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**TOXIC CONFLICT: UNDERSTANDING VENEZUELA'S ECONOMIC
COLLAPSE**

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TOXIC CONFLICT: UNDERSTANDING VENEZUELA'S ECONOMIC COLLAPSE

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ABSTRACT

This paper discusses the causes of Venezuela's recent economic collapse, the largest in modern Latin American economic history and one of the largest in modern world history outside of wartime. I argue that Venezuela's economic implosion is a combination of two crises. The first one reflects the standard unraveling of a populist macroeconomic cycle fed by overspending during a resource boom, while the second one reflects the severing of the country's trade and financial links with the global economy. This severing is the consequence of the decision by political actors to adopt "scorched earth" strategies with large negative aggregate economic spillovers in their fight for power. I argue that the inability of Venezuela's high-stakes, winner-take-all political system to deal with the large negative 2014–16 trade shock precipitated the change in political strategies and the descent into economically destructive political conflict.

RESUMEN

Este trabajo discute las causas del reciente colapso económico de Venezuela, el más grande en la historia moderna de América Latina y uno de los más grandes vistos en tiempos de paz en la historia moderna mundial. Argumento que la implosión económica venezolana es una combinación de dos crisis. La primera refleja el típico desenlace de un ciclo macroeconómico populista alimentado por exceso de gasto durante un *boom* de recursos naturales, mientras que la segunda responde a la ruptura de los lazos comerciales y financieros del país con la economía mundial. Esta ruptura es consecuencia de la decisión por actores políticos de adoptar estrategias de "tierra arrasada" con externalidades económicas agregadas negativas en su lucha por el poder. Argumento que la incapacidad de un sistema político con altos beneficios relativos del poder donde el ganador se lo lleva todo para lidiar con el gran choque negativo de términos de intercambio visto en 2014–16 precipitó el cambio en estrategias políticas y la caída en un conflicto político económicamente destructivo.

“They both want to reign.”

Cicero, Letter to Atticus 8:11(12)

Over the past eight years, Venezuela has suffered the worst economic contraction in modern Latin American history. The magnitude of the country’s economic, humanitarian, and migration crisis are virtually unprecedented for a country that has not undergone armed conflict. While the scale of the collapse is staggering, consensus on an overarching explanation remains elusive.¹

This paper provides an explanation for the magnitude and intensity of Venezuela’s collapse as resulting from the decision of the country’s political actors to escalate their conflict over power to the use of strategies that severed the country’s trade and financial linkages with the world economy. I argue that a large external shock in the 2014–16 period led to a full-fledged governance crisis that spurred the country’s political actors to adopt what I call “scorched-earth” political strategies: strategies that increase an actor’s chance of prevailing in the contest of power yet at the same time generate aggregate economic losses.

Venezuela’s economic crisis is therefore a combination of two crises. The first one, which explains the decline in per capita income during the 2012–16 period, is the standard unraveling of a populist economic cycle, caused by the accumulation of macroeconomic distortions resulting from overspending and insufficient savings during a resource boom. The second one, which accounts for the continuation of the crisis in the 2017–20 period, results from the escalation of political conflict through the adoption of scorched-earth strategies with severe spillover effects on the country’s economy. Both crises have at their center the decline in oil export revenues, yet with different drivers: in the first stage, export revenues collapsed because of a plunge of two-thirds in oil prices; in the second stage, they continued declining because of a four-fifths decline in oil production, which was strongly impacted by the economic sanctions adopted as a result of the worsening political crisis.

¹ Policy-based research and journalistic accounts have pointed to the role of macroeconomic imbalances, microeconomic distortions, and economic sanctions as possible drivers. See Abuelafia and Saboin (2020), Kurmanaev (2019), Harvard Kennedy School (2020), and Rodríguez and Guerrero (2020).

Why did this descent into economically destructive political conflict occur in the second half of the 2010s, more than a decade and a half after Chavismo's rise to power?² While institutional changes at the turn of the century significantly raised the stakes of the political contest, I argue that it was the interaction between this high-stakes political system and a negative economic shock that drove the country's political actors to adopt scorched-earth political strategies. To do this, I provide a theoretical model that shows how the combination of high stakes of power and negative economic shocks can lead political actors to shift from electoral competition to aggressive strategies with serious negative economic spillovers. The model clarifies both the conditions under which political actors will enter into economically destructive political conflict and their relationship to the stakes of power and the economy's wealth.

The paper proceeds as follows. Section 2 describes the basic stylized facts of Venezuela's economic crisis and shows how collapsing oil revenues as well as a very recent plunge in productivity are the key drivers behind the decline in gross domestic product. Section 3 looks at the causes of the decline in oil revenue and reviews evidence of the impact of economic sanctions on the decline, arguing that advocacy for external economic sanctions is a primary example of scorched-earth political strategies. Section 4 presents a formal model of economically destructive political conflict and establishes the conditions under which political actors will pursue scorched-earth political strategies. Section 5 discusses the choices of political actors during 2017 and argues that the year marked an inflection point in terms of the decision to pursue such scorched-earth strategies. Section 6 puts the experience into the framework of the theoretical model outlined in section 4, showing how the model predicts that actors would move to scorched-earth strategies given the high stakes of political conflict after a large negative shock such as seen in 2014–16. Section 7 concludes.

² Throughout this paper, I use the term Chavismo to refer to the coalition of political groups in power since 1999, when former Lieutenant Colonel Hugo Chávez first assumed the presidency, and led by Chávez and his successor Nicolás Maduro. See Corrales (2012) and Kronick, Plunkett and Rodríguez (2021) for explanations of its emergence and consolidation.

VENEZUELA'S GREAT CONTRACTION

Venezuela is in the midst of one of the largest economic contractions in modern economic history, having lost 71.8 percent of its per capita income over the last eight years (2012–2020).³

TABLE 1

LARGEST OUTPUT CONTRACTIONS IN THE WORLD, 1950–2020

Rank	Country	Trough-to-peak ratio (percentage decline)	Period	Years	Average percentage decline	Years of initial GDP lost	Armed Conflict
1	Liberia	-89.2%	1974 - 1995	21	-8.7%	-733.7%	Intrastate conflict
2	Kuwait	-86.8%	1970 - 1991	21	-8.1%	-1134.3%	Interstate conflict
3	Iraq	-77.2%	1979 - 1991	12	-8.2%	-365.5%	Interstate conflict
4	D.R. of the Congo	-75.7%	1974 - 2002	28	-4.8%	-1190.9%	Interstate conflict
5	United Arab Emirates	-73.4%	1970 - 2010	40	-3.0%	-1726.9%	Peacetime
6	Venezuela	-71.8%	2012 - 2020	8	-14.1%	-258.6%	Peacetime
7	Tajikistan	-71.4%	1990 - 1996	6	-18.6%	-289.9%	Intrastate conflict
8	Lebanon	-70.7%	1974 - 1976	2	-44.3%	-102.1%	Intrastate conflict
9	Georgia	-70.6%	1990 - 1994	4	-25.2%	-214.8%	Intrastate conflict
10	Iran	-66.6%	1969 - 1988	19	-4.5%	-793.4%	Inter and intrastate conflicts
11	Djibouti	-66.2%	1971 - 1991	20	-5.1%	-827.2%	Peacetime
12	Yemen	-65.6%	2010 - 2019	9	-10.6%	-386.5%	Intrastate conflict
13	Republic of Moldova	-64.8%	1990 - 1999	9	-10.1%	-474.5%	Peacetime
14	Azerbaijan	-61.0%	1990 - 1995	5	-16.8%	-187.5%	Intrastate conflict
15	Saudi Arabia	-59.9%	1974 - 1987	13	-6.1%	-358.9%	Intrastate conflict

Sources: Penn World Tables, IMF, World Bank.

This is the sixth largest contraction in world history and the largest in Latin American history since 1950. It is also the second largest contraction in the world outside of wartime (Tables 1 and 2).⁴ The contraction is not only deep when measured by the trough-to-peak ratio but it is also particularly intense, with the decline occurring over a relatively reduced period, at an annual rate of 14.1 percent.⁵

³ Measured as constant-price GDP per capita. I use Central Bank of Venezuela (BCV) data up to the first quarter of 2019, which is the most recent available observation. For more recent time periods, I use the average forecasts of 21 private sector forecasters as published by Focus Economics (2021).

⁴ Episodes of contraction in Tables 1 and 2 are defined as accumulated declines in per capita GDP between each peak—defined as a local maximum which has no higher local maximum preceding—and the minimum between that peak and the succeeding one in the GDP per capita series. I use Penn World Table 10.0 national accounts constant price GDP data, as recommended by Feenstra, Inklaar and Timmer (2015) to compare growth performance across economies.

⁵ According to my definition of contraction episodes, Venezuela's contraction in the 2012–20 period is part of a larger contraction which begins in 1977, and in which per capita income drops by 73.3 percent. As is evident from these magnitudes, the 2012–20 contraction accounts for almost all that collapse, since by 2012 the economy had almost recovered its 1977 peak of per capita income. Given that the purpose of this paper is to understand Venezuelan economic performance in the post-2012 period, I center on the 2012–20 episode for this section's international comparison. Rodríguez and Hausmann (2012) provide an overview and discussion of the explanations for the collapse in output between 1977 and 1998.

TABLE 2

LARGEST GDP CONTRACTIONS IN LATIN AMERICA, 1950–2020

Rank	Country	Trough-to-peak ratio (percentage decline)	Period	Years	Average percentage decline	Years of initial GDP lost	Armed Conflict
1	Venezuela	-71.8%	2012 - 2020	8	-14.1%	-258.6%	Peacetime
2	Nicaragua	-58.4%	1977 - 1993	16	1.3%	-683.9%	Intrastate conflict
3	Haiti	-45.4%	1980 - 2010	30	-0.7%	-928.3%	Peacetime
4	Cuba	-37.7%	1985 - 1993	8	-5.5%	-94.6%	Peacetime
5	Peru	-32.5%	1975 - 1992	17	-2.1%	-219.0%	Intrastate conflict and Peacetime
6	El Salvador	-27.9%	1978 - 1983	5	-6.2%	-94.2%	Intrastate conflict
7	Bolivia	-26.1%	1977 - 1986	9	-3.3%	-114.1%	Peacetime
8	Argentina	-23.6%	1979 - 1990	11	-2.3%	-135.3%	Peacetime
9	Chile	-23.0%	1971 - 1975	4	-6.2%	-45.6%	Intrastate conflict
10	Bolivia (Plurinational State of)	-22.5%	1951 - 1958	7	-3.3%	-112.0%	Intrastate conflict and Peacetime

Sources: Penn World Tables, IMF, World Bank.

While information on many other socio-economic indicators is sparse, given a nearly absolute dearth of official statistical series, the little available official data as well as independent estimates and anecdotal evidence are consistent with an unprecedented decline in living standards. For example, authorities stopped publishing income poverty data back in 2015, probably a reflection of how dismal the figures had become.⁶ Yet a consortium of leading national universities estimated poverty at 94 percent in 2021, up from 53 percent in 2014 (ENCOVI, 2021; Freitez, 2018). Nearly one in three Venezuelan children are abnormally short for their age (ENCOVI, 2021) as a result of acute malnutrition, while infant mortality rates shot up by 42 percent between 2009 and 2019 (UN IGME, 2021). The country has spent three and a half years in a hyperinflationary period that could be on its way to becoming the longest one in documented history.⁷

The humanitarian implications of this collapse are staggering. Data from receiving countries indicates that 4.8 million Venezuelans left the country between 2015 and 2020. This would make Venezuela's the second largest absolute movement of persons in the world over a

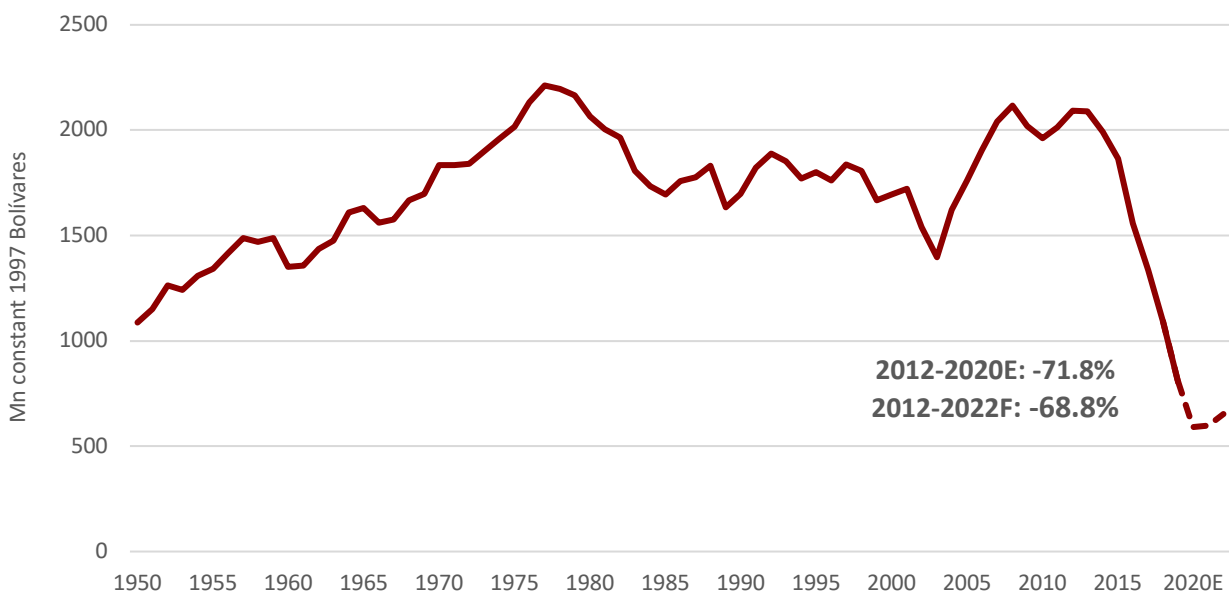
⁶ By "income poverty" I refer to the standard poverty rate that measures the number of households or persons that fall below an income threshold that represents the minimum income needed to sustain basic living standards. The National Statistical Institute has continued to publish a non-income poverty measure that is typically used as a complement, rather than as a substitute, for income poverty.

⁷ By the Cagan (1956) standard, Venezuela's hyperinflationary period will last a minimum of 49 months, making it the world's third longest documented period of hyperinflation, after Nicaragua (70 months) and Greece (68 months).

five-year period, slightly below Syria's 2010–15 exodus of 5.1 million persons, according to data from the United Nations' Department of Economic and Social Affairs.⁸ Even this number is possibly an underestimate of the current stock of emigrants, given lags in reporting and inability to fully capture undocumented emigration.⁹

FIGURE 1

VENEZUELA'S PER CAPITA OUTPUT (1950–2020)



Sources: BCV, IMF.

A Tale Of Two Crises

It is tempting to attempt to explain Venezuela's economic contraction as simply the result of an accumulation of policy mistakes, coupled with mismanagement and corruption. There is certainly much that rings true and is true about this story. Venezuela enjoyed what was by far the largest favorable terms-of-trade shock in the region during the 2000s, and clearly overspent and

⁸ Syria's refugee exodus reached 6.3 million persons over the June 2012–December 2019 period; the UN DESA data reports only five-year intervals.

⁹ See R4V (2021). Most sources used in these estimates, with the important exception of Colombia, omit estimates of irregular migration.

underinvested most of that boom. The country was thus completely unprepared for the large negative terms-of-trade shock that came with the decline of oil prices beginning in 2014.¹⁰ Nationalizations and arbitrary expropriations, pervasive price and exchange controls, increasingly restrictive labor market regulation, and weakened enforcement of property rights contributed to falling productivity and declining private investment, which were masked by increasing import growth (Rodríguez, 2008; Hausmann and Rodríguez, 2012). When the shock hit, the Maduro administration reacted by further tightening controls and allowing the official exchange rate to become even more overvalued, deepening the economic contraction (Rodríguez, 2021a).

In many respects, Venezuela is a textbook case of the “macroeconomics of populism” (Dornbusch and Edwards, 1992): policies that target short-run output expansions lead over time to the accumulation of severe fiscal and external imbalances and end invariably in runaway inflation, falling real wages, and a drastic macroeconomic adjustment. However, fitting the Venezuelan story completely into that framework is not that straightforward. A first problem is the sheer magnitude of the collapse. The country’s policy mix during the Chávez and Maduro years was not all that different from those undertaken by the first administration of Alan García in Perú (1985–90) or by the Sandinistas’ first tenure in Nicaragua (1979–90), to cite just two of the most disastrous populist experiments in the region. Yet while both experiences ended in unmitigated disaster, the contraction of their economies (which respectively suffered declines of 24.5 percent and 32.9 percent) is well below what we have seen in Venezuela during the past eight years. Venezuela itself had suffered several boom-bust cycles following the populist playbook in the past; the largest of those, during the seventies and eighties, caused a contraction of 22.2 percent of GDP, around one-fourth the size of the current contraction.¹¹

Another problem is that there is very clear evidence that among the main drivers of Venezuela’s economic contraction are collapsing oil revenue and collapsing productivity, with both overwhelmingly concentrated in the latter part of the sample. Furthermore, Venezuela’s economy failed to recover with rising oil prices from 2017 on, marking a historical anomaly in a

¹⁰ While per capita income peaked in 2012, more than four-fifths of the 2012–16 contraction occurred between 2014 and 2016.

¹¹ The calculation uses geometric averages, i.e., $(1-.222)^4=.367$.

very strong historical correlation between oil markets and the country's economic performance. In other words, the data strongly suggest that something else happened to the economy in the 2017–2020 period to strongly impact its performance.

What happened, I will argue, is that the Venezuelan economy suffered an escalation of political conflict to a level in which, in their struggle for power, actors adopted strategies that generated direct harm to the economy. These actions strongly impacted the oil sector as well as the economy's capacity to access international financial markets, thus severing Venezuela's trade and financial links with the global economy. Before developing that argument further, I will first delve into the issue of how a collapse in oil revenues can bring down the rest of the Venezuelan economy and why it makes sense to focus on the effect of political conflict on the oil sector's performance.

Venezuelan Macroeconomics 101

To understand why the Venezuelan economy contracted by as much as it did, we must start with one of its basic characteristics: its extreme dependence on oil exports. For all relevant purposes, the only tradable goods produced by the economy are hydrocarbons. Just before the collapse started, in 2012, oil accounted for 95.6 percent of the country's exports.¹² Of the remainder, chemical products, metals, and mining accounted for another 2.9 percent, reflecting the economy's comparative advantage in petrochemicals and energy-intensive steel and aluminum. Non-energy intensive exports were virtually nonexistent.

The share of oil in exports is a more adequate proxy for the country's oil dependence than the share of oil in GDP, which stands only at around 15 percent.¹³ The reason is that most economic activity in Venezuela—or in any oil exporting country, for that matter—is not oil production in and of itself but the production of non-tradable and import-competing goods made possible through the acquisition of imported capital and intermediate goods paid for with the country's oil export revenues. Venezuela's oil sector plays a determinant role in the economy, precisely because it is for all practical effects the country's only provider of foreign exchange

¹² By 2018, this ratio had fallen to 91 percent, largely as a result of the collapse of oil production and an increase in gold exports.

¹³ The average share of oil to total GDP in national accounts data from 1Q97 to 1Q19 is 14.3 percent.

(often amplified by access to finance).¹⁴ Put differently, even though most of Venezuela's output is not oil, almost all of it is *made possible* by oil since it would not exist without the oil revenues that fund it.

The simplest way to think about the Venezuelan economy is thus as an economy in which changes in the value of oil exports—measured in terms of their effect on the economy's capacity to buy imported goods—are the key determinant of changes in gross domestic product. As oil exports rise, the economy can acquire more intermediate and capital goods which make possible the production of goods for domestic consumption. Even direct imports of consumption goods can be drivers of growth, as large swathes of the economy, including a large retail sector, are organized around the marketing and sale of imported goods to consumers.

Note that this is not always the way in which we think about the effect of imports on economic growth. In fact, some standard models of economics posit no relationship between an economy's terms of trade and growth, and the empirical evidence on whether such a link exists is ambiguous at best.¹⁵ However, one of the most salient characteristics of economies that are specialized in the production of non-renewable mineral resources is that their production of other tradable goods—be they import competing or exportable—tends to become atrophied. Even in the case of industries that are nominally import competing, such as automobile assembly, their reliance on imported inputs is so large that they are simply not viable without a source of foreign exchange.

The atrophy of industrial production in economies that are specialized in the production of natural resources is known in the economics literature as *Dutch Disease*. The name comes from the fact that the phenomenon gained attention through the work of scholars seeking to understand the effect of the development of the Slochteren gas reserves on the Dutch economy in the 1970s.¹⁶ Yet this implication of natural resource booms was well known to students of the Venezuelan economy at least half a century earlier, suggesting that perhaps it would be more appropriate to call it the Venezuelan Disease.

¹⁴ As a result of the massive migration exodus discussed in section 1, the country has begun to receive significant remittance inflows. Nevertheless, these numbers have still been minor relative to oil revenues for most of the period covered by our discussion.

¹⁵ See Barro and Sala-i-Martin (2004, chapter 12), who find a positive effect of terms-of-trade shock on growth in a baseline panel regression but find that this coefficient is not stable across time periods and not robust to changes in specification.

¹⁶ See, in particular, Corden (1984) and Neary and van Wijnbergen (1985).

Venezuelan economist Alberto Adriani, for example, a son of Italian immigrants who would become the country's first agriculture minister, would decry the effects of oil revenues on the competitiveness of the country's agriculture in a set of articles written in the 1930s. "The surge in extractive industries occurs at the expense of the decadence of our agriculture," wrote Adriani, explaining that "agriculture suffers a deterioration or a pause with the expansion of the extractive industries which absorb our workforce."¹⁷ Adriani blamed the real appreciation of the bolivar for the country's loss of competitiveness, and would become a strong advocate of devaluing the currency to offset these effects.¹⁸

The atrophy of tradable-producing sectors caused by resource booms turns out to be remarkably important in understanding the strong correlation between imports and growth in these economies. As the resource-exporting sector becomes predominant, the production of other tradable goods tends to lose relevance, and the economy becomes dominated by a large non-tradables sector. When the economy suffers a positive terms-of-trade shock, this non-tradables sector expands in tandem for two related reasons: first, it can benefit from access to cheaper intermediate and capital goods; second, increased consumption drives demand for non-tradables, which raises the returns to investment in that sector. When there is a downturn in external conditions, both forces will act in reverse, with the contraction in foreign exchange availability becoming amplified through its impact on non-tradables investment and production.

Therefore, in an economy with Venezuela's extreme oil dependence, we would expect changes in output to be determined to a very great extent by changes in oil exports (which could come from changes in world oil prices or the oil sector's productive capacity) and the economy's access to international financing (in itself a reflection of the country's perceived capacity to pay with its oil revenues). When these channels are open—as was the case from 2004 to 2012—the economy will expand, and when they are closed—as was the case from 2014 on—then the economy will contract.

These links have been developed more systematically in formal models of economic growth that incorporate the role of natural resources in highly specialized economies (Rodríguez and Sachs, 1999; Hausmann and Rigobón, 2003; Hausmann, 2003; Hausmann and Rodríguez, 2012). The challenge for these models is to explain the effect of oil revenues on non-oil GDP.

¹⁷ See Adriani (1946), pp. 163, 351.

¹⁸ See Rodríguez (2006) for a discussion of Adriani's proposals, which were only adopted in very watered-down versions.

This is done by allowing higher oil revenues to make possible greater levels of capital accumulation. This happens either because the economy tries to save some of the higher oil revenues by investing them domestically, thus raising the capital stock and output (Rodríguez and Sachs, 1999), or because the economy's higher wealth leads it to consume more non-tradeable goods, raising the return to capital and thus leading to capital inflows (Hausmann and Rigobón, 2003).

The Productivity Puzzle

Table 3 provides the results of a standard growth accounting exercise that decomposes variations in GDP into the contributions of capital, labor, and a productivity term. The results of this decomposition, shown in Table 3, confirm the prediction of the models linking growth to oil revenues through capital accumulation: the period of increasing oil revenues (1998–2012) is associated with increasing stocks of human and physical capital, while the period of declining oil revenues (2012–2019) shows a declining stock of physical capital and a strong deceleration in the growth of human capital. However, the data show that these changes in factor endowments, while important, are far from sufficient to explain the magnitude of the growth collapse. Instead, the baseline calculation identifies a huge downturn in productivity—from -0.5 percent to -14.1 percent between the two periods—as the main drives of the collapse.

TABLE 3

SOURCES OF GROWTH DECOMPOSITION

	GDP	Conventional method			Import external effects adjustment		
		Capital	Human Capital	TFP	Imports	TFP	
1998-2012 (Pre-collapse)	Growth	2.7%	2.3%	4.3%		7.1%	
	Contribution	2.7%	1.3%	1.9%	-0.5%	2.2%	-2.6%
	Percentage Contribution	100.0%	48.1%	69.1%	-17.1%	79.8%	-97.0%
2012-2019 (Collapse)	Growth	-15.7%	-3.0%	0.4%		-31.1%	
	Contribution	-15.7%	-1.7%	0.2%	-14.1%	-9.4%	-4.7%
	Percentage Contribution	100.0%	11.0%	-1.0%	90.0%	59.8%	30.2%
1999-2016 (Pre-sanctions)	Growth	0.6%	1.8%	3.9%		-1.6%	
	Contribution	0.6%	1.0%	1.8%	-2.2%	-0.5%	-1.7%
	Percentage Contribution	100.0%	163.8%	300.6%	-364.3%	-81.6%	-282.8%
2016-2019 (Sanctions)	Growth	-27.3%	-6.1%	-1.6%		-25.5%	
	Contribution	-27.3%	-3.5%	-0.7%	-23.1%	-7.7%	-15.4%
	Percentage Contribution	100.0%	12.8%	2.6%	84.6%	28.1%	56.5%

Sources: Penn World Table, BCV, own calculations.

How do we explain this productivity collapse? One possible explanation is to assume that imports contribute directly to productivity and that it is falling imports that have caused the plunge in productivity. There is a rich theoretical and empirical literature that develops the idea that there may be externalities from greater variety or higher quality of intermediate goods and capital services that may explain changes in productivity. Resource rents may enable an economy to “import” this technological progress, by having access to greater and better production technologies that in combination make the economy more efficient. The externalities from the purchase of these intermediate products may become the key channel through which imports contribute to the economy’s growth.¹⁹

In Table 3 I have added an estimate of this import externality to the growth accounting exercise.²⁰ Augmenting the production function to include the role of imported intermediates allows us to attribute a substantial part of the productivity decline to the import contraction. According to this calculation, import externalities were contributing 2.2 percentage points to growth over the 1999–2012 period, which suggests that they were essentially masking the substantial decline in productivity of 2.6 percent per year during the Chávez years. During the Maduro period, in contrast, the import collapse explains around six-tenths of the decline in output with the decline in physical capital explaining around one-tenth, and the decline of productivity—which fell at an annual rate of 4.7 percent—the other three-tenths.

Including imports in the growth accounting relationship goes part of the way towards explaining the productivity collapse and thus strengthens the case for focusing on the decline in export revenues as the driver of the collapse. Yet it still leaves an important part of the collapse unexplained. According to the import-corrected estimates, productivity still fell at an annual rate of 4.7 percent during the Maduro years—a magnitude that by itself would have generated a contraction of 30.2 percent in GDP over this seven-year period even if imports had remained constant.

If we look more closely, we see that this productivity collapse is concentrated just in the final years of the sample. This is shown clearly in the bottom two panels of Table 3, where we

¹⁹ See Hulten (1978, 2009) and Syrquin (1987) for the role of intermediate inputs in growth accounting. The canonical model of growth as increasing varieties of intermediate inputs is from Romer (1987, 1990). For a review of these models and their implications for growth accounting, see chapters 6 and 10 of Barro and Sala-i-Martin (2004).

²⁰ This is the average estimate found across four studies in the literature (Ahn and Choi 2020; Halpern, Koren, and Szeidl 2015; Kasahara and Rodríguez 2008; Amity and Konings 2007).

adopt a different periodization that distinguishes between the pre-sanctions (1998–2016) and sanctions (2016–19) periods. In the conventional calculation, the decline in productivity for the sanctions period is a massive 23.1 percent a year. Even after we allow for import external effects, we estimate a productivity decline of 15.4 percent a year—enough to explain nearly three-fifths of the contraction observed during that three-year period.

The discontinuity in the productivity figures suggests that disruptions to the economy during the period starting in 2017 significantly harmed its capacity to convert factors of production into outputs.²¹ Not only did the economy have lower levels of human and physical capital to work with, but lower import levels as well. In addition, there is a large unexplained decline in productivity in the post-2016 period. This is even more puzzling as there is an overarching consensus that the policy framework in Venezuela improved in the 2017–2020 period relative to prior years as a result of dollarization, price liberalization, and exchange rate unification.

An alternative explanation of the productivity puzzle is that the severing of the economy’s financial and trade links to the rest of the world, coming together with the adoption of economic sanctions and the broader toxification of the economy, imposed significant costs on the Venezuelan public and private sectors, strongly limiting the country’s capacity to interact with the global economy. This increasing economic isolation was not only the main cause of the collapse in oil production, as we will argue, but also had significant effects on the productivity of the non-oil sector, thus contributing to the acceleration in the rate of economic decline.²²

WHERE DID ALL THE EXPORTS GO?

In the past section I argued that declining export revenues made a significant contribution to Venezuela’s economic contraction in 2012–20, a contraction that was exacerbated by the productivity decline of the sanctions period. I now look in greater detail at the causes of this revenue decline. Figure 2 displays the evolution of oil export revenues since 2012, together with Venezuelan oil prices. The figure shows that while Venezuela suffered a sustained collapse in its

²¹ Note that the period labelled 2016–19 in Table 3 takes as a starting point 2016 levels of GDP and factor inputs, and thus can capture the effects of changes in growth determinants that occur in or after 2017.

²² Bull and Rosales (2020) also argue that increasing informalization and criminalization of the economy are by-products of sanctions and economic isolation. For a contrasting view on the role of crime and corruption in the governance model, see López Maya (2018).

foreign exchange earnings from oil revenues over the past eight years, the decline is a combination of two very different processes. Between 2012 and 2016, what we see is oil exports being brought down by a large decline in prices. That part of the export collapse is simply a reflection of a strong terms-of-trade shock that cut the value of the country's oil sales by around two-thirds.

By contrast, after 2016 we see a different phenomenon. Oil prices begin to recover, but oil prices don't. The reason is that Venezuelan oil production had begun to fall, so that the country was selling less and less oil to the rest of the world. Figure 2 shows this phenomenon more directly, tracing how Venezuelan oil production plummeted by two-thirds between 2016 and 2019.

FIGURE 2

VENEZUELAN OIL EXPORTS AND PRICES



Source: Own calculations, Bloomberg, BCV

Figure 2 is thus strongly supportive of our thesis that the 2012–2020 contraction is the combination of two crises. Between 2014 and 2016, Venezuela suffered a large external terms-

of-trade shock caused by a decline of two-thirds in the price of what is virtually its only source of export revenue. It is not surprising that the economy contracted during this period. From 2017 onwards, the external shock continues, but the driver is different. Falling oil production, rather than declining oil prices, becomes the cause of declining export revenues.

To understand the magnitude of this effect, consider how much Venezuela would be earning in oil export revenue today if production had not declined. Were the country selling as many barrels to the rest of the world today as in 2015, it would be receiving USD 47 bn in oil revenues this year— around four times what it is expected to receive and nearly twice the level when oil prices hit their lows in 2016.

These figures also help illustrate why the oft-repeated fact that Venezuela’s economic crisis began well before the imposition of the first economic sanctions in 2017 doesn’t tell us much about the relative contribution of sanctions in comparison to other potential drivers to Venezuela’s economic crisis.²³ Had oil output not declined, the recovery of oil revenues from higher oil prices would have most likely fueled an economic recovery—or at the very least allowed the economy to escape its massive contraction, as had happened in past episodes of oil price recovery (most recently in 2010–11). Given this, it makes little sense to assume, as some authors do, that the 2014–16 recession trend of decline in output and socio-economic indicators would have continued absent sanctions in the 2017–19 period.

Figure 3 plots the evolution of Venezuelan oil production between 2008 and 2020, according to data reported by secondary sources to OPEC.²⁴ The series shows three distinct periods. Production remains relatively stable at around 2.3mn barrels up to December of 2015. At the start of 2016, it begins to decline and falls at rate of 1.0 percent per month. Then, from September 2017 onwards, the rate of decline accelerates, averaging 3.1 percent over the

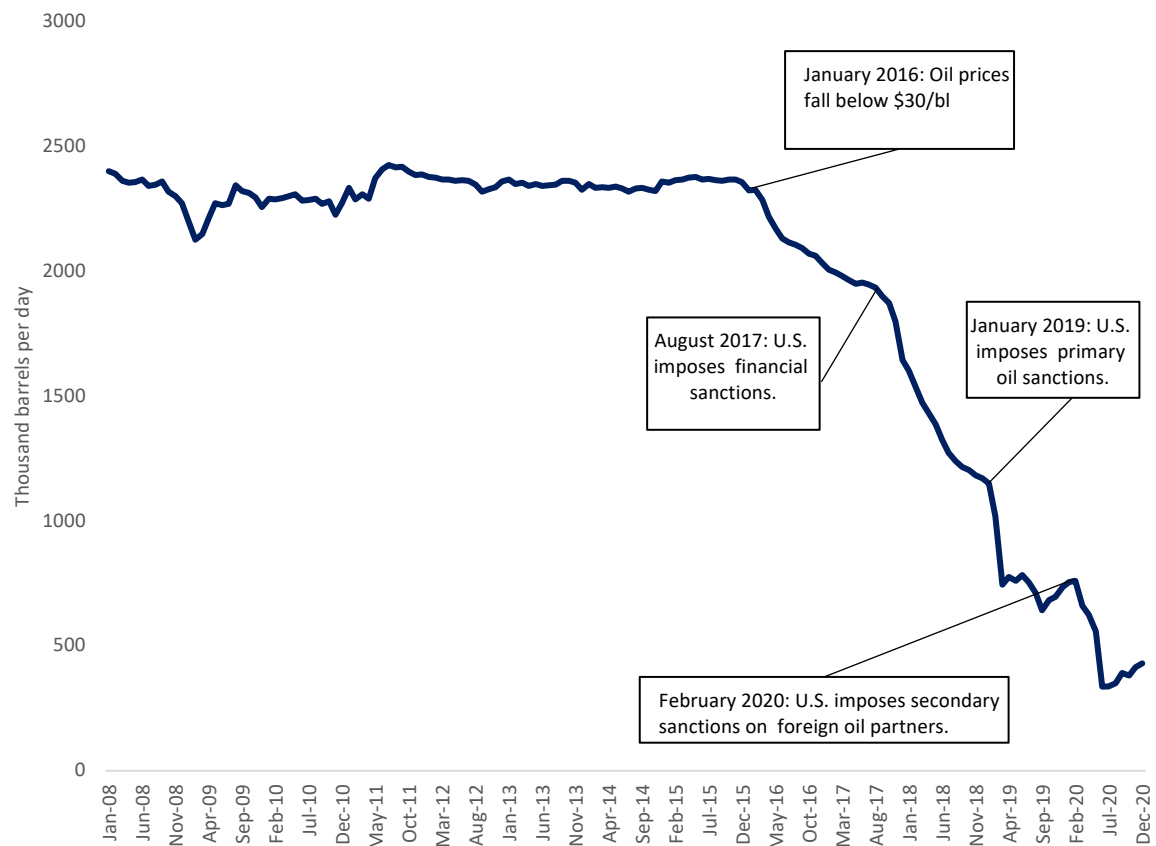
²³ Bahar et al. (2019), for example, document trends in socio-economic indicators pre-sanctions and find significant worsening in these trends before sanctions were imposed in August 2017. “In the presence of these strong pre-trends,” they claim, “it is impossible to attribute the current performance of these socio-economic indicators to the sanctions.” The temporal precedence argument has in fact gained wide appeal in the policy debate. For example, in response to the visit by UN Special Rapporteur Alena Douhan to document the impact of unilateral coercive measures on human rights, several non-governmental organizations launched a campaign to position the hashtag #LaCrisisFuePrimero (“The Crisis Came First”) to respond to government claims about the negative impact of sanctions.

²⁴ There are several data series for oil production in Venezuela. All of them show a break in trend in the second half of 2017, as well as in the initial months of 2019 and 2020. Data produced by secondary agencies tends to show stability in the 2008–15 period, while data produced by the Venezuelan government tends to show a pre-2016 decline. Most oil industry experts are distrustful of the official data, which becomes highly volatile in the post-sanctions period. It is possible that the pre-2016 decline in the official series is a result of changes in the magnitude by which the government decided to exaggerate output.

following 16 months. In the last part of the sample, it suffers two discrete jumps: a 35.2 percent drop (405 tbd) between January and March 2019, and a 55.7 percent drop (423 tbd) between February and June 2020.²⁵

FIGURE 3

VENEZUELA'S OIL PRODUCTION, 2008–2020



Source: OPEC

²⁵ “Tbd” stands for “thousand barrels a day.”

Note that the relative stability of oil output in the 2008–15 period does not mean that the country's oil sector was doing well. Production did decline in the initial years of the Chávez administration, with Venezuela underperforming its peers in a period of high oil prices during which other countries were expanding production. Venezuela's relative inability to take greater advantage of its oil wealth was largely a consequence of overtaxation of the oil industry as well as the numerous arbitrary changes over time imposed by the government on arrangements with its private sector partners.

Nevertheless, petrostates don't usually kill the goose that lays the golden eggs. They are, after all, interested in self-preservation. Over time, Venezuelan authorities came to grudgingly accept a model of oil sector management that relied significantly on joint ventures with private sector multinationals such as Chevron, Eni, and Total and state-controlled firms of allied countries such as China's CNP or Russia's Rosneft. This partly occurred through PDVSA (Petróleos de Venezuela, S.A. or Petroleum of Venezuela), the state-owned oil and natural gas company, ceding de facto operational and financial control to the minority foreign partners. Originally intended as vehicles to renegotiate the terms of pre-Chávez operational agreements, these joint ventures became islands of productivity in the country's oil sector.

That a decline of production began in 2016 is thus not surprising. In fact, several oil-producing countries saw similar production declines in 2016 after prices plummeted. What is more remarkable is that the rate of decline began accelerating in 2017, just as oil prices were posting a strong recovery and other oil producers were seeing production stabilize.

Sanctioning Venezuela

The change in trend coincides with the approval of the August 2017 executive order barring US citizens from providing new financing to the Venezuelan government or PDVSA. The adoption of sanctions occurred within a broader context of what we have termed "financial toxification" (Rodríguez, 2018), whereby it became increasingly clear that institutions that decided to enter into financial arrangements with Venezuela would have to be willing to pay high reputational and regulatory costs. The decision by the National Assembly to send letters to international banks demanding that financing deals with the government be blocked, the fallout from the Goldman Sachs financing deal, and the issuance of FinCEN directives recommending treating all

dealings with Venezuelan state entities as suspect all reinforced and contributed to increasing toxification.

Loss of access to credit stopped PDVSA from obtaining financial resources that could have been devoted to investment or maintenance. Of course, given the high levels of debt, it is unclear that the loss of market access should be attributed solely to sanctions. One can certainly argue that Venezuela's unsustainable policies would have led it to lose market access in 2017 even if its finance hadn't become toxic. Nevertheless, countries that lose market access typically have the possibility of regaining it after entering a debt restructuring process, a door that was closed to Venezuela after the US August 2017 Executive Order.²⁶ The problem was not whether Venezuela would have defaulted or not on its debt in 2017, but rather whether it would have been able to regain access to capital markets after restructuring its debt, as it most certainly would have done in the absence of sanctions.

More sanctions would follow. On January 28, 2019, President Donald Trump included the state-owned oil company PDVSA on the list of Specially Designated Nationals (SDNs) maintained by the Treasury Department's Office of Foreign Assets Control (OFAC). This designation effectively barred any US nationals from doing business with PDVSA or any of its affiliates. Since PDVSA is the majority stakeholder in joint ventures in Venezuela's oil sector, it also effectively constituted a prohibition of purchases of Venezuelan oil, as well as of exports of oil products to Venezuela.

The sanctions were adopted just weeks after the US government decided to recognize National Assembly President Juan Guaidó as the nation's legitimate interim president, thus withdrawing recognition of the government of Nicolás Maduro. As a result, the bank accounts of the Venezuelan government and Central Bank were transferred to the Guaidó administration. Guaidó appointees also were able to successfully request recognition by US courts of their appointments to the boards of state-owned corporations (Reuters, 2019).

As a result of the OFAC designation, Venezuela lost complete access to the US oil market and financial system. All the exceptions that had been carved out in the financial sanctions became moot, both because they were disallowed by PDVSA's SDN designation (e.g.,

²⁶ The August 2017 Executive Order barred the Venezuelan government or state-owned entities like PDVSA from seeking new financing. One consequence of this was that they made it impossible for Venezuela to restructure its debt without US approval, as a restructuring would have required the issuance of new bonds. Faced with the impossibility of restructuring or rolling over debt, Venezuela stopped making debt payments in November of 2017 and has yet to resume or enter into serious restructuring negotiations.

trade credit of less than 90 days) or because the contracting entity would in any case have had to be the Guaidó administration, which lacked any real control over the oil industry. At the same time, US authorities extracted commitments from other key partners (namely India, the most important destination for Venezuelan oil after the United States) not to increase oil purchases from Venezuela.

Oil sanctions were directly followed by a drop in oil production of a magnitude similar to that of the lost US market. Between January and March of 2019, production fell by 405 tbd and stabilized at a level of around 750 tbd for the subsequent twelve months. Export data produced by Bloomberg based on loading of vessels at PDVSA docks in Venezuela and the Caribbean, as well as ship-to-ship transfers, showed total loadings dropping by 34.9 percent between January and June of 2019. Exports to the United States had fallen to zero by February 2019, as compared to 326 tbd in the month before sanctions, while exports to India and China remained stable through 2019.

While the United States was legally able to institute secondary sanctions as of PDVSA's designation as a sanctioned entity in January 2019—and directly threatened their use in August 2019 when it imposed additional government sanctions—it did not make use of them to target key foreign associates (with the exception of sanctions against vessels involved in carrying oil to Cuba) until February 2020, when it decided to sanction the Russian oil company Rosneft for its involvement in Venezuela (US Department of Treasury, 2020). At the time, Rosneft was responsible for marketing approximately two-thirds of Venezuela's oil exports (Yagova, Aizhu, and Parraga, 2019). In June 2020, the United States sanctioned two Mexican companies that had signed oil-for-food deals with Venezuela's oil company (Kassai, 2020). The decisions had a chilling effect on Venezuela's remaining foreign partners, who subsequently decided to curtail all of their involvement with the country's oil sector (Parraga and Verma, 2020). These actions were followed by a discrete drop in oil production, which fell by 423 tbd over the next four months.

Empirical Estimates Of The Effect Of Sanctions On Oil Production

There have been several attempts to use statistical methods to assess the effect of economic sanctions on the country's oil production. Rodríguez (2018) first pointed to the acceleration of the decline in oil production after the August 2017 financial sanctions and contrasted this

experience with that of neighboring Colombia, also a high-cost producer, which suffered a similar decline in production during the 2016 slump in oil prices yet, in contrast to Venezuela, saw production stabilize after oil prices recovered in 2017. Weisbrot and Sachs (2019) rely upon the observation that decline had accelerated post-sanctions to claim that “it is virtually certain” that sanctions “made a substantial contribution” to the increase in mortality observed between 2017 and 2018. Hausmann and Muci (2019) take issue with this claim, alleging that Colombia is an inadequate comparison group for Venezuela.

Rodríguez (2019) showed that the post-2017 drop in Venezuelan oil production is anomalous not just in comparison to Colombia, but to a much broader set of oil-producing countries. Rodríguez (2019) also uses cross-country oil production panel data to choose an adequate counterfactual by appealing to synthetic control methods, which construct a comparison unit as a linear combination of other oil producers that accurately approximates the values of a set of predictors of oil production (Abadie and Gardeazabal, 2003; Abadie, Diamond and Hainmueller, 2010). The method attributes to the 2017 financial sanctions the loss of 797 tbd of production, or USD 16.4 bn a year at current prices.²⁷ Equipo Anova (2020) uses a regression discontinuity design to estimate the break in oil output trends at the time of financial sanctions and estimates that they are associated with a decline of 698 tbd, or USD 14.4 bn a year in current oil prices. Oliveros (2020) presents counterfactual exercises based on extrapolations of prior trends and concludes that sanctions can be associated with a decline in production of 616–1,023 tbd or USD 12.7–21.0 bn a year at current oil prices as of August 2021.²⁸ Using a panel of 38 oil producers, Rodríguez (2019) finds that oil sanctions are associated on average with a decline of between 48 and 52 percent of the target country’s oil output. Rodríguez (2021b) uses a difference-in-differences approach to consider the effect of sanctions on within-country variation in production across production blocs in the country’s Orinoco basin. He finds that financial sanctions significantly affected the growth of firms with financial market access prior to the sanctions relative to those that lacked it, with sanctions explaining 46 percent of the loss of production of these firms.

²⁷ All calculations use a current price of USD 56.4 per barrel of Venezuelan oil. Venezuela has not published data on its average basket price since March 2020. I estimate the current price based on the historical relationship between the Venezuelan basket and the price of Venezuela’s Merey crude blend, published monthly by OPEC.

²⁸ Note, however, that these estimates use different end points, so that the magnitudes of decline are not completely comparable. See Rodríguez (2021a) for further discussion of this point.

In sum, the data is strongly consistent with the hypothesis that Venezuela's oil production was strongly impacted by financial and oil sanctions. Most estimates are in a range of 500–1,000 barrels per day, production levels that would allow Venezuela to significantly increase its current export levels. For example, if Venezuela were able to export an additional 750 tbd, it would reap at least an additional USD 15.4 bn in annual export revenue,²⁹ doubling its current export levels and easily allowing it to raise imports, currently at USD 7.7 bn, at least back to their 2016 level of USD 16.4 bn if not much higher. In other words, based on the strong relationship between oil revenues and growth, the data tells us that we should not have expected the economy to contract due to reduced import capacity between 2017 and 2020 in the absence of sanctions.

One important qualification to this calculation comes from the productivity puzzle discussed above. As we showed, there is a strong reduction in productivity in the 2017–20 period that contributes to lower growth independently of the reduction in imports. A good case can be made, however, that this large productivity collapse is likely to reflect the effects on the public and private sector's capacity to convert inputs into outputs because of sanctions and the broader toxification process. In this sense, the data suggests that in the absence of sanctions, Venezuela's episode of contraction would have ended in 2016, after a decline of per capita income of around 26 percent, or around one-third of the total observed collapse. The remaining two-thirds of the collapse appear to be more closely related to the severing of the trade and financial links between Venezuela and the global economy that occurred during the period of economic sanctions.³⁰

A THEORY OF ECONOMICALLY DESTRUCTIVE POLITICAL CONFLICT

Given the economic effect of sanctions, the Venezuela opposition's decision to openly advocate in favor of economic sanctions provides a clear example of how some political actors can at times adopt strategies that generate aggregate economic costs as a consequence of their fight for power. In this section, I will provide an analytic framework for thinking more generally about

²⁹ This calculation uses 2021 export prices and volumes. The impact (USD 8.8 bn) is lower if we use 2020 levels. I prefer to use 2021 conditions rather than 2020 because of the impact of the COVID crisis, which among other things led oil prices to fall to levels even lower than in 2016. In other words, it is probably true that the economy would have contracted in 2017–20 in the absence of sanctions, but such a contraction would have been essentially a consequence of the COVID crisis. Regarding the projected export number, it could be higher, depending on the mix of different production blends and the possibility of increasing exports of higher value-added petroleum products in a counterfactual non-sanctions scenario.

³⁰ Like any policy option, sanctions may have costs and benefits. In cases such as that of Venezuela, they are often imposed seeking to generate incentives for political change. See Rodríguez (2021c).

when political actors abandon strategies of electoral engagement and opt for socially costly non-electoral modalities of contesting power.³¹

The model I now sketch combines two traditions of thinking about political conflict. One is the modeling of electoral competition popularized by Anthony Downs (1957) and expanded by, among others, Donald Wittman (1973) and Randal Calvert (1985), in which politicians vie for the support of voters to win elections. An important set of contributions in this tradition has emphasized the role of economic resources in influencing voters who are relatively less informed about policymaker preferences (Austen-Smith, 1987; Baron, 1994). Another thread is the economic analysis of conflict through models that emphasize the use of economic resources in activities aimed at appropriation (Hirschleifer, 1989; Grossman and Kim, 1995).

Consider two political groups vying for power. Both groups compete in elections by spending resources that determine their probability of winning the election. Such resources could include money as well as broader political influences that allow the mobilization of votes.³²

They could also include other actions that are perceived positively by voters and that have an opportunity cost for political actors to provide. Alternatively, the groups can also spend resources investing in technology that will allow them to contest power in case either group decides to disavow the election results.

I treat the two actors as symmetric and make no attempt to model an incumbency advantage. I label each of the groups $i=\{1,2\}$, the resources they spend on electoral competition E_i , and those that they invest in conflict technology P_i . The economy has a fixed endowment R distinct from those that political groups devote to electoral and conflict investment and whose distribution between the groups is defined through the political process. If both groups accept the results of the election, the winning group will receive a fraction $\delta > 1/2$ of that endowment, while the loser will receive $1-\delta$. We call δ the stakes of power: the higher δ , the more unequal the distribution of political rewards between winners and losers.

The utility of group i in case the election result is respected will then be:

$$U_{ip} = q(E_1, E_2)\delta R + (1 - q(E_1, E_2))(1 - \delta)R \quad (1)$$

³¹ Other attempts to provide a conceptual framework for the analysis of Venezuela's political conflict include Corrales and Penfold (2015), Dunning (2008), Jimenez (2021), Smilde (2014), and Maya (2016).

³² There is an extensive literature on the effects of campaign spending on election outcomes. See Austen-Smith (1987), Baron (1994), Levitt (1994). For the use of contest success functions to model the effect of spending on election outcomes see Klumpp, Mialon, and Williams (2015) and Avis et al. (2017).

where q denotes the probability of i winning if she spends E_i and her opponent spends E_j . Each party makes a choice of whether to accept the election's outcome conditional on the results. I allow a party to disavow the results, both of its defeat as well as those of its victory. The reason is that recognition entails recognizing the distribution of rewards (δ and $1-\delta$); a party may decide that it prefers the distribution of rewards that emerges from conflict to that emerges from winning an election. A winner's decision to disavow the outcome should thus be seen as a decision to take more for themselves than what they would have to accept under existing institutional arrangements. The literature on democratic backsliding focuses on such decisions by incumbents to use the powers of the office achieved through an election to weaken democratic checks and balances and increase the returns from being in office.

If either party decides not to accept the election result, then the groups will enter into conflict for power. In that case, the distribution of the endowment R will be determined according to what is known in the conflict literature as a *contest success function*, in which the reward of each player is a function of the investment in conflict technology by her and her opponent. We write this function, which specifies how much i receives when she spends P_i and her opponent P_j , as:

$$C(P_i, P_j). \tag{2}$$

The decision to enter into political conflict can be seen as the ultimate high-stakes challenge: entering a fight for absolute control. For this reason, an interpretation of $C(\cdot)$ as probabilistic, determining the possibility that a party reaps the totality of the spoils of power, seems appropriate. I thus characterize a conflict equilibrium as one leading to dictatorship.

One particularly important distinction between these two functions is that $C(\cdot)$ destroys output, while $q(\cdot)$ does not. In other words, regardless of how much is spent on E_i and E_j , there will always be an endowment of R left to distribute between the winner and loser. In contrast, if i and j both increase their spending on conflict technology by the same amount, then the sum of their rewards will be strictly less than R . I call these assumptions respectively the *non-destructiveness of electoral competition* and the *destructiveness of conflict*.

Both groups choose E and P to maximize expected utility subject to the constraint $E_i + P_i = \bar{L}_i$; that is, they decide how to allocate their initial endowment (not to be confused with the rewards allocated in the contest for power R) in electoral and conflict technologies. It is this

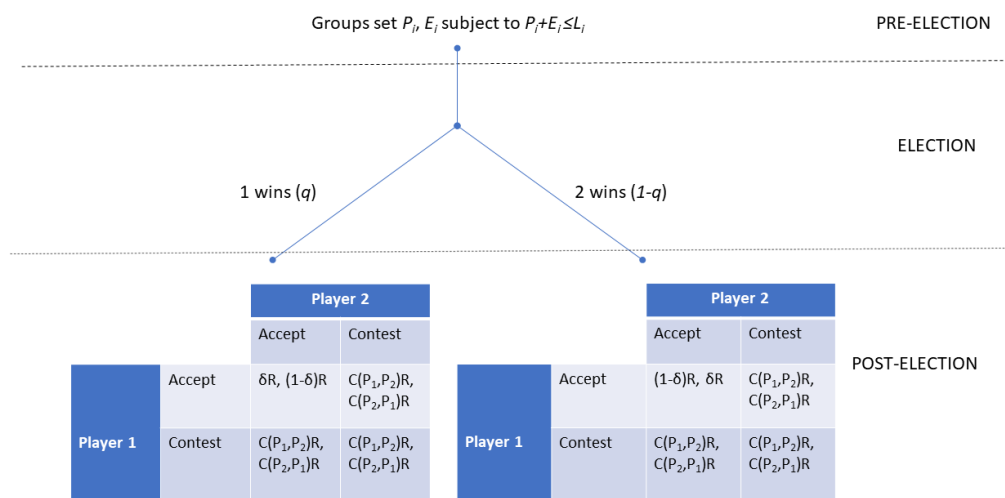
choice of political technologies that will determine their comparative advantage in winning elections or fighting over power.

To take a specific example, consider the decision by the opposition to lobby for sanctions, or the decision by the Maduro government to jail dissidents. Both require the investment of political capital—international lobbying efforts on the opposition’s side, ordering security forces to violate political rights on the government’s. Both are likely to be disliked by voters, and thus to decrease their support at the voting booth. But both may also make it more likely for their side to prevail in the non-electoral contest for power.

Temporally, the structure of play is as follows. First, each group selects E_i and P_i . Elections are then held, and the winner and loser determined. After the election’s result is known, each group decides whether to recognize or disavow the result. If neither group contests the result, then the winner of the election receives δR and the loser receives $(1-\delta)R$. If either group decides to contest the result, then group i will receive $C(P_i, P_j)R$. This structure is illustrated in Figure 4.

FIGURE 4

TEMPORAL STRUCTURE OF PLAY



I solve this game by backward induction, i.e., looking first for a Nash equilibrium of the post-election recognition game and then solving for the subgame perfect Nash equilibrium in the pre-election game, given that strategies are equilibria in the post-election game. I state the main results here and leave the proof of the propositions for the appendix.

Consider first the post-election game. Label w the winner of the election and l the loser. The winner will decide to accept the results if and only if:

$$C(P_w, P_l) \leq \delta \quad (3)$$

i.e., the expected benefit of contesting the result and having the distribution be determined through conflict must be less than that of reaping the rewards from having won the election. For the loser to recognize the result, in turn, it would have to be true that:

$$C(P_l, P_w) \leq 1 - \delta \quad (4)$$

Each group will have a piecemeal payoff function made up of four segments, depending on the decision of each actor to recognize or disavow the election result:

$$\begin{aligned} V_i &= q(E_i, E_j)\delta R + (1 - q(E_i, E_j))(1 - \delta)R \text{ if both sides accept } i\text{'s and } j\text{'s victory.} \\ &= q(E_i, E_j)C(P_i, P_j)R + (1 - q(E_i, E_j))(1 - \delta)R \text{ if both sides accept } j\text{'s but not } i\text{'s victory.} \\ &= q(E_i, E_j)\delta R + (1 - q(E_i, E_j))C(P_i, P_j)R \text{ if both sides accept } i\text{'s but not } j\text{'s victory.} \\ &= C(P_i, P_j)R \text{ if both sides accept neither } i\text{'s nor } j\text{'s victory.} \end{aligned} \quad (5)$$

I focus on the case in which both groups have the same endowments, i.e., $\bar{L}_i = \bar{L}_j = \bar{L}$. Given that in this case, the actors are identical, I focus on a symmetric subgame perfect Nash equilibrium (SSPNE). Symmetry implies that both sides either accept their loss or contest their loss, implying that the equilibrium solution must lie on either the first or the last part of (5). Therefore, there are only two types of equilibria: **uncontested elections**, where both the winner and the loser accept the result, and **contested elections**, where the loser (and possibly also the winner) contest the result.

Let P^* denote the choice of P by both parties in a SSPNE where the election is uncontested and P^{**} the choice of P when it is contested. Then we can establish

Proposition 1: In any symmetric subgame perfect Nash equilibrium, $C(P^*, P^*) = 1 - \delta$ if the election is uncontested and $P^{**} = \text{Argmax}_{P_i \in [0, \bar{L}_i]} C(P_i, P^{**})$ if the election is contested.

Proposition 1 tells us that if the election is uncontested, each group will spend in conflict technologies just as much as is necessary to get equation (4) to hold, that is, to dissuade the loser from contesting the election result. Since the election is uncontested, these conflict technologies are not used in equilibrium—the rewards to each party are determined by the electoral contest—so the only reason why it makes sense for groups to spend any of their resources in developing them is that they need to dissuade their opponents from not recognizing the election's results. In other words, whoever is going to win an election must be sufficiently powerful at fighting for power through non-electoral means so as to make sure that her opponent is not going to decide to take the battle to non-electoral terrain.

On the other hand, if we are in a contested election equilibrium, then electoral spending is irrelevant. Ultimately, the distribution of rewards will result from direct conflict, so it makes little sense for groups to devote resources to winning an election that they do not think will be honored anyway. Electoral spending does not play a deterrence role here comparable to that played by conflict technologies in the uncontested elections equilibrium. Nevertheless, this does not necessarily mean that groups will spend all their resources on conflict technologies. Because of the destructiveness of conflict, it is possible that increasing conflict spending given your opponent's spending contributes to destroying output so much that it is not individually rational to do so. Therefore, here both groups will take conflict spending to the level that maximizes their rewards from conflict given the other group's spending.³³

There are three important implications of Proposition 1:

Corollary 1: Along any uncontested SSPNE, P^* is an increasing function of δ . Furthermore, there will be a level $\bar{\delta}$ such that if $\delta > \bar{\delta}$ there will be no SSPNE where the election is uncontested.

As the stakes of power increase in a democratic society, two things happen. The first is that groups start spending many more resources on conflict technologies. Even though the rules

³³ Quite obviously, if we restrict ourselves to functions in which $\frac{\partial C(P_i, P_j)}{\partial P_i} > 0$, then the condition for a contested SSPNE is reduced to $P^{**} = \bar{L}$.

of democracy are being honored, higher stakes make political actors devote more resources towards deterring their opponents from deciding not to play by the rules of the game. The second thing that happens is that there is a level of stakes of power at which democracy breaks down. If the stakes are too high, there is no level of spending on conflict technologies that will be able to deter players in an equilibrium from disavowing the election results.

Corollary 2: Along any SSPNE where the election is contested, P^{**} will be independent of δ . Furthermore, there will be a level $\underline{\delta}$ such that if $\delta \leq \underline{\delta}$, there will be no SSPNE where the election is contested.

When society falls into conflict, the stakes of power in the electoral game become irrelevant for pretty much the same reason that electoral spending is irrelevant: the electoral contest is not binding once both sides know that the rewards will be distributed through conflict. Nevertheless, the stakes of power are determinant of the sustainability of a conflict (contested) equilibrium. If the stakes of power are low enough, then the conflict will not be a viable equilibrium. This result is directly related to the destructiveness of conflict assumption (see Technical Appendix). In any symmetric conflict equilibrium, each side is receiving strictly less than $\frac{1}{2}$ of R because part of R is destroyed by conflict. On the other hand, at sufficiently low stakes of power, even the loser of an election is ensured of receiving close to half of R . They thus prefer accepting their electoral defeat to continuing to be immersed in conflict.

Corollary 3: There exists a $\tilde{\delta} \in \left(\frac{1}{2}, 1\right)$ such that if $\delta < \tilde{\delta}$, there is no pure strategy SSPNE.

Corollary 3 tells us that if the stakes of power are sufficiently low, neither democracy nor conflict are equilibria. This is a novel result, which to the best of my knowledge, has not been established previously. It suggests that, while high stakes of power are a problem for democratic stability, very low stakes can also be a problem for it. The reason is that very low stakes of power can make a democratic equilibrium vulnerable to a deviation in which one player decides to invest in conflict technology to try to take power by force.

To understand the intuition for this result, consider what happens in a low-stakes democratic equilibrium. Because the stakes are very low, there is no need for the eventual victor to spend a lot of money on weapons to deter her opponent from claiming victory. This is because low stakes ensure that her opponent cares little about winning or losing the election. However, if no one spends much on deterrence, this means that the potential payoff from playing an altogether different strategy, which is to invest in weapons and plan to disavow the election

results regardless of whether you win or lose, can be huge. If the stakes of power are zero (i.e., $\delta = 1 - \delta = 1/2$), then deterrence is irrelevant, but an equilibrium where no one spends on deterrence is not viable either as any player can decide to invest just a little in weapons and capture the totality of the pie.

Note that there is a key distinction between the unsustainability of democracy that occurs when $\delta > \bar{\delta}$, and that which occurs when $\delta < \tilde{\delta}$. In the first of these cases, democracy is unsustainable but conflict can be an equilibrium as long as $\delta > \underline{\delta}$. In that case—which we also label as the “dictatorship” equilibrium (see Figure 5)—both groups will decide that it is in their interest to determine who has power through confrontation, with the results (i.e., who ends up wielding dictatorial power) being decided according to the conflict technology C . In contrast, when $\delta < \tilde{\delta}$ (or when $\delta \in (\bar{\delta}, \underline{\delta})$), there is no SSPNE. What this means is that neither democracy nor conflict are sustainable as equilibria in these cases. A democratic equilibrium, as we have said, is vulnerable to a deviation in which one actor decides to forgo electoral competition and amass weapons, but a hypothetical conflict equilibrium is similarly vulnerable to a deviation in which the players simply decide to recognize the electoral result. The reason is that, while amassing weapons may seem attractive if your opponent is not doing so in a democracy, accepting the results of a low-stakes electoral competition will seem equally attractive once your opponent has responded in kind and accumulated weapons to a level at which the conflict equilibrium becomes one of mutually assured destruction.

Interpreting the absence of pure-strategy equilibria has always been a controversial issue in game-theoretic applications (Rasmussen, 2006). One potentially attractive interpretation for our purposes is that of cycling, in which actors adopt strategies that are best responses to their opponent's, only to see their opponent's strategy change over time in a way that merits a different response (Norman, 2010). In our context, two actors immersed in a conflict may find that it is in their interest to recognize the election's results and forgo the costly confrontation; once they do so, however, they will find it optimal to maximize the amount of resources spent in trying to win the electoral contest. This in turn will open an opportunity for one of the actors to accumulate a lot of weapons and try to seize power by force, restarting the cycles of destructive conflict and unstable democracy.³⁴

³⁴ See Hale (2005), for an application of this idea of political regime cycles to the post-Soviet transition process.

Therefore, the model does not predict the absence of democracy at low levels of stakes of power. What it does predict is that at low stakes, democracies will be unstable. What we may see are cycles in which short-lived democracies give way to conflict, and in which conflict itself is also resolved through democratic accords. When the stakes are high, we see conflict; when they are intermediate, we see democracy; when they are very low, we see instability.

FIGURE 5

ENDOWMENTS, STAKES OF POWER AND SUSTAINABLE POLITICAL REGIMES

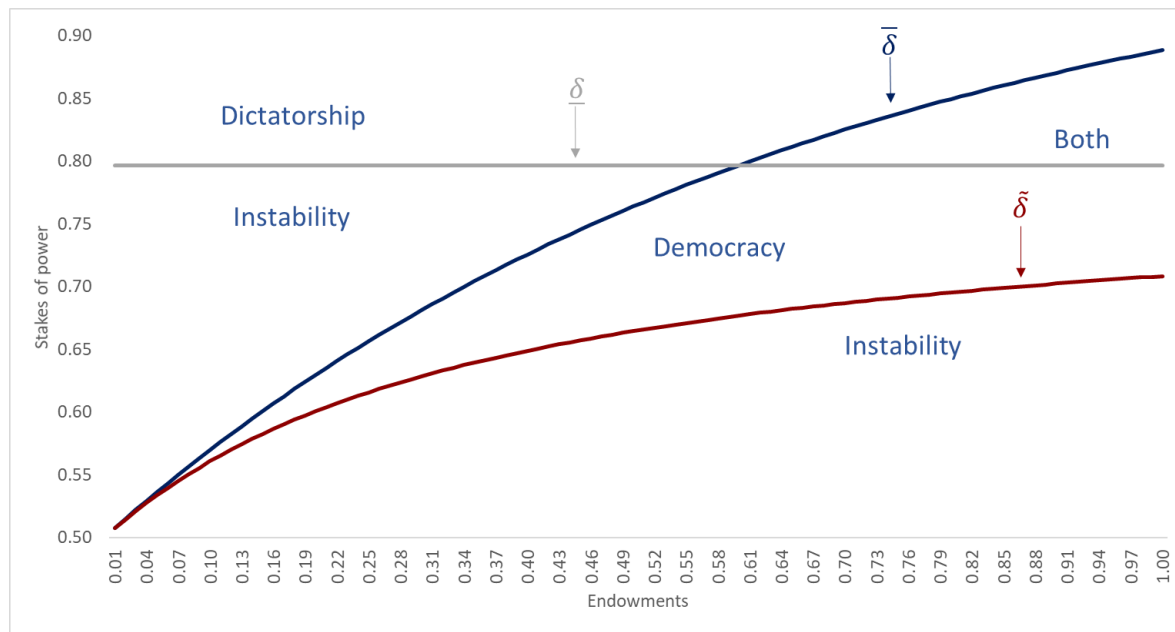


Figure 5 shows the relationship for one parameterization of these equations, which is reflective of what I have found across a broad range of parameters. There is a constant minimum threshold of δ (around 0.8 in this case) necessary for dictatorship to be an equilibrium. For democracy to be an equilibrium, δ must be in the range between the red and blue line (respectively, $\tilde{\delta}$ and $\bar{\delta}$). This range is wider the higher the level of endowments. At very high levels of endowments—which should be understood as a proxy for income—both democracy and dictatorship become viable at high δ s. At very low δ s, and at intermediate levels of δ for very poor countries, both dictatorship and democracy are unstable.

My results are analogous to findings in the crime victimization literature. Even though richer neighborhoods are home to wealthier households that may be more attractive targets for crime, it is well known that poorer neighborhoods tend to be characterized by higher crime rates. One of the reasons is that the poor tend to spend less on protecting their property, making it comparatively more attractive to potential criminals (Ayres and Levitt, 1998; Vollaard and Van Ours, 2011; Kang 2014). For the same reason, poor countries may be less able to invest in defending their governments from violent attempts to overthrow them than rich ones: it is much easier to overthrow the government of Haiti than that of the United States. The US government is able to provide ample funding for its security services without significantly sacrificing the resources necessary to address the needs of its voters; the Haitian government may find that it does not have enough resources to do both.

VENEZUELA'S DESCENT INTO TOXIC CONFLICT

Let us now return to Venezuela and think about how the conceptual framework that we have just sketched can help us make sense of the evolving political strategies to resolve political conflict. In this discussion, we focus on the year 2017 for two reasons. The first is that, as we have just argued, it would have been reasonable to expect the economy to stabilize after the 2014–16 plunge in oil prices, given that oil markets had begun to recover strongly. The second is that 2017 marks a moment of escalation in Venezuela's political conflict that significantly affected the country's trade and financial links with the world economy.

Be Careful What You Wish For

In December 2015, Venezuela's opposition scored a stunning political victory. For the previous 15 years, the country's legislative power had been controlled by Chavismo, whose absolute majority in the country's unicameral legislature had effectively turned the institution into a rubber stamp. But the 2015 elections took place after two years of recession, during which the economy had contracted by a cumulative 10 percent. Though this may sound moderate by comparison with what happened later, it was unlike anything that Venezuelans had seen in the recent past.

In the 2015 parliamentary elections, Chavismo became a victim of its own rules. Through the years, it had designed an electoral system that would amplify its advantage in votes.

Although the Constitution guarantees the principle of proportional representation in congressional elections, it had a relatively limited role in the actual electoral system. More than two-thirds of legislators were chosen in first-past-the-post district-level elections, with the remainder chosen through a state-level proportional representation system. The result was by-and-large unexpected, with almost all political analysts contending that a two-thirds majority was all but impossible.³⁵ As a result, both the government and the opposition had put little thought into how to prepare for that scenario.

In Venezuela's constitution, two-thirds is a magic number that empowers the majority to carry out radical political changes, including the removal of Supreme Court justices, the appointment of electoral authorities, and the convening of elections for a National Constitutional Convention (a smaller three-fifths majority is needed to fire government ministers). The results essentially allowed the opposition to take control in a winner-take-all system. Legally, they had several avenues open through which they could replace Maduro if they chose to do so.

Taken by surprise, Chavismo did not immediately question nor visibly attempt to interfere with the announcement of the electoral result. Yet only ten days later, the government's campaign chief, Jorge Rodríguez, called a press conference in which he showed an audio of conversations in which a high-ranking official in the office of the Amazonas governor—at the time a member of the opposition—allegedly agreed to provide funds to rig the electoral process in the state. The mechanics discussed in the call included paying people assisting illiterate voters to ensure that the votes would be cast for the opposition candidate and bribing witnesses to allow voting by voters who had died but were still on the rolls (Telesur, 2015).

Annuling the results of the Amazonas elections, however, was only one of the avenues through which Maduro used his institutional control to offset the opposition's power in the legislature. In December 2015, the lame-duck legislature, which was controlled by the governing Socialist Party, moved to appoint new justices to 13 of the court's 32 seats, filling positions that would otherwise have been filled by the new National Assembly.³⁶ Although the authority of the outgoing assembly to appoint justices to fill vacant seats on the Supreme Court was not in doubt, the opposition charged that the appointments had been made in violation of established

³⁵ A summary of pre-election seat forecasts can be found at https://es.wikipedia.org/wiki/Anexo:Encuestas_de_las_elecciones_parlamentarias_de_Venezuela_de_2015). Only 3 out of 22 firms publishing forecasts had the opposition winning a two-thirds majority in its forecast range.

³⁶ El Nacional (2015). The designation also included 21 alternates.

procedure. At the same time, Maduro used powers to legislate by decree, which he had been granted by the outgoing assembly, to reform 16 laws in the last weeks of December, annulling any powers of oversight by the National Assembly.

Perhaps even more importantly, in the first months of 2016 the Supreme Court made clear its unwillingness to allow the National Assembly to have any real power. Between January and July, the Supreme Court reviewed the constitutionality of six laws and four other decisions of the National Assembly and annulled all but one of them; in the remaining case (the Law of Food Bonuses and Medicines to Pensioners and Retirees), it subjected its application to approval by the executive branch. The grounds alleged for the annulment of these laws were varied, but the pattern was unequivocal.

Maduro, however, was not the only one playing hardball. On January 5, upon being sworn in as the first speaker of the opposition-controlled Congress, Democratic Action (AD) legislator Henry Ramos Allup delivered a fiery speech in which he promised to present “a method, a system to change the government constitutionally,” within a six-month period (Sanchez, 2016). A two-thirds majority of the National Assembly had several constitutional avenues at its disposal to do so, including the convening of a constitutional reform period shortening the presidential term or the convening of an all-powerful Constitutional Convention. The new Congress also moved to question the appointment of Supreme Court magistrates made by the preceding lame-duck Congress. Perhaps most importantly, the National Assembly refused to abide by the Supreme Court decision invalidating the Amazonas elections.

The opposition finally settled on a single avenue to oust Maduro: invoking the right of voters to request a recall referendum to determine whether an elected official could serve out the remainder of his term. Article 72 of the Constitution allows such a recall referendum to be held if 20 percent of registered voters to request it.

First, the opposition had to pass an initial threshold of collecting one percent of signatures of registered voters in each state. On August 1, electoral authorities announced that the threshold had been reached in all twenty-four states. However, the National Electoral Council (CNE) also claimed that some signatures had not matched the fingerprint scan and requested that an investigation be opened on those cases but did not count those signatures towards the tally. Government representatives used the CNE’s invalidation of signatures to allege that there had been a massive fraud in the collection process. On October 20, several regional courts announced

that they were invalidating the signature collection process in their states. On the following day, the CNE announced the suspension of the process nationwide.

Opposition leaders were enraged and called for street demonstrations. These were initially well attended, with an October 26 demonstration drawing nearly half a million people in Caracas. That same week, Maduro made a surprise visit to the Vatican, where he asked Pope Francis for his help in mediating the conflict with the opposition. A Vatican spokesperson announced shortly after the meeting that negotiations would begin at the end of that week. Initial talks were held in Caracas on November 12 and ended in chaos, with the sides reading different agreements that they both claimed that the other side has agreed to. By December 6, the opposition had declined to continue participating in the talks. By then, most opposition leaders felt they had been outmaneuvered into suspending the street protests (Eubank and Kronick, forthcoming; BBC Mundo, 2016).³⁷ After talks broke down in December, no attempt was made to call new demonstrations as supporters seemed to have lost motivation, and the Christmas season had begun.

Nevertheless, it would only be a matter of a few months before protests got underway again. The sparks that reignited the fire were two Supreme Court decisions published in late March 2017 that further restricted the legislature's power. One of them allowed the government to create and modify joint ventures in the oil sector and to reform the National Hydrocarbons Law, essentially annulling the legislature's constitutional prerogative to approve national public interest contracts. The justification for the decisions was that the National Assembly continued to be in contempt of the Supreme Court because of its refusal to withdraw the Amazonas legislators.

A strong show of international support and the willingness of National Assembly leaders to confront the government energized the opposition's base. Demonstrations called in April drew as many as 1.3 million people to the streets of the capital, with comparable numbers turning out in other cities. Opposition protesters centered their demands on elections and the resignation of the Supreme Court. Protesters would often clash with security forces as they attempted to advance on central Caracas, an area where many government buildings, including the

³⁷ Rosati and Soto (2016).

Presidential Palace, are located. It is estimated that more than one hundred people died during the protests, including government supporters and non-participants.³⁸

Amid these tensions, Maduro stunned the nation on May 1 by announcing that he would convene elections for a National Constitutional Convention. In principle, a move like this would have opened up the possibility for a resolution to the country's crisis; as we have discussed, the Constitutional Convention has the authority to dissolve other branches of government, making it immensely powerful. In fact, convening a Constitutional Convention, given its capacity to clean the slate of existing institutions, had been the preferred option of the more hardline opposition groups even before Maduro invoked it.

However, in contrast to the case of parliamentary elections, the Constitution gives little guidance on the rules for the election of legislators to the Constitutional Convention. Largely following suggestions from the government, the electoral authority proceeded to draft rules that would have allowed two-thirds of the representatives to be elected by municipal-level nominal voting, with each municipality having one representative, regardless of population.³⁹ The other third would be elected by separate voter rolls representing eight sectors, ranging from workers and pensioners to people with disabilities.

The opposition decided unanimously to boycott the election; instead, it convened an alternative voting process organized by the National Assembly in which voters could choose to reject the Constitutional Convention and order the military to defend the Constitution. Organizers claimed that 7.5 million voters (35 percent of registered voters at the time) participated in the event which was held in mid-July. Two weeks later, the elections for the Constitutional Convention were held, with electoral authorities announcing a turnout of 8.1 million voters (42 percent of registered voters). Independent estimates put the figures much lower (Rodríguez, 2017b).

The apparent exaggeration in the official turnout numbers, as well as a public statement by the CNE electoral technology provider saying it could not validate the results, fed increasing suspicion that the vote count had been fabricated. According to a national survey, the approval

³⁸ In fact, the government would routinely accuse the opposition protests of violence. In a highly publicized case, a man was burned alive during an opposition protest; he would later die as a result of the burns. The government said that he was burned after being accused of being a government spy, while some demonstrators claimed that he was a pickpocket. No apology was ever issued by opposition leaders for this incident. *The Guardian* (2017).

³⁹ The exceptions were state capitals, which each received two legislators, and the national capital, which received seven legislators. See Rodríguez (2017a).

rating for the CNE dropped from 46 percent in January 2016, after the announcement of the legislative election results, to 24 percent in October 2017 (Datanálisis, 2018).

Distrust and frustration with the inability to generate regime change fed voter apathy, particularly among opposition supporters. When the government moved ahead to schedule regional elections, the opposition suffered a major defeat, winning only 5 of 23 governorships and capturing only 46 percent of the national vote, to the government's 54 percent. Opposition leaders immediately cried foul and charged the government with tampering with the results (Infobae, 2017).

As the year came to an end, opposition debate grew regarding what to do with the upcoming 2018 presidential elections. On the one hand, the opposition had been looking for an opportunity to defeat Maduro at the ballot box, and 2018 was precisely that opportunity. On the other hand, increasing distrust of electoral authorities implied that a large part of the leadership and the opposition base had become convinced that any election would be rigged. Adding to the problems was the fact that two of the most popular opposition leaders—Leopoldo López and Henrique Capriles—had been banned from running due to a court conviction (López) and an administrative sanction (Capriles). Ultimately, most of the opposition would go on to boycott the 2018 presidential elections, allowing Maduro to sail to re-election.

Fighting Over Purse Strings

As the country's political crisis worsened, the opposition evolved from the belief that it could defeat the government by playing within the existing institutional rules to the conviction that those rules were hopelessly biased in favor of the government and that in order to win, it would have to play outside the rules. This increasingly meant opting for tactics that it would not have previously considered. Back in 2012 and 2013, the opposition had grudgingly accepted its electoral defeat in three consecutive elections.⁴⁰ By the end of 2017, it was openly rejecting any process organized by electoral authorities and openly calling the elections fraudulent.

There was one area in which this change in tactics would have significant economic effects: the government's access to external financing. As we have seen, the National Assembly has broad-ranging powers that in principle would allow it to restrict almost all of the

⁴⁰ To be precise, Capriles never acknowledged his defeat to Maduro in the 2013 presidential election, instead requesting a full and comprehensive vote audit. Yet even then, he never withheld formal recognition of Maduro as president and continued to advocate for contesting elections.

government's policy options. But almost all of those powers can be—and were—rendered worthless by other branches of government, including the judiciary. There was one exception: the willingness of the rest of the world to do business with the Maduro regime.

Blocking a government's economic decisions is a risky political move for an opposition. Almost from the start of his government, Maduro had charged that the country's economic problems were due to the concerted actions of opposition leaders and the private sector to sabotage the economy, in what he called a process of “economic war” (CNN, 2016). Certainly, there was a precedent to this strategy, and it was not good: the 2002–03 oil strike had generated a political backlash against the opposition, allowing Chávez to claim that his opponents were willing to hurt people's livelihoods in order to achieve their political aims.

Perhaps for this reason, the opposition began by treading carefully in this area. When in March 2016 the government submitted its first amendment to the budget, an authorization to transfer 21 billion VEF (USD 2.1 bn at the official rate at the time) to state and municipal governments, the assembly approved it without objections (Imprenta Nacional, 2016a) Even as late as September, when it discussed the decision by the state-owned oil company PDVSA to exchange USD 7.1 bn in maturing bonds—a decision for which the government did not consider it necessary to request the assembly's authorization—the legislature approved a resolution that rejected the use of assets as collateral to back the bond but did not object to the legality of the issuance and did not use the language customarily used to reject authorization requests or to question their legality.⁴¹ Most importantly, no attempt was made by opposition leaders to dissuade investors from participating in the swap, which allowed the government to defer payment of USD 2.8 bn (PDVSA, 2016).

This tone would change markedly with the turn of the year. One of the reasons was legal. In 2016, expenditures and debt were contracted under the 2016 Budget Law, which had been

⁴¹ See Asamblea Nacional de Venezuela (2016a). In 2019, the Guaidó administration decided to default on this bond and sought a New York court to overturn the granting of the collateral on the argument that the bond had not been duly authorized. The argument is shaky from a legal standpoint as PDVSA is legally exempted from the requirement of National Assembly authorization for bond issuances and asset pledges. For that reason, no political leaders issued statements at the time warning investors not to participate in the exchange, and the language of the National Assembly resolution approved at the time differs significantly from those of other resolutions regarding transactions that the assembly did intend to block, such as mining concessions (Asamblea Nacional De Venezuela, 2016b). In October 2020, the US District Court for the Southern District of New York denied the Guaidó request, concluding that “the Republic's submission does not provide significant support for the proposition that the September 2016 Resolution either characterized the Exchange Offer as a contract of national public interest or declared the Exchange Offer as null and void” (United States District Court of the Southern District of New York, 2020 p. 40). The case is currently under appeal before the Second Circuit US Court of Appeals.

approved by the prior legislature in 2015. But Maduro did not send the 2017 budget, which had to be approved in 2016, to the opposition-controlled National Assembly, instead asking the Supreme Court to approve the law since the assembly's contempt had generated a power vacuum. Thus, the opposition had a strong legal case that debt issued in 2017 was not issued according to the Constitution.

Yet, by and large the main motivation for the opposition's change of tone was political. In fact, when the government went ahead and issued a USD 5 bn sovereign bond on December 29, 2016, two days before the authorization was set to expire, a prominent government legislator called the operation "totally illegal," despite there being no grounds to argue its invalidity as it was based on the 2016 budget.⁴² The noise around that issuance impeded the state-owned bank that had bought the bonds from reselling them on the secondary market.

By the turn of the year, the opposition had decided that it would address the issue of financing head-on. When it became known that the Central Bank was involved in negotiations with Deutsche Bank to make liquid some of its gold reserves, National Assembly President Julio Borges sent a letter to the bank's CEO requesting that the bank reject the deal. While the letter did put forward some legal arguments, the thrust of its case was political: entering into this deal, Borges wrote, would be tantamount to acting "in favor of a government that is recognized as dictatorial by the international community." Instead, Deutsche Bank should cooperate with "the institution that today counts with the support of the Venezuelan people and that continues in the struggle to recover democratic order in our country [i.e., the National Assembly]" (Romero-Castillo, 2017).

Deutsche Bank's decision not to go ahead with the deal would turn out to be a wise choice from a public relations standpoint. One of its competitors was far less prudent. In May 2018, Goldman Sachs's asset management arm, an independently run investment fund within the bank, decided that it wanted to raise its position in Venezuelan debt, in anticipation of a potential

⁴² Armas and Vyas (2017). Although the National Assembly in principle has the authority to approve all debt issuances, there is an exception for state entities including PDVSA and the Central Bank, codified in the Organic Law of Financial Administration of the Public Sector. In the case of debt issued by the Republic, the National Assembly retains its right to authorize yet does so through setting a debt ceiling in the Annual Indebtedness Law, which is approved concurrently with the Budget Law. The Guaidó administration's contestation of the legality of the PDVSA 2020 bond was based on the argument that while a PDVSA bond issuance did not require National Assembly authorization, the pledge of a national asset like CITGO did. The sovereign Venezuela 2036 bond, in contrast, was neither secured by an asset pledge nor did it lack authorization, as it was covered by the 2016 Indebtedness Law. There was thus no legal argument against its validity and no attempt has been made to legally contest it.

change of government. Instead of buying the bonds on the secondary market, where accumulating a large position could take time and push prices up, it decided to offer to buy the bonds at a deep discount from the holdings of Venezuela's Central Bank.

The purchase, made at 31 percent of face value, caused an uproar. Goldman Sachs was surely aware of this risk, because it conducted the transaction through a little-known intermediary called Dinosaur securities. However, it was not hard for the financial press to figure out who the ultimate buyer was, and the *Wall Street Journal* broke the story of Goldman Sachs's involvement on May 28. Two days later, Venezuelan protesters convened at Goldman Sachs headquarters in New York to decry the bank's helping to finance the Maduro government. Borges wrote to Goldman's CEO Lloyd Blankfein, charging that the US bank had "decided to make a quick buck off the suffering of the Venezuelan people" and vowing that a future government would not recognize the bonds (Alvarado, 2017). Interestingly, the repudiation of the bonds came despite there being no question as to the legality of their issuance, which had taken place in 2014.

The Goldman Sachs purchase came only days after the publication of a piece in *Project Syndicate* by Venezuelan economist Ricardo Hausmann decrying bond investors who purchased Venezuelan debt (Hausmann, 2017). Venezuela's "hunger bonds" could yield high returns only as a result of bad things happening to Venezuelan people, Hausmann charged. In order to service its debt, he argued, Venezuela had to cut imports, and these import cuts were behind the economy's precipitous collapse and increase in poverty. Hausmann called on Venezuela to be excluded from an influential emerging bond market index calculated by JPMorgan, which was used as a benchmark of returns in emerging markets by many funds and at the time included a five-percent share of Venezuela bonds.

Hausmann's piece made no reference to the Goldman Sachs operation, and it is unlikely that the author would have had access to inside information about the transaction. Yet, by perhaps a fortuitous coincidence, Hausmann's phrase caught on quickly and "hunger bonds" became the standard label attached to the bonds purchased by Goldman Sachs. This is somewhat of an irony, as the Goldman Sachs operation achieved the opposite of what Hausmann was criticizing the bonds for. Hausmann's argument was that paying the country's debt left the government without money to pay for its imports, fueling Venezuelans' hunger. But the

Goldman Sachs deal did not force the government to cut imports; rather, it allowed it to pay for higher imports at the time than it would have been able to in the absence of the financing.

Nevertheless, what is most interesting about the argument is that Hausmann's criticism could be leveled at just about any country that pays its debts, and certainly at any country that decides to run a primary surplus while doing so. It will always be the case that resources paid to service debt could be put towards other uses, and in just about every contemporary society, reducing hunger is one of them. One common response is that if creditors are refinancing your debt, then the reason to pay is so that they will continue to lend to you. However, standard sustainability analysis shows that countries need to run primary surpluses (i.e., to borrow less than their total debt service) for their debt levels to be sustainable. By that definition, all the bonds of developing countries that have sustainable fiscal accounts are hunger bonds.

Despite its conceptual shortcomings, the label was politically very effective, because it married the normative critique of the Maduro regime—a government causing hunger—with the advocate's case for stopping the government from accessing funds. To a certain extent, the label got right (at the emotional if not at the argumentative level) what the opposition got wrong during the 2002–03 oil strike. It allowed the opposition to put concerns for Venezuelans' hunger at the center of its discourse while at the same time actively trying to stop the Venezuelan government from having access to resources.

The groundswell of criticism against the bond markets' financing of Venezuela paved the way for the consideration of economic sanctions to impede Maduro's government from access to international financing. Throughout 2017, the Trump administration had been exploring mechanisms to increase pressure on the Venezuelan government in an attempt to get Maduro to back down in its confrontation with the National Assembly. As the elections for the Constitutional Convention drew near, the United States considered the possibility of a full-fledged oil embargo, but the measure met with resistance, both in policy circles and from the domestic refining business (Matthews and Córdoba, 2017; Naím, 2017).

Sanctions on new debt, however, looked more appealing precisely because of the very strong prior advocacy effort directed against financing the regime. When the Trump administration imposed sanctions barring any new financing of the Venezuelan government or the state-owned oil company right after the Constitutional Convention elections, there was little

criticism and even some support from groups that had warned against the detrimental effects of an oil embargo (Smilde and Ramsey, 2017).

One could argue that sanctions would have been imposed independently of the opposition's strength, i.e., that they were a choice of the United States and not of the opposition. As we have emphasized, the toxic climate associated with Venezuelan financing would have led the economy to experience some of the consequences of losing access to international financial and oil markets in the absence of sanctions. Yet perhaps even more importantly, these sanctions would become redundant in 2019 with the Trump administration's decision to recognize the Guaidó administration—and it is much harder to argue that this would have happened unless the opposition had been willing and able to legally claim to holding the interim presidency. Guaidó's recognition essentially amounted to a US financial and trade embargo because the government that could sell oil or issue debt in the United States—Guaidó's government—was different from the one controlling oil production—Maduro's.

As the Venezuelan government became financially more toxic, in the sense of being more prone to generating regulatory and reputational risk for its partners, firms that had previously been willing to do business with it decided that the benefit was no longer worth the risk. Even prior to the adoption of sanctions in August 2017, tankers carrying Venezuelan oil shipments had been stranded off the US coast, as purchasers were unable to obtain letters of credit from financial institutions (Ulmer and Párraga, 2017). One important casualty of financial toxification was the Venezuelan government's loss of correspondent banking relationships enabling the execution of wire transfers and trade finance. Following the decision of large financial institutions such as Citibank to close Venezuela's accounts, the Maduro government started shifting its correspondent banking activity—necessary to carry out wire transfers and trade-related credit operations in the United States—to small and lesser-known financial institutions. At the end of 2017, after the sanctions announcement, even these banks ceased providing correspondent services to the Venezuelan government, often citing increased reputational risk (Pons, 2017). The August 2017 oil sanctions were followed by the September 2017 FinCEN letter of guidance recommending that many transactions originating from Venezuela be automatically flagged as potentially criminal. The issuance of this letter implied that any entity considering deals involving financial transactions by the Venezuelan government would have to be ready to shoulder large reputational and compliance risks. Many financial institutions

proceeded to close Venezuelan accounts rather than face the risk of inadvertently participating in activities that could be targeted for money laundering investigations. Venezuelan payments to creditors got stuck in the payment chain, with financial institutions refusing to process wires coming from Venezuelan public sector institutions.

The year 2017 was when Venezuela's political crisis became an economic one. It was the result of decisions by key political actors, including opposition leaders and their international allies, who concluded that economic pressure was one of the few instruments of leverage they had over the Maduro regime. To adopt this strategy, they had to overcome concerns about the potential political backlash from voters as well as decide to break unwritten norms of political coexistence that preclude the use of certain instruments in the fight for power. After the government made it clear that it was not willing to play by the rules when it blocked the recall referendum and stripped the assembly of its powers, it was only natural that the opposition would feel justified in taking conflict to this higher level.

The spilling over of political conflict into the economic arena significantly harmed the economy's growth and impeded the recovery that would have naturally happened given the rebound in oil prices that began in mid-2016. In fact, 2017 is somewhat of an anomaly because it is one of the only years in recent Venezuelan history in which exports recover but growth does not.⁴³ Yet despite higher oil revenues caused by recovering oil prices (which, that year at least, offset the effect of declining production), the economy entered another year of double-digit economic contraction.

WINNER-TAKE-ALL

The roots of Venezuela's political conflict lie in the winner-take-all political system that emerged out of the institutional reforms made around the turn of the millennium, reforms that significantly affected the incentives of the country's political actors to abide by democratic rules (Corrales, 2018; Corrales and Penfold, 2015; Carrión, 2015; Monaldi and Penfold, 2012). By substantially increasing the power of the executive branch and giving it the mechanisms to subordinate other branches of government to the presidency, the 1999 Constitution dramatically increased the political rewards of being in power—and the cost of being out of it. Increased stakes of power made it rational for both contenders in the political contest to try to play outside

⁴³ In the previous 30 years, this had only occurred in 1999, 2002, 2003, and 2010.

the rules of the game. It wasn't that the 1999 Constitution was undemocratic. It was that it significantly raised the incentives of the country's political actors to play in non-democratic ways.

Yet these institutional changes, while raising the stakes of political conflict, did not cause that conflict to become economically destructive until much later.⁴⁴ That's because it isn't just the increase in the stakes of power that generates the descent into political conflict. Our framework also suggests that the sustainability of democratic arrangements with higher stakes of power is greater in wealthier countries. Therefore, a major negative economic shock, such as what Venezuela saw between 2014 and 2017, could make a previously stable democratic equilibrium increasingly unstable. In my model, democratic stability requires not just a decision by actors to respect the electoral results. It also requires that actors are able to invest the resources necessary to accumulate the force needed to dissuade their political adversaries from rejecting the results of elections. When an economy becomes poorer, political actors may not be able to spend both what is needed to prevail in electoral competition and what is needed to dissuade adversaries from contesting their electoral victories. Once that happens, they may find it optimal to simply forget about electoral competition altogether, and instead spend all their resources fighting it out in the non-electoral arena.

It is straightforward to apply this reasoning to the strategies of Maduro and the governing PSUV party around 2017. Faced by a huge negative terms-of-trade shock that the economy was unprepared to deal with, the government found it increasingly difficult to keep voters satisfied. This would become evident when they suffered the stunning political defeat of the 2015 parliamentary elections. Playing by the institutional rules of the game would have meant accepting the opposition's two-thirds majority control of the legislature and its authority to set in motion the recall referendum, which would have most surely led to Maduro's loss of power. Maduro's inability to respond to those challenges after the collapse of state revenues would make it rational for him to shift strategies and begin to prioritize the support of the military instead of electoral competition. This would mean using his control of the courts to invalidate the recall referendum, giving security forces a free rein in repressing protests, and allowing the military

⁴⁴ An argument can be made that the 2002–03 crisis is an example of this. While leaving that episode to a further work, we would point out that it occurred at a moment of low and declining oil revenues, making it consistent with our view that high endowments are needed to sustain democracy when the stakes of power are high.

increased control over mining and oil production. None of these decisions would make him very popular; all of them would make him more likely to hold onto power.

The logic also applies to the changes in opposition strategies. The opposition began boycotting elections again in 2017, returning to a strategy that it had abandoned after its disastrous boycott of the 2005 elections. The strategy went so far as to boycott the 2018 presidential elections, despite polls indicating that it should be able to easily defeat an unpopular Maduro.⁴⁵ The avowed rationale for this strategy was that the government was very likely to rig the vote, and that internationally de-legitimizing the vote would be more likely to achieve the sought-after regime change. The opposition also began to forcefully lobby for economic sanctions and against foreign investment, unpopular actions that had a cost in terms of political support but were perceived to increase their chances of ousting Maduro from power. In other words, rather than invest its limited resources in attempting to prevail, as it had been able to do in the past, in a terrain of uneven electoral competition, the opposition chose to focus on convincing its allies to impose significant economic costs on the Maduro regime. Doing so was clearly unpopular with voters, but leaders believed the strategy stood a greater possibility of helping the opposition drive Maduro out of power.⁴⁶

One of the dimensions in which the change of opposition strategy is most evident is in the transformation of the opposition coalition. The Democratic Unity Roundtable that served as the umbrella grouping of opposition political parties between 2008 and 2017 was a broad coalition that included a diverse array of parties ranging from right-wing to extreme-left movements that emerged from the 1960s guerrilla movements. While this coalition was significantly united through 2017, it lost 21 of its 112 legislators between 2018 and 2019. Some were expelled from the coalition for breaking the boycotts or corruption allegations; others resigned in solidarity with the expelled lawmakers.⁴⁷ Maduro's efforts to chip away at the opposition coalition, which in at least some cases appears to have included sizable bribes, almost certainly played a role in

⁴⁵ My argument in no way relies on the assumption that Venezuelan elections are free or fair. Unfair elections are one of the ways in which the stakes of power are raised in my model. But even in unfair contests, there is a reward to the loser for participating in that contest (e.g., control of some local governments and seats in the legislature). Our point is that the opposition decided not to participate in those contests and to eschew accepting that reward because it saw a trade-off between doing so and pursuing an all-out battle for absolute power.

⁴⁶ For example, in a June 2021 survey by local survey firm Datanálisis, 70.4 percent of respondents opposed US oil sanctions and only 23.2 percent supported them, while 68.4 percent said they would support making them more flexible to address humanitarian issues (Datanálisis, 2021).

⁴⁷ Rodríguez (2020).

some of these decisions. However, that the desertions occurred at the moment of staunchest international support for the Venezuelan opposition—in fact, many dissenting legislators were ultimately sanctioned by the United States—suggests that they reflect a decision by the opposition leadership to rely on the support of a narrower coalition willing to support a hardline stance rather than the more ample set of actors the leadership would have courted if it had seen winning elections as its main challenge.

FIGURE 6

HYPOTHETICAL VENEZUELA TRAJECTORY

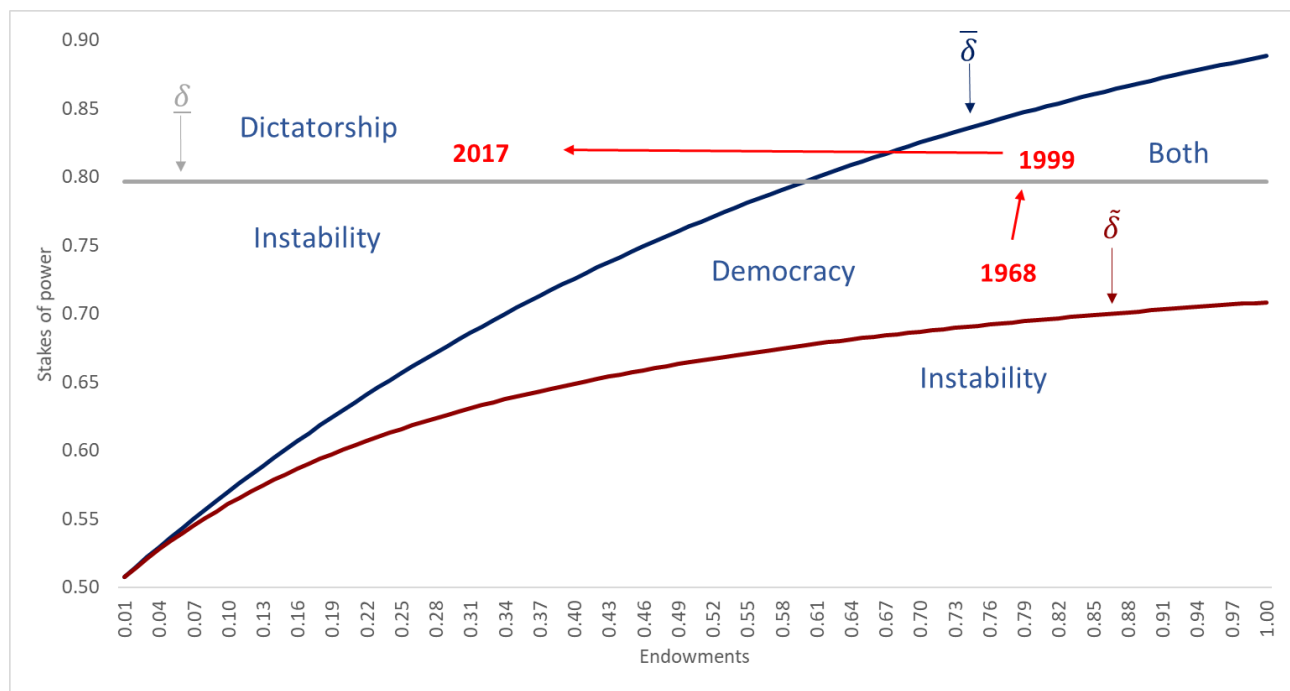


Figure 6 provides a schematic representation of our story for Venezuela by superimposing a hypothetical trajectory for the country on the parameter areas identified in Figure 5. Between 1968 and 1999, Venezuela’s political system was characterized by moderate stakes of power and

growing income per capita.⁴⁸ The reforms of the 1990s, and in particular the approval of the 1999 Constitution, remarkably increased the stakes of power, leading political actors to take greater risks in their pursuit of power—as they did, for example, in the 2002–04 political crisis. However, our model would suggest that the economy’s oil wealth during this period of rising terms of trade made these high stakes of power compatible with both authoritarianism and democracy. The model is thus compatible with the period of relative political stability enjoyed by the country between 2005 and 2016, even in the new high-stakes context.

The model outlined in this paper also suggests that a large negative shock to the economy’s wealth, such as the one that occurred during the collapse in oil prices between 2014 and 2016, can upset the viability of a political equilibrium that the country has settled into. As parties had to make tougher choices between continuing to contend power electorally and doing so through other, non-democratic means, we see them opting for the latter. This phenomenon is explained in Figure 6 as a leftward shift in endowments, out of the area compatible with both democracy and authoritarianism and into an area in which a conflict leading to dictatorship is the only viable outcome.

One important characteristic of the model is that while it traces the country’s descent into authoritarianism to the increases in the stakes of power built into the country’s institutions through the political reforms of the 1990s, it also explains why this descent happens not at the time of the reforms, but rather after a strong negative economic shock such as what took place in the mid-2010s. The model—at least evaluated by the parameters we have used to represent Venezuela’s trajectory schematically—also suggests that if the country had maintained the moderate levels of stakes of power embedded in its post-1968 institutions, democracy would have likely survived a negative shock of this magnitude, as it did in the 1980s.

CONCLUDING COMMENTS

In this paper, I have argued that Venezuela’s economic crisis is the combination of two separate yet related episodes. The first is the unraveling of a populist macroeconomic cycle, caused by overspending and underinvestment amid an oil boom that left the country unprepared for a large

⁴⁸ Karl (1997), Kronick, Plunkett and Rodríguez (2021), Di John and Putzel (2009). We take as our starting point 1968, the last year of the Broad Base coalition governments under the 1958 Punto Fijo accords. See Magallanes (1997) and Quintero (1997).

negative terms-of-trade shock. The second is the result of the decision by the country's political actors to escalate their conflict over power by using "scorched earth" strategies that targeted their opponent's access to resources at the cost of generating large negative spillovers for the whole economy. The first episode was a crisis of economic policy. The second was a crisis of political economy.

The episodes are related. I have argued that the trigger of the descent into economically destructive conflict was the large decline in incomes that forced political actors to choose between catering to voters and catering to the smaller selectorate whose support is necessary to gain or maintain access to power. Both sides chose to court the military and international allies, even if this meant doing things that voters disliked, such as repressing dissidents and lobbying for sanctions. Not surprisingly, opinion surveys today confirm that key leaders on both sides of the spectrum are strongly disliked by a majority of voters (Datanálisis, 2021).

The framework presented in this paper can help us gain a better understanding of what drives other episodes of economic collapse and how such episodes interact with political factors. For example, Zimbabwe's 1997–2008 economic collapse was also marked by political actors following scorched earth strategies, including government expropriations of white farmers and support of sanctions by the opposition (Simpson and Hawkins, 2018; Chan and Gallagher, 2017). In contrast, in the transition from Communism the Polish opposition led by Lech Walesa lobbied *against* sanctions, even convincing President Reagan to lift some of them (Saikowski, 1983). Ecuador and Bolivia saw very similar constitutional reforms to those of Venezuela in the past decade, but they have yet to descend into authoritarianism, perhaps because better economic management of the boom allowed them to avoid a sharp recession when the downturn in commodities prices arrived.

In the end, my story concerns the perils of increasing the contestability of power when there are insufficient checks and balances on executive power. Much like armies, political actors will only resort to scorched earth strategies when they see a risk of losing a contest for power and they feel that the costs of losing are very high. The economic collapse that results from economically destructive conflict occurs only when two sufficiently powerful groups that believe they have everything to lose face off against each other. Where absolute power corrupts, contested absolute power destroys.

TECHNICAL APPENDIX

Assumptions

Label each party's choice of whether to accept the election's outcome conditional on the results as $A_{ij} \in \{0,1\}$. $A_{ij} = 0$ when party i decides to contest j 's victory and 1 when it decides to accept it. Note that we will allow for $A_{ii} = 0$, i.e., for party i . Let F_i denote the first derivative of function F with respect to its i th argument, i.e: $F_i = \frac{\partial F(x_1 \dots x_n)}{\partial x_i}$. I assume q is twice continuously differentiable with $q \in [0,1]$, $q_1 > 0$, $q_2 < 0$, $q_{11} < 0$, $q(P_i, P_i) = \frac{1}{2}$. Regarding C , I assume that it is also twice continuously differentiable with $C > 0$, $C_2 < 0$, $C_1(0, P_j) > 0$, $C_{11} < 0$, $C(0,0) = \frac{1}{2}$ and $C(P_i, P_j) + C(P_j, P_i) \leq 1$. One key distinction between $C(\cdot)$ and $q(\cdot)$ is that conflict has an adverse impact on available resources. We model this as the requirement that $C(\cdot)$ is strictly decreasing with respect to increases of equal magnitude in P_i and P_j when P_i and P_j are equal, i.e. $C_1(P_i, P_j) + C_2(P_i, P_j) < 0$ for $P_i = P_j \geq 0$. I call this assumption the destructiveness of conflict. Note that by construction, electoral competition is not destructive.⁴⁹ Destructiveness of conflict is weaker than the alternative assumption of homogeneity of degree less than zero. In other words, our results below hold when C is homogeneous of degree less than zero.⁵⁰

Results

Let P^* denote the choice of P by both parties in a SSPNE where the election is contested and P^{**} the choice of P when it is contested. We are now ready to establish:

Proposition 1 In any symmetric subgame perfect Nash equilibrium, $C(P^*, P^*) = 1 - \delta$ if the election is uncontested and $P^{**} = \underset{P_i \in [0, \bar{L}_i]}{\text{Argmax}} [C(P_i, P^{**})]$ if the election is contested.

Proof. If the election is uncontested, $A_{12} = A_{21} = A_{11} = A_{22} = 1$ and $V_i = q(E_i, E_j)\delta R + (1 - q(E_i, E_j))(1 - \delta)R$. But then if (4) were to hold as a strict inequality, group i could raise E_i and lower P_i by an infinitesimally small amount and increase its payoff, as $V_i = R(2\delta - 1)q_1 > 0$. It follows that (4) must hold as an equality and $C(P^*, P^*) = 1 - \delta$. If the election is contested then $A_{12} = A_{21} = 0$, (4) does not hold and $C(P^*, P^*) > 1 - \delta$. Given that each actor's payoff is given by $C(P_i, P_j)$, P_i must be maximizing this function given P_j ; if it were not, then it would be possible to improve payoffs by deviating from P^* infinitesimally in the direction of the function's positive gradient and still comply with the strict inequality $C(P_i, P_j) > 1 - \delta$.

⁴⁹ This is because the probability that group i wins the election is equal to the probability that group j loses it, i.e., $q(E_i, E_j) = 1 - q(E_j, E_i)$. Differentiating this expression with respect to E_i tells us that $q_1(E_i, E_j) = -q_2(E_j, E_i) = -q_2(E_i, E_j)$ when $E_i = E_j$, so that $q_1(E_i, E_j) + q_2(E_i, E_j) = 0$.

⁵⁰ If C is homogeneous of degree r , then by Euler's theorem, $C_1 P_1 + C_2 P_2 = rC$. If $P_1 = P_2 = P > 0$, then $C_1 + C_2 = \frac{rC}{P} \leq 0$ as $r \leq 0$.

Corollary 1 Along any SSPNE where the election is uncontested, P^* will be an increasing function of δ . Furthermore, there will be a level $\bar{\delta}$ such that if $\delta > \bar{\delta}$ there will be no SSPNE where the election is uncontested.

Proof. Differentiating $C(P^*, P^*) = 1 - \delta$ gives us $(C_1 + C_2)dP^* = -d\delta \rightarrow \frac{dP^*}{d\delta} = -\frac{1}{C_1 + C_2} > 0$ by Assumption 2. Let $\delta = 1 - C(\bar{L}, \bar{L})$. Then it follows that for $\delta > \bar{\delta}$, $P^* > \bar{L}$ which is not feasible.

Corollary 2 Along any SSPNE where the election is contested, P^{**} will be independent of δ . Furthermore, there will be a level \underline{d} such that if $d < \underline{d}$, there will be no SSPNE where the election is contested.

Proof. The first part follows from the fact that $P^{**} = \underset{P_i \in [0, \bar{L}_i]}{Argmax} [C(P_i, P^{**})]$ is independent of δ . Let $\underline{\delta} = 1 - C(P^{**}, P^{**})$. If $\delta < \underline{\delta}$, then $C(P^{**}, P^{**}) < 1 - \delta$ and the loser has no incentive to challenge the election.

Corollary 3 There exists a $\tilde{\delta} \in (\frac{1}{2}, 1)$ such that if $\delta < \tilde{\delta}$, there is no pure strategy SSPNE.

Proof. Let P^* be an SSPNE for $\delta > \frac{1}{2}$. Consider the effect on i's payoff of increasing P_i . Since (4) holds as equality (3) holds as strict inequality and by continuity the winner will continue to accept the results regardless of the winner. Since $C_2 < 0$, j will continue to recognize i's victory. If $C_1 < 0$, then i will also continue to recognize j's victory. But then V^i will continue to be in the first segment of (4) at which it makes no sense to increase P as $\frac{dV^i}{dP_i} = -2q_1\delta R < 0$. Therefore $C_1 > 0$. This implies that if i increases P_i she will be on the third segment of (4) where her victory is recognized but she challenges j's victory. Also note that at an SSPNE, $C = 1 - \delta$ so the value of the first and third segment of (4) is identical, implying that we can assess the increase in utility by calculating $\frac{dV^i}{dP_i}$ along the third segment. In order for P^* to be an SSPNE, this increase must be less than or equal to zero, i.e.:

$$\frac{dV^i}{dP_i} = -q_1(\delta - C) + (1 - q)C_1 = -q_1(2\delta - 1) + C_1 \leq 0 \quad (1)$$

At $\delta = \frac{1}{2}$, this expression reduces to C_1 which we know to be greater than zero, so there is no uncontested SSPNE. By Corollary 3 we know that P^{**} cannot be an SSPNE either, so there is no SSPNE for $\delta = \frac{1}{2}$. Alternatively, let $\delta = 1$. Then $C > 0$ ensures that the loser will never recognize the result and that there will be conflict independently of who wins. Thus $V^i = C$ and there is a SSPNE at P^{**} .

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