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Political approval ratings and economic performance: evidence from Latin America



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Political approval ratings and economic performance: evidence from Latin America

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Abstract

Using a panel of 18 Latin American countries for the period 2002-2015, we study the impact of economic variables on government approval. Our empirical analysis shows that the composition of government spending, growth and inflation are related to government's approval ratings in Latin America. More specifically, we show that for each point of additional growth the approval rating can increase as much as 4.2 percentage points; and that an increase in the share of social spending in total government spending is associated with 2.5 percentage points of increase in government approval. Inflation also affects negatively government's approval. This tells us that a program focused on social spending, growth and macroeconomic stability have a positive influence in the popularity of the government.

JEL Codes: O11, H53

Keywords: Government approval, Government spending, GDP growth, Latin America

1. Introduction

Politicians tend to monitor closely approval ratings. For those in government their approval are measures of how people perceive their performance in office and also a proxy of how likely it is that they will be reelected. For the opposition approval rates are proxies of how probably it is that it will become the new party in office. In broader terms, the approval rate is a proxy (although may be imperfect) of how popular a politician or a political group is at a moment in time. The question that this paper aims to answer is, from an empirical point of view, whether economic variables affect approval ratings. It is evident there are many factors besides the economy that affect approval ratings, but it seems natural to assume that the better the performance of the economy, the most popular the government is. In this paper we use a database for several Latin American countries and study the effects of different economic variables on the approval rating of the government.

The literature on economic performance and electoral results is ample and in broad terms shows that these variables are related. Kramer (1971) concludes that economic fluctuations are important influences on congressional elections in the US and that economic upturns help the incumbent. Fair (1978, 1996) find that the two most important

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economic variables that affect the results of an election are unemployment and economic growth. Cerda and Vergara (2007) find that for the case of Chile, the unemployment and the output gap are the two most relevant economic variables that explain electoral results. To be clear, there is also some literature that questions the rationales for these results. Stigler (1973) argues that as government cannot deviate permanently the economy from its long-term path, voters neither reward nor punish short term cyclical fluctuations. In his view voters take more into account income distribution variables in their voting decisions.

There is also literature on the electoral influence of government spending. The common belief is that the greater the government spending is, the better incumbents are rewarded. This is also the case in much of the academic literature where models that attempt to explain the distribution of federal funds assume that the incumbent is rewarded the greater the amount of resources he or she obtains for his/her district¹. However, the empirical evidence, as reported by Cerda and Vergara (2008), is rather mixed. More specifically, there are authors that find that voters are fiscally conservative in the sense that they might penalize federal and state spending growth (Peltzman, 1992). Nonetheless, Cerda and Vergara find that for the case of Chile the higher the fraction of the population that receives government subsidies, the more rewarded the incumbent.

Mueller (1970 and 1973) started the literature on approval ratings. He used the Gallup data on approval ratings for incumbent presidents in the US, available since 1930, as the dependent variable and different explanatory variables. He used variables such as "foreign crises" and finds that the popularity of the president increases during these events (the so called "rally round the flag" effect). Regarding economic variables he finds that the economy matters but in a non-linear way. If the economy is in a slump it harms the president's popularity but if it is improving it does not seem to benefit the president's approval rating.

Recent literature shows a clearer pattern in the sense that the state of the economy does indeed affect the popularity of the government. Choi and others (2016) find that domestic economic factors affect government's popularity. Interestingly they find a threshold relationship in the sense that above a given level the effect of the unemployment rate is large and significant while below that level the effect virtually disappears. Enkelmann (2014) uses micro data for Germany between 1991 and 2008 and finds that a positive assessment of the economy significantly improves government popularity. The opposite happens when the assessment of the economy is negative.

¹ Inma (1988), Inman and Fitts (1990), Niou and Ordershook (1985), and Weingast (1979).

Ferreira and Sakurai (2013) find that for the case of Brazil between 1999 and 2010 two key variables affecting government's popularity were the unemployment rate and the minimum wage.

Berlemann and Enkelmann (2014) are more skeptical and in a survey of this literature conclude that it remains unclear whether presidential popularity depends on the state of the economy. They mention that about half of the studies find an effect of unemployment and inflation while the other half does not. They argue that the results differ in the long run where most studies show an effect.

Most of the literature refers to the US² where there is significant data available for a long period of time. As stated above more recently there has been research on other countries, although we are not aware of studies for a group of countries, which we do in this paper.

Fortunately, during the last couple of decades there has been an increasing availability of data on approval ratings for many countries, which allows performing panel estimations. For the case of Latin America, the Latinobarometro survey contains data on presidential approval since 2002 for 18 countries. Data on the average approval rating of presidents for these countries show that for the sample as a whole the average approval rating increases until 2009 with some variability, and then falls continuously until 2015, the last year of our sample (see figure 1 in section 2). Interestingly the first years are associated with an economic boom in the region related to the huge increase in commodity prices (most of the countries in Latin America rely heavily on commodities) while the later years are associated with the global financial crisis and the decline in commodity prices that started in 2011³. Figure 2 in the same section shows the evolution of the average government's approval and GDP growth. At first sight the correlation seems significant. It is interesting to note, however, that after the recession related to the global financial crisis, Latin America rebounded rapidly, and in 2010 and 2011 growth was on average above 5%. Despite this government's approval rating fell.

Based on the literature on government spending and electoral results we use also measures of government spending in our estimations. As we face a potential endogeneity problem, since government spending may affect approval ratings but it is also possible that governments with low popularity react increasing spending, we use

² See, for instance, the survey by Gronke and Newman (2003) on the many economic and non-economic factors affecting approval ratings, and on the different waves of research on this subject.

³ Depending on the commodity, prices started a downward pace between 2011 and 2014.

instrumental variables. As explained in detail in section 3, we borrow the instrumental variable (IV) approach from the extensive literature on determinants of government size.

The main results of our estimations show that: (i) GDP growth is relevant in the sense that approval ratings increase as growth goes up. For each point of additional growth the approval rating can increase as much as 4.2 percentage points; (ii) the composition of government spending matters. As the share of social spending increases so does government's approval ratings. In fact, an increase in 1 percentage point in the share of social spending in total government spending is associated with 2.5 percentage points of increase in government approval; (ii) a higher inflation rate has a negative effect on government approval.

The paper is organized as follow. After this introduction, section 2 includes a look at the data and some country cases. In section 3 we explain the methodology used and the results obtained. In this section we also describe the data used and the sources. Section 4 concludes.

2. A look at the data and some case studies

This section summarizes the government approval on our sample of countries and how it evolved with the financial crisis, the commodity boom and bust cycle, as well as with increased social spending among most countries. We then take a case study look of Colombia, Brazil and Peru.

Table 1 presents data on government approval by country on the complete sample. On average, approval has been around 49%⁴, but there are large variations in the data: minimum approval is 5% (Paraguay, 2002) and maximum approval is 87% (Brazil, 2010). Low or high approval is not a country-specific characteristic. In fact, Paraguay, that has the lowest approval of the sample in 2002, reached an approval rate of 86% in 2008 (second only to Brazil, 2010), a figure that became 26% by 2015. Thus, presidential approval has shown large fluctuations within and across countries.

⁴ The average government approval excludes the years 2012 and 2014, when the Latinobarometro survey did not take place.

	Observations	Mean	Standard deviation	Minimum	Max		
Complete sample	213	49	18	5	87		
Countries							
Argentina	12	51	22	14	86		
Bolivia	12	51	12	24	71		
Brazil	12	60	18	29	87		
Chile	12	55	16	28	85		
Colombia	12	64	18	13	77		
Costa Rica	12	47	14	22	75		
Dominican Republic	10	52	18	21	82		
Ecuador	12	47	21	20	74		
El Salvador	12	56	14	35	83		
Guatemala	12	38	13	12	52		
Honduras	11	49	10	32	62		
Mexico	12	50	9	35	60		
Nicaragua	12	46	18	23	84		
Panama	12	45	20	14	80		
Paraguay	12	40	25	5	86		
Peru	12	27	16	8	57		
Uruguay	12	55	23	12	75		
Venezuela	12	49	11	30	65		

Table 1: Government Approval

Figure 1 plots the average government approval rate per year for all countries in the sample. As shown it increased since the beginning of the 2000s and peaked at 60% in 2009, during the global financial crisis. Thereafter, the approval rate began to decrease and by 2015 it had reached an average of 48%.



In the first part of the 2000s there is a steady increase in government approval in the region, reaching more than 50% in 2006, confirming the optimism that existed at a time of increasing commodity prices and high growth. It must be mentioned that GDP growth in Latin America was 6.0% on average between 2004 and 2007. Hence, this period can be considered as one in which the region saw its best economic and social performance in 25 years. Progress in reducing poverty, improving income distribution in some countries, and reducing unemployment were features of a positive trend seen in a number of the region's countries (Latinobarometro Report, 2007).

According to the IADB, in 2003 26.4% of the population who lived in the 18 countries in our sample had an income below US\$2.5 a day and the average Gini coefficient for the region was 54.9%. By 2007, the percentage of the population living below the poverty line had dropped by 6.0 percentage points to 20.4% and the average Gini coefficient had decreased to 52.3%. Regarding the unemployment rate, the IMF reported a decrease of 3.2 percentage points during the same period.

The countries with the highest approval of their governments in 2006 were Argentina (73%), Colombia (70%), Chile (67%), Venezuela (65%) and Uruguay (63%), while those with least approval were Ecuador (23%), Nicaragua (23%) and Paraguay (33%).

Argentina, Colombia and Uruguay are examples of countries that experienced big swings in government's approval when there was a change in government. In these cases, increases in popularity can be attributed in part to new governments that produced a wave of optimisms in their countries. However, it is also true that these were years of big windfall gains for the region as commodity prices soared which allowed governments to spend more and produced high economic growth as well. In 2002, Argentinians had severely punished the government of Eduardo Duhalde (14%), who was elected during that year to complete Fernando De la Rúa's term, after the latter resigned in the middle of the crisis of 2001. When Nestor Kirchner took office as president in 2003, his government popularity was as high as 86%, as a consequence of the expectation that he could get Argentina out of the crisis. The high growth of those years enabled him to consolidate his high popularity rating, with average government approval rating of 71% between 2003 and 2007. Something similar happened in Colombia. Andrés Pastrana finished his government with a very low level of popularity (13%) in 2002, due in part to his failure to secure a ceasefire with the Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN), two left-wing guerrilla groups. When Álvaro Uribe assumed the presidency, his approval rating was 64%. He was able to consolidate his high popularity rating along the years, thanks to his administration's campaigns against the FARC and the ELN. During his two presidential terms, he had an average government approval of 71%. As in the case of Argentina these were also years of high growth for Colombia.

In the case of Uruguay, Tabaré Vásquez put an end to the 150-year dominance of two political parties (Colorados and Blancos) at the end of 2004, producing a shift in power within the elite. He not only led the left to power for the first time, but also achieved an absolute majority, inflicting the worst defeat of its long history to the Colorado Party, which had been the most important political force in Uruguay since the country's independence (Latinobarometro Report, 2005). After Tabaré Vásquez was elected, government's approval in Uruguay skyrocketed from 12% in 2004 to 72% in 2005. He was also able to keep his high popularity rating during his term, with an average approval of 66% between 2005 and 2009. As in the previous two cases, high growth also helped.

On the other hand, Lula da Silva's election in 2002 also produced an important shift of power in Brazil. He was a trade union leader with high charisma. Lula enjoyed a high level of popular support that allowed him to use his political capital as a shield from the corruption scandals that affected his party, the Workers' Party (Partido dos Trabalhadores) (Latinobarometro Report, 2005). Nonetheless, his approval rating dropped by around 15 percentage points in the wake of these scandals, from 62% in 2003 to 47% in 2005. Later on he was able to recover and got re-elected for a second term in 2006, having an average approval of 77% between 2007 and 2010.

After 2006, the average government approval in Latin America decreased from 54% to 51% in 2007, and then in 2008 remained virtually unchanged (52%). A new wave of elections took place in 2006, when 11 of the 18 countries included in our sample held presidential elections. These elections provided an unprecedented opportunity for citizen

mobilization and, during the campaigns, a variety of social demands and unresolved problems came to the fore. The agenda focused mainly on inequality and discrimination (Latinobarometro Report, 2007).

The presidents with the highest levels of popularity in 2007 were characterized by being elected in 2006 and had run their campaigns with a big focus on social demands. In the case of Ecuador, during 2002 to 2006, average government approval was 25%, but after Rafael Correa got elected, it jumped to 74% in 2007. His administration was successful in reducing the high levels of poverty and unemployment present in his country, very much helped by an increase in fiscal spending financed with the improvement in the terms of trade (mainly due to the higher price of oil). He got reelected twice afterwards. Meanwhile, Álvaro Uribe in Colombia, Hugo Chávez in Venezuela and Evo Morales in Bolivia were elected in 2006 with more than 50% of votes. Their popularity was also reflected in their first year's government approval (68%, 61% and 60% respectively in 2007) and, like Rafael Correa, they got re-elected for at least one additional term.

In line with the literature on the effect of the business cycle on electoral results, figures 2 and 3 show that government approval has followed closely the evolution of key economic variables such as GDP growth rate and the evolution of the terms of trade. It is clear that both economic variables are correlated as higher terms of trade are associated with higher growth. As seen in both graphs, government approval and economic variables follow similar evolutions with the clear exception of the 2009 financial crisis. In that year, the economy was in recession, and thus GDP shrank while commodity prices dropped considerably (32%), especially in the case of energy (37%), as we can see in figures 4, 5, 6 and 7. These caused a sharp decrease in the terms of trade of the countries in our sample. Conversely, government approval increased from 51% in 2007 to 60% in 2009. This is totally counterintuitive and unexpected. Higher levels of criticism from citizens were expected owing to the economic hardships of the crisis. The question then is what produced this result. A possible explanation is the way government used transfers and subsidies during the 2009 crisis.

Cerda and Vergara (2008) found that government subsidies do affect political elections. They show that the recipients of government subsidies in Chile increased from 25.1% in 1990 to 43.2% in 2000, coinciding with the reelection of many incumbent politicians. Using our sample, figure 8 plots approval rates and per capita social subsidies, measured in constant 2010 US dollars. These increased from approximately US\$ 700 in 2002 to US\$ 1120 in 2011. Notably, between 2008 and 2009, per capita social expenditure increased 7% even though GDP was shrinking (-0.5% in 2009). The result was a huge increase in fiscal deficits throughout Latin America (the fiscal deficit in Latin America and

the Caribbean was 3.8% of GDP in 2009, a big jump from 0.8% in 2008). In addition, the levels of poverty and inequality were not affected by the crisis, keeping their downward trends shown since the early 2000s. In 2008, 18.6% of the population living in the 18 countries of our sample had an income below US\$2.5 a day and the average Gini coefficient was 50.9%. Then in 2009 the figure was almost the same, with 18.0% and 50.6%, respectively. This tendency continued in the next years and, in 2014, only 15.1% of the population included in the survey was living below the poverty line and the average Gini coefficient had declined to 49.0%. An explanation for this result, besides the increase in government spending, is that the crisis was very short lived in the region. Indeed, in 2010 the economy was growing again at high levels, in part due to the recovery of the terms of trade.



Panel A



Source: Latinobarometro Survey and Bloomberg.

Latinobarometro Survey and Bloomberg.



Despite the strong decline in GDP growth, 48% of the population of our sample agreed with the way their government was handling the global financial crisis. Argentina (17%) was the most dissatisfied and Chile (78%) the most satisfied with the management of the crisis. Brazil (75%), Panama (72%), and Uruguay (71%) follow (Figure 9). These results are consistent with government approval rates in 2009. Chile is the country with the highest popularity (going from 59% in 2008 to 85% in 2009), and one of those that applied an aggressive countercyclical policy, thanks to accumulated savings during the period of high copper prices. Brazil was second (79% in 2008 and 85% in 2009), having also applied major countercyclical measures. The case of El Salvador was different (51% in 2008 and 83% in 2009), because in that country there was alternation in office: after 20 years of right-wing governments, a left-wing president was elected (Mauricio Funes). In Panama (41% in 2008 and 80% in 2009), high approval rating was due to the recently-elected president, also a victory of the opposition (Latinobarometro Report, 2009).

After 2009, the average government approval's upward trend began to change. While in 2010 it was 56%, in 2015 it dropped for the third consecutive year, to 48%, close to its level in 2005. In contrast, the average per capita social subsidies kept their upward trend, showing that transfers and subsidies made by the governments can have a positive influence in government approval, but there are also other variables at play. In addition it is likely that the effects of subsidies have decreasing returns and that people know that they can't last forever in an environment of declining terms of trade.



As mentioned before, commodity prices started to recover after the financial crisis and, with this, GDP growth and the terms of trade did too. Between 2009 and 2011, commodity prices increased 56%, the average terms of trade of the countries in our sample rose 25% and the average GDP growth was 5.4% in 2011. However, this tendency came to an end: between 2011 and 2015 commodity prices decreased 43%, the average terms of trade declined 12% and the average GDP growth was only 2.4% in 2015.

The end of the commodity super cycle and lower capital inflows affected the economy and in turn perceptions on governments started to deteriorate. In addition, in many countries social movements gained prominence and governments were slow to react to the new scenario. This most likely had also an impact on government's approval ratings. Many governments of the region were also affected by corruption scandals, many of them related to illegal political financing. A case in point is Michelle Bachelet in Chile, who finished her first mandate in 2010 with 85% of support. She ran again in 2013 and won by a landslide margin. In 2014 she initiated a second presidency, but with a different juncture. The decline in the terms of trade, a poor economic performance, reforms with low levels of approval and the uncovering of illicit financing and a scandal that involved her son helped to erode her government's approval to 49% in 2015 and then to 28% in 2016 (Latinobarometro Report, 2016).

Another interesting case is Venezuela. Between 2002 and 2011, the average government approval of Hugo Chavez was 51%. Then, when he died in March 2013 he was succeeded by Nicolás Maduro, who got an approval rating of 47% during his first year as president. This showed how almost half the country's citizens kept their support for Chavism, first with Chavez and then with Maduro. However, afterwards his

government approval dropped to 30% and then fell again to 20% in 2016. This can be explained as a result of bad economic policies and a sharp decline in the price of oil, which ended up in a huge recession: GDP fell 5% on average in 2014 and 2015 and it is estimated to have fallen around 18% in 2016, and the levels of crime, inflation, poverty and hunger swelled. Scarcity of basic products and declining living standards resulted in nationwide protests, which remain until now.

Finally, it is important to highlight that there are countries that for the whole period we are looking at have enjoyed high rates of government approval. This is the case of Colombia, which has the highest average government approval in the region (64%) despite its problems related with drug trafficking and guerrilla warfare. This can be explained by the presidents' successful campaigns against the FARC and the ELN, and their achievements in considerably reducing violence and kidnapping in the country.

Panel B: Colombia





So, despite the fluctuations in economic growth in Colombia during the past decade government approval has remained high (Figure 11). Not much changed between 2006 and 2007 when the economy achieved its best performance with GDP growth of 6.7% and 6.9% respectively, or during the global financial crisis when GDP growth went down to 1.7% in 2009. In contrast, the fluctuations in the terms of trade seem to have had some impact on government popularity. Indeed, the terms of trade increased 67% between 2003 and 2011, which was the period with the highest government approval rating. Then the terms of trade stayed fairly stable until the end of the period and government approval dropped to 53% in 2013 and to 51% in 2015 (Figure 12). In addition, per capita social subsidies, measured in constant 2010 US dollars, increased from roughly US\$500 to US\$800 which coincided with the period of highest government approval (Figure 13).

Meanwhile, Brazil had the highest level of popularity in our sample in 2010 (87%), but as mentioned earlier with considerable ups and downs along the years (Figure 14).

Panel C: Brazil





In 2010, Lula finished his government with a popularity of 87%. This was undoubtedly one important factor in the election of his political heir, Dilma Rousseff, as the country's first woman president. However, her approval shrank from 67% in 2011 to 29% in 2015, due to the corruption scandals related with Petrobras, a Brazilian state-run energy company, and the country's poor economic situation. During that year, a series of protests began in Brazil demanding Rousseff's impeachment and then on August 31st 2016, she was removed from office, accused of manipulating the government budget.

Unlike the case of Colombia, Brazilian government approval has followed closely the evolution of the GDP growth rate and the terms of trade along the years (Figures 15 and 16). The only exception, as in other cases, was during the 2009 financial crisis for the case of GDP, which declined by 0.1% while government approval increased from 79% in 2008 to 85% in 2009 and the terms of trade remained unchanged from the previous year. As we discuss when we analyzed the case of the entire sample, a possible explanation for this high level of approval rating is the way government used transfers and subsidies during the 2009 crisis. Between 2008 and 2009, the per capita social subsidies, increased 6% (Figure 17).

In contrast, in Peru the economic boom has not saved the image of presidents (Figure 19). Between 2002 and 2015, Peru has had an average government approval of 27% and an average GDP growth of 5.7%. One possible explanation for this phenomenon is the perception that wealth is unfairly distributed (Latinobarometro Report, 2010). According to a Latinobarometro survey, on average 12.3% of the Peruvian were very satisfied or quite satisfied with the working of the economy in the country between 2002 and 2010, despite that average GDP growth was 6.2%. On the other hand, per capita social subsidies, measured in constant 2010 US dollars, kept an upward trend which makes the low approval rates even more puzzling (Figure 21).

During the period of analysis, Peruvian governments have started with high levels of popularity, which can be explained by the effects of alternation in power on citizens' natural optimism surrounding newly elected governments. Nevertheless, Peruvian presidents have been unable to fulfill these expectations for several reasons and their government's approval has dropped substantially starting in the second year of their mandates. In figure 18 we can see this phenomenon clearly, where the approval rate was more that 50% only in 2006 and 2011, the first years in office of Alan García (57%) and Ollanta Humala (52%), respectively.

Panel C: Peru



3. Data and methodology

In this section we estimate a model of government's approval determinants. Our dependent variable is the percentage of government approval⁵ between 2002 and 2015 in 18 Latin American countries⁶. We obtained these data from the Latinobarometro survey, which is an annual public opinion survey that involves some 20,000 interviews in 18 Latin American countries, representing more than 600 million inhabitants. From this source we also obtained the variable victimization rate, which is the number of people claiming to have been the victim of a crime in the last 12 months, as a percentage of the total population aged 18 years and over⁷.

In order to explain the presidential approval, we used variables such as social public spending as fraction of fiscal expenditure and fiscal expenditure as fraction of GDP from the Social Expenditure Database of the Economic Commission for Latin America and the Caribbean (ECLAC). The social public spending includes expenditure on education, health care and nutrition, social security, employment, social welfare, housing, water and sewerage system. In addition, we got from ECLAC the following variables: employment rate as fraction of total labor force, the fraction of population aged 65 and older and the fraction of population aged 15 to 64 years old. We also obtained the GINI coefficient from Sociometro Database from IADB.

We obtained other macroeconomic variables of interest such us GDP growth, inflation rate (defined as average consumer prices) and general government gross debt as fraction of GDP from the IMF's World Economic Outlook (WEO) Database. In addition, we used the variable state fragility index from the Global Report on Systemic Peace, which scores 167

⁵ Between 2002 and 2010, the question in the Latinobarometro survey was "Do you approve or disapprove how the current administration headed by (name of president) is running the country?" Then from 2011 to 2015 the question was changed to "Do you approve or not of the performance of the government led by president (name)?"

⁶ The countries are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

⁷ The question in the Latinobarometro survey is "Have you, or someone in your family, been assaulted, attacked, or been the victim of a crime in the last 12 months?" Between 1996 and 2008, "Yes/ No" options were used as answer alternatives. Then in 2009, the alternatives of response were modified, adding the option "Yes, a parent". After 2010, the response alternatives were changed again, as follows: "Yes, you / Yes, relative / Yes, both / No". For purposes of calculation, in 2009 the victimization rate was measured as the sum of those who answered "Yes, you" or "Yes, relative" and, after 2010, the value reported corresponds to the sum of respondents "Yes, you / Yes, relative / Yes, both".

countries on both effectiveness and legitimacy in four performance dimensions: security, political, economic, and social.

Finally, we used the variable openness defined as the sum of imports and export values as fraction of GDP from an estimation made by Contreras and Pinto (2015) based on World Bank and IMF data.

To proceed with the econometric analysis, we developed a model with the following form:

$$Approval_{it} = \beta S_{it} + X_{it}\theta + Z_{it}\delta + \gamma_t + \mu_i + \varepsilon_{it}$$
(1)

Where Approval_{it} is approval rate in country i at time t, S_{it}, is a matrix including social subsidies, X_{it} includes economic variables, Z_{it} is a matrix that includes non-economic determinants of government's approval, while γ_t are year dummies to control for common time effects, μ_i is a country effect and ε_{it} is an error term. In X_{it} we will include GDP growth, inflation rate, unemployment and GINI coefficient. The inclusion of these variables corresponds to the business cycle effect on political approval as argued by Fair (1978, 1996), Kramer (1971), Stigler (1973) and Cerda and Vergara (2007, 2008).

In Z_{it} we will include demographics such as the fraction of population aged 65 and older and the fraction of population aged 15 to 64 years old, plus victimization rate. Finally, in S_{it} we include two variables: (1) social public spending as fraction of fiscal expenditure and (2) fiscal expenditure as fraction of GDP. The first variable measures the relevance of social public spending in the public budget which is a measure of the composition of public spending while the second includes all types of public spending, and thus it is a measure of the size of the public sector. As mentioned earlier these variables have been found to affect political election outcomes (Cerda and Vergara, 2007, 2008).

Table 2 presents the results using the fixed-effect methodology. In the first column of the table, we only include the variables related to subsidies. The first result is that an increase of one percentage point in social spending, holding constant total fiscal expenditure, rises government approval by 1.3 percentage points. The second result is that a larger government, measured by an increase in one percentage point of GDP in the ratio of government spending to GDP, increases government approval by 1.0 percentage point. The second column includes in addition year dummies while the third column includes the economic and the non-economic determinants. In columns 2 and 3, social spending remains significant and its coefficient decreases slightly, converging to 0.8. The size of fiscal sector becomes non-significant while its coefficient approaches 0.5, suggesting that rather than the size of the government, people value social spending: It is

the *composition effect* of public spending what matters. In the rest of the variables, GDP growth is statistically significant with a coefficient of 4.2 which means that if the growth rate increases in one percentage point the popularity of the government goes up by more than 4 percentage points. Inflation rate is also significant in columns 2 and 3 and its coefficient suggests that a one-percentage point increase in inflation decrease government approval by 0.6 percentage points. This result is not surprising, as Latin America has a history of large inflation and probably its inhabitants have become very averse to high inflation.

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Table 2: Government Approval Estimations

	(1)	(2)	(3)
VARIABLES	Gov. Approval	Gov. Approval	Gov. Approval
Social Spending, % Fiscal Exp.	1.267***	0.801**	0.782*
	(0.351)	(0.382)	(0.414)
Fiscal Spending, % GDP	1.014**	0.552	0.458
	(0.477)	(0.533)	(0.569)
Growth rate, %		4.256**	4.235**
		(2.103)	(2.138)
Excess Growth, External		-3.323	-3.222
		(2.067)	(2.101)
Inflation, average consumer prices (% change)		-0.551**	-0.566**
		(0.278)	(0.285)
Population aged 0-14 (% of total)		6.069	3.915
		(5.520)	(6.212)
Population aged 14-64 (% of total)		6.251	3.506
		(7.072)	(7.704)
Victimization rate			0.0913
			(0.179)
Terms of trade, growth rate			0.0235
			(0.122)
Current account balance (% of GDP)			0.645
			(0.451)
Employment rate (% of total labor force)			-0.222
			(0.963)
Year dummies	No	Yes	Yes
Observations			
R-squared	182	182	182
Number of country	0.085	0.300	0.316
	18	18	18

Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

The results in table 2 are highly suggestive but we face a methodological problem: if governments realize that as they increase social spending or the size of the government, their approval rate rises they might decide to increase social spending or the size of the government if their approval rate falls. In that case, there is potential simultaneity between government approval and social spending. Indeed, social spending affects approval rates, but approval rates might also affect social spending. If that is the case, our estimates in table 2 might be biased. To account for that problem, we next run a two-stage instrumental variables approach. To implement this procedure we require instrumental variables that are correlated with government size but uncorrelated with (the unexplained component of) government's approval –i.e. the error term in (1).

The size of the government might have different determinants. For instance, there is a large line of research that has emphasized that political parties, and their ideologies, are one of those determinants. In fact, the hypothesis is that parties on the left, when in government, spend more than parties on the right (Cameron, 1978; Swank, 1988; Blais, Blake, and Dion, 1993). While there is mixed evidence in the literature concerning that effect, we will include party government composition as instrumental variable for public spending and social spending. The first instrumental variable will be dummy variables taking values equal to one if the party in office is a center-right party and zero otherwise. We will have 3 additional and similar dummies. The second dummy variable takes the value one if the party is a center party; the third takes a value one when the party is a center-left party and the fourth takes a value one for left-wing parties.

Another line of research suggests that more open economies usually have larger governments, as a form of social insurance to external risks (Cameron, 1978; Ruggie, 1982; Rodrik, 1998). Evidence is also mixed but it suggests the use of openness as an instrumental variable for government size. We will measure openness as the sum of imports and export values as fraction of GDP. In addition, according to Wagner's law⁸ there is a positive relation between the level of development and the size of the government. Following that idea, another instrument is the log of GDP per capita, as measure of the level of development.

The evidence on those theories is mixed and thus, they might be weak instruments. To deal with that problem, we will include in addition dummy variables that measure the quality of the state as a measure of institutional quality. We use the variable state fragility index, which is closely associated with country's state capacity to manage conflict; make

⁸ Wagner (1893).

and implement public policy; and deliver essential services and its systemic resilience in maintaining system coherence, cohesion, and quality of life; responding effectively to challenges and crises, and sustaining progressive development.

Tables 3a and 3b show the results of the first stage of the instrumental variable approach. In the table 3a, the instrumental variables explain fiscal spending as fraction of GDP while in table 3b, they explain social spending, as a fraction of fiscal spending. In both tables, column 1 includes the instrumental variables only, while in column 2 we include year dummies and in column 3 we include in addition the economic and non-economic determinants of government approval.

(1) (2) (3) **Fiscal Spending Fiscal Spending Fiscal Spending** % GDP % GDP VARIABLES % GDP 1(Center-Right) -1.593 -0.298 0.347 (1.068) (1.191) (1.217) 1(Center) -0.209 0.156 2.387** (1.074) (1.125) (1.113) 4.186*** 1(Center-Left) 3.183*** 3.225*** (1.207) (1.205) (1.112) 1(Left) -1.107 -1.135 -0.600 (1.087) (1.066)(1.074) -0.110*** -0.0579* -0.0786** Trade Openess (0.0257) (0.0338) (0.0352) 4.410*** Log (gdp per capita, ppp) 0.0970 2.673 (1.416) (3.528) (4.407) Growth rate, % -1.014*** -0.615* (0.336) (0.342) Excess Growth, External 0.966*** 0.646* (0.329) (0.330) -0.135*** Inflation, average consumer prices (% change) -0.0875* (0.0520) (0.0475) Population aged 0-14 (% of total) -1.031 -2.238* (1.152) (1.274) -2.603* Population aged 14-64 (% of total) -0.455 (1.328) (1.464) Victimization rate -0.0624** (0.0304) Terms of trade, growth rate -0.0462** (0.0177) 0.225*** Current account balance (% of GDP) (0.0717) Employment rate (% of total labor force) -0.654*** (0.185) State Fragility Dummies Yes Yes Yes Year Dummies No Yes Yes Observations 206 206 183 **R-squared** 0.302 0.387 0.522 Number of countries 18 18 18

Table 3a: IV Regression - First stage: Fiscal spending as % GDP

Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

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	(1)	(2)	(3)
	Social Spending	Social Spending	Social Spending
VARIABLES	% Fiscal Exp.	% Fiscal Exp.	% Fiscal Exp.
1(Center-Right)	-2.994**	-1.019	-1.086
	(1.331)	(1.477)	(1.725)
1(Center)	-4.004***	-3.449**	-4.542***
	(1.338)	(1.395)	(1.578)
1(Center-Left)	-3.777**	-3.354**	-4.414***
	(1.503)	(1.494)	(1.577)
1(Left)	-2.546*	-1.894	-2.570*
	(1.327)	(1.333)	(1.541)
Trade Openess	0.0119	0.0545	0.0520
	(0.0320)	(0.0420)	(0.0500)
Log (gdp per capita, ppp)	6.262***	-7.117	-5.770
	(1.763)	(4.376)	(6.250)
Growth rate, %		0.128	-0.222
		(0.416)	(0.485)
Excess Growth, External		-0.0584	0.261
		(0.409)	(0.468)
Inflation, average consumer prices (% change)		0.00164	0.0588
		(0.0645)	(0.0673)
Population aged 0-14 (% of total)		-2.497*	-3.120*
		(1.428)	(1.807)
Population aged 14-64 (% of total)		-1.302	-2.103
		(1.648)	(2.077)
Victimization rate			-0.0245
			(0.0431)
Terms of trade, growth rate			0.0691***
			(0.0251)
Current account balance (% of GDP)			-0.242**
			(0.102)
Employment rate (% of total labor force)			-0.174
			(0.263)
State Fragility Dummies	Yes	Yes	Yes
Year Dummies	No	Yes	Yes
Observations	206	206	183
R-squared	0.326	0.413	0.475
Number of country	18	18	18

Table 3b: IV Regression – First stage: Social spending as % Fiscal Expenditure

Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Political ideology seems relevant to explain total fiscal expenditure and social expenditure (the composition effect). On the other hand, the initial estimates suggest that both total fiscal expenditure and social expenditure increase as GDP per capita increases. However, as we include other economic and non-economic determinants the estimate of the GDP per capita becomes non-significant. Openness is negative and statistically significant for total fiscal expenditure, rejecting the idea in Rodrik (1998). However, this variable is not significant for the percentage of social spending. Finally, institutional variables measured in the State fragility index are significant, suggesting that states with better performance become larger as they exploit its institutional capacity.

Table 4 shows the results on the second stage of the instrumental variable approach. In the table, we include the Sargan-Hansen test for over-identification that confirms the validity of our instruments. We focus on the impact of the social spending and fiscal expenditure on government approval. Three main conclusions emerge. Firstly, note that, as in table 2, the share of social expenditure in total government spending is statistically significant, while the size of the government is not. . An increase in one-percentage point in the share of social spending in total spending is associated with 2.5 percentage points of increase in government approval. This last effect holds constant total fiscal expenditure, and thus it is an indicator that the electorate values the government efforts in social spending. In other words, this suggests that more important than the size of the government is that public spending is used for certain (social) purposes. Secondly, growth remains significant and with a high coefficient. One percentage point of additional growth lifts government approval by more than four percentage points. Thirdly, while usually the rest of the economic variables show the appropriate signs, the other significant variable is inflation, as a one percentage point increase in inflation decreases government approval by 0.6 percentage points.

Table 4: IV regression- Second Step

	(1)	(2)	(3)
VARIABLES	Gov. Approval	Gov. Approval	Gov. Approval
Social Spending, % Fiscal Exp.	3.557***	2.022***	2.464***
	(0.668)	(0.744)	(0.873)
Fiscal Spending, % GDP	0.104	-0.358	0.785
	(1.001)	(1.133)	(1.118)
Growth rate, %		3.279	4.208*
		(2.450)	(2.440)
Excess Growth, External		-2.469	-3.396
		(2.394)	(2.407)
Inflation, average consumer prices (% change)		-0.721**	-0.640**
		(0.315)	(0.322)
Population aged 0-14 (% of total)		4.283	7.402
		(6.299)	(7.547)
Population aged 14-64 (% of total)		3.481	5.455
		(7.811)	(8.818)
Victimization rate			0.130
			(0.196)
Terms of trade, growth rate			-0.0681
			(0.136)
Current account balance (% of GDP)			0.890*
			(0.495)
Employment rate (% of total labor force)			0.967
			(1.216)
Year dummies	No	Yes	Yes
Observations	182	182	182
Number of country	18	18	18
Sargan-Hansen Statistic	11.377	24.317	24.712
P-Value Sargan-Hansen	0.8368	0.111	0.1014

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Latin-American countries faced a large increase in fiscal revenues during the boom of the commodity prices. According to our estimates if countries had spent completely those extra revenues in social spending, their government might have had an important increase in their approval rates. However, when commodity prices dropped more recently, the reverse would have occurred. The mechanism to avoid approval swings is to keep or reinforce economic growth, which is also highly valued by the electorate. Probably, a fiscal policy that saves during booms and dis-saves during recessions, which is optimal form an economic point of view, is also the appropriate one from an electorate perspective as it smooths out economic growth. Our results also suggest that a change in the composition towards more social spending will have a positive impact on approval ratings.

Of course, in an election year there is the temptation to spend greatly so as to increase the likelihood of reelection. But on the one hand there is always the risk that, if the government has been a great spender in previous years, at that point resources are no longer available. On the other hand, the electorate learns that theses spending policies are not sustainable in the long term.

Unfortunately, some governments in Latin America spent most of the windfall from the boom in the price of commodities and have had to cut aggressively spending as prices of commodities have fallen. Venezuela and Ecuador are two examples in this sense, and the economic and political consequences are well known.

4. Conclusion

Populism has been widely extended in Latin America since its countries became independent mostly in the XIX century. As these are resource abundant economies, the most typical populist takes advantage of a positive cycle in the price of commodities, spends the extra revenues it gets, the economy experiences a boom until the cycle reverts, the economy ends up in recession and the populist sooner or later is ousted (see Sachs (1989), and Dornbusch and Edwards (1989)).

This paper is about government's popularity and economic variables. We use a panel of 18 Latin American countries for the period 2002-2015. The dependent variable is government approval. Our empirical analysis shows that more than total government spending, what matters for approval ratings is the composition of that spending and, in particular, the share of social spending. We also show that growth has a strong and significant effect on approval and that inflation has an impact, as well.

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We also analyze the experience of different countries over this period. Having in mind our results it would be tempting to conclude that the way to become popular and get reelected is to spend more and particularly spend more in social spending so as to increase its share in total spending. Nonetheless, the long experience of this region show that this type of populist experiments end up badly. Interestingly total spending does not appear to be significant. So the proper lesson would be to spend better and not necessarily to spend more. In any case, this paper also suggests that a more permanent way to become popular and get reelected is through good policies that enhance economic growth.

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