standard life cycle model of savings, we expect an increase in the share of the youth and elderly population dependency ratio to lead to a ceteris paribus decrease on private savings. Therefore we use the *Dependency Ratio*

which is the proportion of the population less than 18 years old plus population aged above 65 to total population. So we expect the sign of this variable to be negative as a reduction in private saving reduces the current account balance.

As oil-exporting countries generally run large current account surpluses and accumulate foreign assets during the extractive stage in order to smooth consumption once the non-renewable resources have been exhausted (Adam and Moutos, 2015), we introduce the variable *Oil Rents* which measures the difference between the value of crude oil production at world prices and the total costs of production as a share of GDP. We expect the sign to be positive.[5] Following Chinn and Prasad(2003), we use the variable $Openness\,to\,Trade$, defined as imports plus exports over GDP. This variable captures the fact that more open economies have the capacity to service external debt. This happens as they can easily generate foreign exchange earnings through exports. This leads to a higher current account balance. So we expect the sign of this variable to be positive. The last three variables are taken from World Bank's World Development Indicators Database.

We also use a proxy for financial development by using the variable$Private\,Credit$ as % of GDP (also taken by World Bank's World Development Indicators Database) as a deviation of the world's average, as in Chinn and Ito (2007). The expected sign of this variable depends on whether the "saving glut" or the "financial deepening" hypothesis holds. [6] A positive relationship between private credit and the current account balance implies that the "financial deepening" hypothesis is correct. This happens as higher financial deepening, in the form of increased provision of financial services or increased money supply, induces

[5]Since we found *Oil Rents* to be highly correlated with *Democracy*, we made the two variables orthogonal by regressing *Democracy* on the share of Oil Rents to GDP and use the residuals as the variable *Oil Rents*.(For the relationship between Oil endowments and dictatorship see also Crespo et al. (2011).

[6]According to Chinn and Ito (2007) "A global saving glut argument views excess saving from Asian emerging market countries, driven by rising saving and collapsing investment in the aftermath of the financial crisis (and to a lesser extent Europe), as the cause of the U.S. current account deficit..." (Chinn and Ito, 2007, page 248).The financial deepening hypothesis on the other hand suggests that financial development leads to higher investment and thus lower current account deficit.

higher saving which eventually lead to current account surpluses. On the other hand a negative relationship implies that the "saving glut" hypothesis, which states that current account imbalances are the outcome of excessive surpluses from oil exporting countries or savings from emerging market countries in the aftermath of financial crises, holds (Chinn and Ito, 2007).

To control for changes in the price competitiveness vis-à-vis the rest of the world, we use the logarithm of the $Real\,Effective\,Exchange\,Rate$ (as in Endegnanew et al.,2012). The sign of this variable is expected to be negative, as an increase in the real effective exchange rate implies a real depreciation which is expected to improve external balance. Similarly we include the $Real\,Effective\,Exchange\,RateVolatility$, which is the 5- year standard deviation in the $Real\,Effective\,Exchange\,Rate$. Higher volatility might lead agents to save more for precautionary reasons and also might lead economies to experience low investment. So we expect a negative relationship between real effective exchange rate volatility and current account balance. The real effective exchange rate data are taken from Darvas(2012).

To take into account the level of development of each country we use the Relative Real GDP per capita of each country to the Average World real GDP per capita($Relative\,Income$). Standard neoclassical theory suggests that as long as capital is expected to flow from rich to poor countries, there must be a positive association between the current account balance and the relative income. However according to the "stages of development hypothesis" countries that move from a low to an intermediate level of development import capital and run current account deficits. Then after reaching a threshold level of development they become net capital exporters, and run current account surpluses (Chinn and Ito, 2007). According to this view we can expect a U shaped relationship- or even a negative relationship- between $cab_{i,t}$and relative income.[7] Similarly, we include the $Growth\,Rate$of the real GDP per capita

[7]In the tables that follow we present the results of a linear effect of relative income on $cab_{i,t}$. We have estimated the same model with a squared term and found that the non- linear effect turned out statistically insignificant. As this does not affect our main results we opted for a linear specification regarding the relative

as we believe that higher growth rates may result into expectations for higher future income, which in turn raises current consumption and thus leads to a reduction to the current account balance.

Finally we proxy for financial openness using the variable constructed by Chinn and Prassad (2001), which measures *Financial Openness*. Lower capital openness can have two opposite effects: limited access to international capital may lead to lower current account deficits. On the other hand however, restrictions to the flow of capital would reflect attempts to stave off the consequences of a legacy of chronic current deficits. The variable is taken from Chinn and Ito (2015)

Table 1 presents the analytical description of our data, data sources, the summary statistics and also expected signs of all of our variables.

[Insert table 1 here]

The baseline specification used to study the relationship between current account balance and the political regime has the following form:

$$cab_{i,t} = aconstant + a_i + \lambda_t + b_1 polity_{i,t} + b_2 nfa_{i,t} + b_3 cyclbb_{i,t} + b_4 dependency_{i,t} + b_5 growth_{i,t} + b_6 oilrents_{i,t} + b_7 openness_{i,t} + b_8 pcredit_{i,t} + b_9 reervol_{i,t} + b_{10} reer_{i,t} + b_{11} income_{i,t} + b_{12} kaopen_{i,t} + u_{i,t} \quad (1)$$

where, *cab* is the current account balance of country i at time t, *polity* is the democracy measure, nfa is the net foreign assets position, *dependency* is the dependency ratio, *growth* is the growth rate, *openness* is the openness to trade, *oilrents* is the amount of oil rents, *pcredit* is the private credit as percent of GDP, *reervol* is the real effective exchange rate volatility, *reer* is the log of real effective exchange rate, *income* is the relative income and *kaopen* is the financial openness.The terms $a_i and \lambda_t$denote the country fixed effects and the time fixed effects respectively. So as to be sure that we estimated the correct model, we

income variable.

also estimate a random effects model and apply a standard Hausman test which showed that the correct specification is the Fixed Effects model.[8] We also test whether the time effects are significant by an F test and find that the best model is with the one with time effects. Therefore our baseline model is a Fixed Effects with country and time effects. Finally as our interest lies more of the medium to long run determinants of current account balances,we estimate the model using five year averages as in Chinn and Ito (2008).

4. Empirical Results

We start by estimating equation (1), using the data and the empirical methodology outlined in the previous section. The results are reported in Table 2.

Column (1) presents the baseline specification, where we estimate a panel data equation with time and country fixed effects. As we can see the political regime has a strong negative relationship with current account balance. This verifies our theoretical priors, i.e. democracies tend to run higher current account deficits. Also, the coefficient of the variable suggests that the quantitative effect of democracy on the current account balance in non- negligible: an one standard deviation increase in *Democracy*,[9] is associated with a 3% point decline in the current account balance.

[Insert table 2 here]

Regarding the rest of the control variables, Private Credit (% of GDP) has also a negative relationship and statistically significant effect on current account balance. This is consistent with the saving glut hypothesis (Chinn and Ito, 2007) as highlighted in the previous section. Similarly the Real Effective Exchange Rate has a significant negative effect on the current account balance at the 10% level of statistical significance- suggesting that an increase in real

[8] The Hausman for Fixed versus Random Effects is given in the last line of Table 2. The Random Effects model is clearly rejected in favor of the Fixed Effects model.

[9] Which in our sample is equal to 6.6

effective exchange rate makes imports more expensive and exports cheaper and thus exerting a negative effect on the current account balance. *Oil Rents* also enter with an expected positive and statistically significant sign (at the 1% level of significance), which suggests that oil producing countries tend to run higher current account surpluses. This latter effect is quite large in size as an 1% increase in the oil rents is associated with an 1% higher current account balance.

Relative income appears to have a negative effect on current account balance. This effect is consistent with the stages of development hypothesis. However as this effect is rather small quantitatively, i.e. an 1% increase in the relative income for the country results in a 0.04% reduction in the current account balance and not consistently significant in all estimations, we cannot place much confidence in the result. Finally the budget balance has a strong positive effect on current account balance. This is consistent with a large number of papers (see for example Bussiere and Fratzscher(2006);Ca' Zorzi and Rubaszek(2008)) which find a positive association between current account balance and fiscal balance. As budget deficits redistribute income from future to current generations therefore resulting into capital inflows and current account deficits (Obstfeld and Rogoff, 1994).

The rest of the variables are found to be statistically insignificant. However with the exception of the variables *Openness to Trade* and *Real Exchange Rate Volatility* these variables have the expected signs.

In columns (2) to (5) of table 2 we re-estimate the baseline equation presented in column (1): (i) without time effects (column 2), (ii) assuming Random Effects (column 3), (iii) using a simple OLS (column 4) with time effects, (iv) with OLS without time effects (column 5).[10] In all cases the effect of *Democracy* on the current account balance remains negative and statistically significant (at least in the 10% level of statistical significance). With respect to

[10]We have also estimated our baseline model in an annual dataset and found the same effect of polity to the 1% level of statistical significance. These results are available from the authors.

the rest of the variables the only important changes are in the *Private Credit of GDP*and *Relative Income*, which both change signs and remain statistically significant. The literature so far has for both variables inconclusive results. What we find here is that the empirical result is heavily Dependent on the estimation method. However since the Fixed Effects model is (i) the correctly specified model according to the specification tests and (ii) the Fixed Effects model by estimating the within variation in the data captures the causal relationship between the independent and dependent variables (1) , we place more faith on the results of column (1).

To further explore the robustness of our results, in Table 3 we re-estimate the baseline Fixed Effects equation by excluding countries that are a- priori expected to potentially affect our main finding.

[Insert table 3 here]

In columns (1) to (3) we examine whether the effect of the regime on current account is driven by the extreme values of *Democracy* in our sample. So in column (1) we estimate our baseline equation by excluding from our sample countries that achieve a Polity IV score of 10 or below -9. We do so since these are the extreme values of the *Democracy* index in our sample.[11] In column (2) we exclude only countries where their Polity IV score takes the minimum value, i.e. -9 and finally in column (3) we exclude countries which achieve the maximum Polity IV score, i.e. 10. As we can observe our main variable of interest remains negative and statistically significant to the 1% level of statistical significance. Moreover most of the variables retain their sign and significance, with the exception of the real effective exchange rate and relative income variables which become insignificant. [12]

In column (4) we estimate our model by excluding the richest and the poorest countries. Specifically, we exclude countries with GDP per capita at the lowest and highest 10% (column

[11]There are no instances of countries with a polity score equal to -10.
[12]This may be attributed to the significant decline in the observations.

4) and 5% (column 5) in the sample. The reason we do this is that we want to reject the probability that extreme values of GDP drive the result of the regime type on current account balance. As we can observe *Democracy* remains statistically significant to the 1% level , which implies that our relationship is very strong. The other variables have similar signs as in our baseline model except from slight differences which may occur because of the change in observations. Finally, in column (6) we exclude countries which where communist and democratized. We believe that in these countries current account deficits are a result of huge amounts of infrastructure investment and private consumption that was needed to be financed using foreign funds and goods. So , we want to be sure that our results are not driven by those countries. It is obvious in column 6 that this does not happen. The coefficient of democracy remains statistically significant to the 1% level.

In Table 4 we re-estimate our model by using additional control variables. In column (1) we use the Freedom House index as proxy for democracy. We do that so as to ensure that the effect of the regime type on current account balance is not related with a specific variable that captures democracy (in this case Polity IV) but remains if we use other measures of democracy. As we can see, the effect of democracy is again statistically significant to the 1% level and all the other variables have similar coefficients and same signs as in our baseline model[13]

[Insert table 4 here]

In columns (2) to (5) we re-estimate our model by using additional control variables. In column (2) we replace the real effective exchange rate volatility with terms of trade volatility and in column (3) we estimate our model by using log GDP per capita instead of relative income. In column (4) we use the debt as percent of GDP instead of cyclically adjusted fiscal

[13]The only exception to the above statement being the variables which measure the Real Effective Exchange Rate and the Private Credit as % of GDP.

balance. Finally in column (5) we exclude from our sample all the oil exporting countries. As we discussed earlier, the oil exporting economies face high current account surpluses and accumulate foreign assets during the extractive stage in order to smooth consumption once the non-renewable resources have been exhausted. For these economies the evolution of the current account — in addition to being affected by oil prices – may be affected by intended fluctuations in their production in order to stabilize the global oil market rather than any particular concern on their external position (IMF, 2013). Furthermore oil exporting countries may face the effect of the natural resource curse, which is associated with weak institutions and excessive rent seeking (Torvik(2006), Robinson et al.(2006)). Therefore one can claim that our results may be driven by this effect. As we can observe, this is not the case.[14] In all five columns the effect of the political regime on current account balance remains significant at the 1% level.

A final robustness analysis is presented in Table 5, where we have performed a Jackknife analysis (Efron and Tibshirani, 1994). This method involves estimating the initial equation by excluding in each replication one cross sectional unit (country). In Table 5 we report the maximum and the minimum estimated coefficients, as well as the excluded countries that exert this extreme identified impact. Comparing these coefficients with the ones presented in Table 2 we can conclude that our results are robust to the exclusion of particular countries.

[Insert Table 5 here]

As the reader can easily verify the effect of *Democracy* on the current account balance, is not sensitive to the exclusion of a particular country from the sample, as the coefficient ranges from a -0.70 (with the exclusion of Indonesia) to -0.60 (with the exclusion of Sudan). These two values are within the confidence interval of the baseline results (column (1)- Table2). Furthermore the variables that were found to be significant in the baseline model,

[14] Although the coefficient is half in size, we can't reject the hypothesis that the two coefficients are not equal because the estimated confidence intervals are overlapping.

do not change signs in the Jackknife estimation. It is interesting also to note that the variable *Real Exchange Rate Volatility* with the exclusion of Ghana from the sample, becomes marginally statistically significant and correctly signed- in contrast to the baseline results.

5. Instrumental Variables Analysis

In order to ensure that our results are not driven by endogeneity, in this section we employ an instrumental variable analysis. Endogeneity can be an important issue as it is possible that higher exposure to international markets, which may be associated with increased current account deficits, may also lead to greater democracy. In other words it may argued that the correlation outlined in the previous section is not the outcome of a causal relationship but the outcome of another variable that affects Democracy and the Current Account Balance alike. Endogeneity among the variables may render all our previous results invalid. To avoid this possibility we resort to instrumental variables analysis.

To determine our instrument we follow Huntington (1993), who argues that Christianity was a key factor in the democratization process, as the clergy played an important role against authoritarian regimes. According to his historical account, in many countries Christian leaders encouraged coups against authoritarian regimes during the second and the third wave of democratization. This is attributed to the esoteric democratic message provided by Christianity and the fact that in most cases the Christian church- at least in the period under consideration which spans from 1945 onward- had a more distinct role from the state. Additionally Huntington pointed to the fact the Protestant church played a key role in the democratization process, as its structure is more democratically organized and thus has a natural tendency to promote the democratic structure of governance.

Following the above discussion, our main instrument is the share of all Christian adherents to Total Adherents. The variable is taken from the cross country World Religion Data

set.[15] The World Religion Dataset provides data on religious adherence worldwide from 1945 onwards. The dataset first creates a detailed religion tree, which classifies all religions and religious families. It then uses census data or data from specific sources in order consistently compute the total number of adherents in each religious family for each country (see Maoz and Henderson, 2013for more details).The correlation of this variable with *Democracy*- is close to 50%. Interestingly enough the share of Christian adherents has a 0.01 correlation coefficient with the current account balance. Therefore a- priori it appears as a valid instrument.

Also, according to Huntington (1993) and the "democratization in waves" concept as well as Persson and Tabellini (2009) and the "foreign democratic capital" theory, we also use the level of democracy of the "neighbors" of each country as an instrument , in each year. Both theories suggest that there is a strong positive correlation between the polity in a country and the polity in its neighbors. Therefore we construct a variable as follows:

$$Z_{i,t} = \frac{\sum_{j \neq i} W_{ij} D_{jt}}{\sum_{j \neq i} W_{ij}}$$

where $W_{ij}$is the inverse distance in kilometers of capital cities of countries i and j and $D_{jt}$is the measure as determined by the polity score of country j at time t.

As final instrument we use the lagged values of *Democracy*. Furthermore, we experiment with the share of non-religious adherents- to verify the robustness of our results.[16]

Table 6 presents the results from the IV estimations. In column 1 the only instrument is the share of Christians in the country. As we can easily observe in the first stage this variable has a positive effect on *Democracy* which is consistent with the above theoretical reasoning. What is more interesting is the fact that in the second stage regression, the effect of *Democracy* remains negative and statistically significant to the 1% level of statistical

[15] As available online on http://www.thearda.com/Archive/Files/Descriptions/WRDNATL.asp

[16] We have examined other instruments along the same line as well, for example the share of protestants, share of Jewdish adherents etc. In all cases the correlation coefficient with *Democracy*was rather lower than the instruments used here. More importantly all tests for the validity of instruments rejected the use of this latter set of isntruments.

significance. Moreover the instruments used are found statistically significant at the first stage, and we cannot reject the over identifying restrictions. This leads us to conclude that the instruments used are valid. Finally note that even though the Durbin- Wu-Hausman test provides evidence of endogeneity only at the 5% level of significance, suggesting that even though there are valid reasons to argue for a reverse causality among *Democracy* and the current account balance, there are not conclusive (statistical) evidence to reject the simple Fixed Effects model of the previous section.

[Insert Table 6 here]

In the rest of the columns in Table 6, we examine the robustness of the IV regression by experimenting with additional instruments. Firstly in column (2) we add the lagged *Democracy* variable, then in column (3) we use the share of Christians, the lagged democracy and the democracy in neighoring countries as instruments, in column (4) our instruments are the lagged and the democracy of neighboring countries and finally in column (5) we do the same as in column (4) but we also use the share of non-religious adherents as an instrument.

The results, suggest that the instrumental variable analysis we perform is robust and give us strong empirical evidence that the relationship between the politica regime and the current account balance of a county are indeed associated. More specific, in column (2) we add the lagged variables of the democracy. The sing of this variable to the first stage is positive and statistically significant to the 1% as we expected and second stage gives us a statistically signficant and negative relationship between the regime type and the current account balance. In column (3) it is obvious from the first stage that the democracy of the neighboring countries affects positively the level of democracy of a country. This is consistent with the theory that suggests, that a country's level of democracy depends on the level of democracy of its neighbors. What we care about is the second stage and the relationship between democracy and the current account balance. As we can observe, although we used

an additional instrument and not only the level of christianity, our negative relationship remains strong at the 1% level of statistical significance. Furthermore, in column (4), we exclude the share of Cristians and our two instruments are only the lagged democracy and the democracy of the neighboring countries. We do that in order to ensure that it is not the share of christians the instrument that drives our result. It is clear that the latter does not happen. As we can observe, the strong relationship between the level of democracy and the current account balance remains significant to the 1% level with the coefficents of both models to be similar.

Finally in column (5) we do a placebo test on our instrumental variable analysis by using as an instrument a variable that is not expected to be correlated with the polity2 variable. This is the share of non religious adeherents. As column (5) indicates this instrument is no longer significant in the first stage regression. However, the rest of our instruments are statistically significant and in the second stage the negative relationship between democracy and current account balance remains significant.

Our finding from the instrumental variable analysis is that the main results of our empirical section remain: there is a clear negative and statistically significant negative relationship between *Democracy* and the current account balance. Last but not least, the validity of our instruments is strong as the latter are not rejected as valid instruments from our formal tests.[17]

6. Conclusions

In this paper we examined the effect of democracy on current account balance. Our findings suggest that democracies tend to run higher current account deficits than autocracies. These results were found to be robust across alternative specifications. This negative rela-

[17]The Cragg Donald test suggests that all our instruments are strong and also F test indicates that our iv model is not weak identified.

tionship was justified on theoretical grounds. Firstly autocratic regimes want to be insulated by the political pressures of foreigners which may hold net foreign assets in their country. Secondly, as globalization is associated positively with democracy and current account deficits, dictatorships which are more closed run lower deficits. Moreover current account consolidations are more easily achieved in an autocratic environment, as dictators face lower political pressures in imposing austerity measures. Finally as in democracies wages are higher relatively to autocracies, imports are higher too and thus current account deficits are higher.

Our analysis points to the severe policy constraints that current account adjustments face. Since democracies tend to have lower current account balances, there are two important conclusions to be drawn. Firstly, democratic countries are more prone than autocracies to face severe problems in servicing the deficits in their external sector. And this always comes with a severe political cost. For example (Frankel 2005) and Borensztein and Panizza (2008) show that current account problems may have severe political repercussions, by leading to changes in the government and increase in political unrest. Then this may point to an endogenous problems faced by democracies, by following policies that by themselves undermine the whole political structure of the country. The second policy conclusion to be drawn is that current account adjustments in democracies may be more difficult to implement and ultimately to be sustained in the long run. Therefore any current account adjustment program, either designed by local governments, or international intergovernmental institutions, must always take into account the political framework within which the problem must be tackled with.

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TABLE 1: Descriptive Statistics

Variable	Description	mean	Standard Deviation	Source	Expected Sign
Democracy	Proxy,for Democracy takes values from -10(full autocracy) to 10(full democracy)	2.20	6.97	Polity Project	(-)
Cyclically Adjusted Fiscal Balance	Policy induced changes in fiscal balance calculated as in Blachard (1990).	-0.10	2.72	World Bank Development Indicators	(+)
Net Foreign Assets	Assets held by foreigners in the domestic economy.	0.12	0.72	World Bank Development Indicators	ambiguous
Dependency Ratio	People younger than 15 or oder than 64 to the working age population	0.86	0.30	World Bank Development Indicators	(+)
Oil Rents	Measures the Rents a country recieves from oil production	0.46	0.30	World Bank Development Indicators	(+)
Openness to Trade	Imports+Exports as percent of GDP	83.30	48.67	World Bank Development Indicators	(-)
Financial openness	Index variable that codifies restrictions on cross-border financial transactions. Higher values denote more financial openness	0.07	1.46	Chinn and Ito 2007	ambiguous
Private Credit as percent of Gdp	Private banks credit to the private sector as percent of GDP as a deviation from the world average	43.41	43.45	Beck et al.	ambiguous
Real Effective Exchange Rate	Real value of a countrys currency against the value of a basket of the trading partners of the country currencies.	4.66	0.40	Darvas 2012	(-)
Real Effective Exchange Rate Volatility	3 year Moving Standard Deviation of REER.	29.17	421.30	Darvas 2012	(-)
Relative Income	real GDP of country i to a world weighted average real GDP	28.31	25.40	World Economic Outlook	(+)
Growth	Growth Rate	1.8	4.40	World Economic Outlook	(-)

TABLE 2: Baseline Estimations

	(1) Baseline	(2) No Time Effects	(3) Random Effects	(4) OLS	(5) OLS No Time Effects
Democracy	-0.660***	-0.556***	-0.161**	-0.112*	-0.125*
	(-5.57)	(-5.11)	(-2.25)	(-1.69)	(-1.87)
Cyclically Adjusted Budget Balance	0.483***	0.534***	0.602***	0.645***	0.597***
	(3.02)	(3.37)	(3.75)	(3.13)	(2.89)
Net Foreign Assets	1.689	2.152	4.171***	6.688***	7.045***
	(1.02)	(1.24)	(2.93)	(4.49)	(4.64)
Dependency Ratio	-0.194	0.510	-0.404	-1.877*	-1.440
	(-0.17)	(0.52)	(-0.38)	(-1.88)	(-1.45)
Growth Rate	-0.259	-0.232	-0.208	-0.247*	-0.293**
	(-1.50)	(-1.49)	(-1.50)	(-1.68)	(-2.01)
Oilrents	0.931***	0.923***	0.432***	0.381***	0.365***
	(5.66)	(5.91)	(5.67)	(6.99)	(6.82)
Openness to Trade	-0.0305	-0.0243	0.000210	0.0103	0.00701
	(-1.05)	(-0.87)	(0.01)	(1.14)	(0.77)
Private Credit of GDP	-0.0326**	-0.0180*	0.0197**	0.0438***	0.0394***
	(-2.30)	(-1.67)	(2.08)	(5.95)	(5.60)
Real Effective Exchange Rate Volatility	0.00439	0.00692	0.0124	-0.00362	0.00227
	(0.27)	(0.44)	(0.84)	(-0.23)	(0.15)
Real Effective Exchange Rate	-2.756*	-4.074***	-2.789**	0.601	0.151
	(-1.72)	(-2.99)	(-2.42)	(0.50)	(0.13)
Relative Income	-0.0391*	-0.0276*	0.00305	0.0148	0.0322***
	(-1.83)	(-1.89)	(0.25)	(1.08)	(2.85)
Financial Openness	-0.312	0.162	0.296	0.267	0.240
	(-0.69)	(0.39)	(0.88)	(1.02)	(0.94)
Observations	494	494	494	494	494
r2	0.326	0.295	0.345	0.412	0.399
F	8.470	5.496		11.37	15.73
F-test Country Effects	5.91	5.80			
F-test Time Effects	3.80			2.43	
Hausman Test(FE versus RE)	61.00				

clustered t- statistics in parentheses. F-test country and time effects denote F-test for statistical signifficance of fixed country and time effects.* p<0.10, ** p<0.05, *** p<0.01

TABLE 3: Sensitivity Analysis

	(1)	(2)	(3)	(4)	(5)	(6)
	Polity>-9&<10	Polity>-9	Polity<10	Exclude Richest and Poorest 10%	Exclude Richest and Poorest 5%	Exclude Communist
Democracy	-0.585***	-0.634***	-0.597***	-0.511***	-0.639***	-0.591***
	(-4.47)	(-5.20)	(-4.72)	(-3.41)	(-4.90)	(-4.91)
Cyclically Adjusted Budget Balance	0.753***	0.525***	0.677***	0.398**	0.604***	0.542***
	(3.50)	(3.08)	(3.37)	(2.51)	(3.42)	(3.18)
Net Foreign Assets	-0.328	1.868	-0.439	0.971	2.379*	0.999
	(-0.15)	(1.08)	(-0.21)	(0.51)	(1.72)	(0.56)
Dependency Ratio	0.415	0.267	-0.350	0.292	-0.428	0.178
	(0.32)	(0.24)	(-0.26)	(0.21)	(-0.37)	(0.17)
Growth Rate	-0.331*	-0.341*	-0.238	-0.253	-0.237	-0.370*
	(-1.71)	(-1.98)	(-1.22)	(-1.25)	(-1.19)	(-1.91)
Oilrents	0.979***	0.962***	0.949***	0.785***	0.874***	0.944*
	(5.33)	(5.38)	(5.56)	(4.45)	(5.04)	(5.86)
Openness to Trade	-0.0415	-0.0239	-0.0506	-0.0399	-0.0361	-0.006
	(-1.22)	(-0.85)	(-1.45)	(-0.94)	(-1.10)	(0.25)
Private Credit of GDP	-0.0593**	-0.0369**	-0.0497*	-0.0649***	-0.0622***	-0.031**
	(-2.10)	(-2.49)	(-1.85)	(-3.81)	(-4.11)	(-2.13)
Real Effective Exchange Rate Volatility	-0.0104	-0.00450	-0.00133	-0.116*	0.00257	0.002
	(-0.72)	(-0.29)	(-0.09)	(-1.73)	(0.16)	(0.02)
Real Effective Exchange Rate	-0.377	-0.736	-2.900*	-4.102**	-2.308	-1.43
	(-0.16)	(-0.37)	(-1.79)	(-2.39)	(-1.37)	(-0.63)
Relative Income	-0.0443	-0.0354	-0.0504	-0.0357	-0.0305	-0.022
	(-1.32)	(-1.60)	(-1.55)	(-1.00)	(-1.07)	(-1.29)
Financial Openness	-0.219	-0.445	-0.0831	-0.673	-0.298	-0.602
	(-0.34)	(-0.95)	(-0.14)	(-1.20)	(-0.58)	(-1.27)
Observations	351	479	366	340	438	422
r2	0.368	0.323	0.367	0.386	0.353	0.360
F	5.841	7.394	7.022	7.535	8.014	8.70
Ftest Country Effects	5.46	5.92	5.42	5.08	5.53	6.82
Ftest Time Effects	2.54	4.53	1.80	2.64	3.51	4.17

clustered t- statistics in parentheses

* p<0.10, ** p<0.05, *** p<0.01

TABLE 4: Sensitivity Analysis

	(1) Freedom House Democracy	(2) Terms of Trade Volatility	(3) GDP per Capita	(4) Fiscal Balance	(5) Oil
Freedom House	-13.37***				
	(-4.35)				
Cyclically Adjusted Budget Balance	0.502***	0.500**	0.467***		0.351
	(3.12)	(2.60)	(2.80)		(1.408)
Net Foreign Assets	1.187	1.127	1.223	0.898	-1.265
	(0.69)	(0.62)	(0.67)	(0.55)	(-0.388)
Dependency Ratio	-0.487	-1.065	-0.231	-0.429	-0.357
	(-0.41)	(-0.96)	(-0.23)	(-0.36)	(-0.34)
Growth Rate	-0.232	-0.239	-0.322*	-0.188	0.009
	(-1.34)	(-1.35)	(-1.84)	(-1.00)	(0.058)
Oilrents	0.832***	0.905***	0.946***	0.955***	0.954***
	(5.20)	(4.28)	(5.74)	(6.52)	(4.35)
Openness to Trade	-0.0273	-0.0230	-0.0310	-0.0295	0.026
	(-0.96)	(-0.77)	(-1.06)	(-0.92)	(0.785)
Private Credit of GDP	-0.0229	-0.0312**	-0.0391***	-0.0361**	-0.006
	(-1.65)	(-2.29)	(-2.69)	(-2.41)	(-0.225)
Real Effective Exchange Rate Volatility	0.00410		0.00571	-0.134**	0.072
	(0.25)		(0.40)	(-2.02)	(0.735)
Real Effective Exchange Rate	-2.784	-4.126**	-2.689*	-3.373*	-2.509
	(-1.53)	(-2.23)	(-1.66)	(-1.88)	(-1.390)
Relative Income	-0.0405*	-0.0485**		-0.0496**	-0.062**
	(-1.90)	(-2.15)		(-2.01)	(-2.184)
Financial Openness	-0.319	-0.257	-0.417	-0.130	0.148
	(-0.72)	(-0.55)	(-1.01)	(-0.24)	(0.252)
Democracy		-0.594***	-0.639***	-0.668***	-0.257**
		(-4.72)	(-5.26)	(-4.16)	(-2.266)
terms of trade volatility		-8.57e-14			-7.45e-14
		(-1.16)			(-1.41)
Gdp Per Capita			2.168		2.221
			(1.54)		(1.52)
Fiscal Balance				0.00587	0.00476
				(0.44)	(0.25)
Observations	490	451	490	445	229
r2	0.311	0.323	0.329	0.359	0.273
F	7.954	.	8.407	8.977	5.15
Ftest Country Effects	5.73	6.07	5.50	5.91	8.00
Ftest Time Effects	2.90	4.27	4.28	3.42	4.31

clustered t- statistics in parentheses

* p<0.10, ** p<0.05, *** p<0.01

TABLE 5: Jackknife Estimation

	Country	Min Coef.	Country	Max Coef.
Democracy	Indonesia	-0.70***	Sudan	-0.60***
Cyclically Adjusted Fiscal Balance	Sudan	0.38***	Ireland	0.55***
Net Foreign Assets	Ghana	1.03	Liberia	3.07***
Dependency Ratio	Jamaica	-0.63***	Azerbaijan	0.30
Growth Rate	Paraguay	-0.33*	Chile	-1.68
Oil Rents	Sudan	0.83***	Nigeria	0.99***
Openness to Trade	Ireland	-0.40***	Azerbaijan	-0.02
Private Credit as Percent of GDP	Israel	-0.04	Portugal	-0.03**
Real Effective Exchange Rate Volatility	Ghana	-0.10*	Sudan	0.13
Real Effective Exchange Rate	Ghana	-3.55**	Uzbekistan	-1.22
Relative Income	Ghana	-0.49**	Azerbaijan	-0.24
Financial Openness	Azerbaijan	-0.46	Malaysia	-0.07

* p<0.10, ** p<0.05, *** p<0.01

TABLE 6: IV Regressions

	(1) Instr.Christians	(2) Instr. Christians Democracy(-1)	(3) Instr.Democracy(-1) Christians Neighboor Democracy	(4) Instr. Democracy (-1) Neighboor Democracy	(5) Instr. NonReligious Democracy(-1) Neighboor Democracy
Democracy	-1.656***	-1.427***	-1.288***	-1.298***	-1.268***
	(-3.11)	(-3.64)	(-3.58)	(-3.50)	(-3.48)
Cyclically Adjusted Budget	0.406***	0.411***	0.427***	0.426***	0.428***
Balance	(2.67)	(2.87)	(3.01)	(3.00)	(3.02)
Net Foreign Assets	2.712*	1.466	2.543*	2.545*	2.538*
	(1.89)	(1.03)	(1.94)	(1.94)	(1.94)
Dependency Ratio	-0.922	-0.498	-0.362	-0.366	-0.354
	(-0.85)	(-0.47)	(-0.34)	(-0.35)	(-0.34)
Growth Rate	-0.207	-0.299*	-0.294*	-0.294*	-0.293*
	(-1.19)	(-1.68)	(-1.66)	(-1.66)	(-1.66)
Oil rents	1.138***	1.058***	1.042***	1.044***	1.038***
	(4.99)	(5.21)	(5.16)	(5.17)	(5.14)
Openness to trade	-0.0247	-0.0308	-0.0323	-0.0324	-0.0323
	(-0.96)	(-1.21)	(-1.25)	(-1.25)	(-1.25)
Private credit	-0.0323**	-0.0511***	-0.0471***	-0.0473***	-0.0467***
as percent of gdp	(-2.23)	(-3.09)	(-2.96)	(-2.96)	(-2.94)
Real Effective	-0.0164	-0.0327	-0.0308	-0.0310	-0.0304
Exchange Rate	(-0.82)	(-1.31)	(-1.22)	(-1.22)	(-1.20)
Real Effective Exchange	-3.936**	-4.420**	-4.230**	-4.234**	-4.221**
Rate Volatility	(-2.55)	(-2.12)	(-2.03)	(-2.03)	(-2.03)
Relative Income	-0.0622***	-0.0461**	-0.0436**	-0.0436**	-0.0437**
	(-3.31)	(-2.31)	(-2.20)	(-2.20)	(-2.20)
Financial Openness	0.00501	-0.468	-0.411	-0.413	-0.407
	(0.01)	(-1.10)	(-0.97)	(-0.97)	(-0.96)
First stage					
Share of Christians	9.30***	5.38***	4.14**		
	(3.32)	(2.65)	(1.95)		
Lagged Democracy		0.30***	0.29***	0.25***	0.30***
		(5.14)	(5.62)	(5.13)	(5.34)
Neighboor Democracy			0.72**	0.8**	0.78**
			(2.21)	(2.41)	(2.39)
Share of NonReligious					-2.16
					(-1.43)
Observations	489	469	463	463	463
R2	0.154	0.262	0.290	0.288	0.293
F	4.206	4.567	5.021	5.010	5.038
DWH	4.328**	6.073**	4.907**	7.30 ***	3.834**
Cragg Donald test	16.552***	40.763***	28.792***	41.246***	27.714***
F-test Instr.	11.02**	19.62***	13.26 ***	18.44***	13.09 ***

clustered t- statistics in parentheses. DWH is the Durbin- Wu- Hausman Test of endogeneity of the regressors.Rejection of the null suggests that the IV regression is required. Cragg Donald F statistic is a weak idendification test for the model. Null hypothesis indicates that the model is weak idendified. F-test Instr. denotes the test for excluded instruments.* p<0.10, ** p<0.05, *** p<0.01