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Crisis? What crisis? Measuring economic crisis in political science

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Abstract
An influential body of scholarship in political science has investigated the impact of economic crisis on various political outcomes. The vast majority of these studies rely on annual growth rates (AGR) to specify economic crisis. I argue that this canonical approach comes with several logical shortcomings. It leads to misguided impressions of crisis severity; it makes no distinction between rapid expansion years and rapid recovery years; and it disregards the financial dimension of economic crises. I present and discuss three alternative approaches of measuring economic crisis, imported from economics: economic shocks, economic slumps, and measures of financial crises. Examples from the regime instability literature demonstrate that these alternative crisis measurements provide results that are theoretically more nuanced and empirically more robust. On this basis, the article encourages researchers to pay more attention to the way they measure economic crisis in general and to supplement the AGR approach with alternative crisis measures in particular.

Keywords Economic crisis · Measurement · Annual growth rates

1 Introduction

Studies of the corollaries of economic crisis have a long history in political science. Prominent examples include work on welfare state development (Pierson 1996), class conflicts (Ferguson 1984), voting behavior (Lewis-Beck 1990), revolutions (Davies 1962), and democracy (Bermeo 2003; Haggard and Kaufman 1995), to name a few. In recent years, a new generation of large-N studies has revisited and refined our knowledge of the general effects of economic crisis. While these studies differ in many ways, they have almost consistently had one element in common: the measurement of economic crisis. The vast majority of quantitative studies employ annual fluctuations in GDP per capita growth rates as the main measure. Indeed, it is hardly an exaggeration to say that this annual growth rate

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approach (henceforth the AGR approach) has become the canonical specification of economic crisis within political science.

In no body of work is this more true than in the literature on regime instability.[1] As illustrated in Table 1, an overwhelming majority of these studies employ the AGR approach. This is puzzling considering that this literature is renowned for its vigorous discussions of the measurement of other key concepts, including democracy (Coppedge et al. 2011), state capacity (Hendrix 2010), and conflict (Gleditsch et al. 2002). Yet when it comes to economic crisis, it seems that old habits die hard. In this article, I focus on this particular literature, and argue that it is time to leave behind the sole reliance on the AGR measurement approach. Specifically, I argue that the AGR approach often gives misguided impressions of crisis severity; that it makes no distinction between rapid expansion years and rapid recovery years; and that it disregards the financial dimension of economic crises. These shortcomings probably explain some of the inconsistent findings that characterize this literature. They also inhibit theoretical progress because they foreclose analysis of how different aspects of an economic crisis may have different effects.

Bearing this in mind, one may wonder why the heavy reliance on the AGR approach has persisted for so long. It is especially curious given recent advances in the economics discipline, where researchers have moved beyond the AGR approach and developed alternative ways of measuring economic crisis. Following the critiques of the AGR measurement, I provide a short summary of three dominant approaches of measuring economic crisis from the economics literature. I classify them into measures of economic shocks, economic slumps, and financial crises. These approaches are intuitive and easy to implement for political scientists. To demonstrate the usefulness of these alternatives, I replicate Kim's (2016) influential study of the relationship between economic crisis and coup attempts. The replication demonstrates the competitive edge of alternative crisis measures: they generally yield more consistent empirical findings and they enable theoretical advances by revealing how various types of crises have different effects.

The aim of this short article is to encourage political scientists in general, and researchers of regime instability in particular, to free themselves from an automatic or default use of the AGR approach. Employing the AGR measurement may be reasonable if one expects year-to-year growth rates to matter. However, uncritical use of this standard measurement without considering the assumptions behind the AGR logic is problematic. Instead, I argue that scholars need to supplement the AGR approach with alternative crisis measurements, or sometimes to fully replace it with these crisis approaches, depending on the theoretical argument.

2 The AGR approach

The underlying logic behind the AGR approach is straightforward. The specification measures the annual percentage growth rate of GDP per capita; that is, how much the economy has grown or contracted from 1 year to the next.[2] For country i at year t the AGR measurement is formally given by:

$$\mathrm{AGR}_{i,t} = \frac{\mathrm{GDP/cap}_{i,t} - \mathrm{GDP/cap}_{i,t-1}}{\mathrm{GDP/cap}_{i,t-1}} \times 100$$

[1] That is, studies focusing on events such as regime breakdown in democracies and autocracies, coup attempts, civil war onsets, and irregular leader removals.

[2] Typically calculated at market prices based on constant currency.

Table 1 Large-N studies of economic crisis and regime instability[a]

Author(s)	Measurement	Results
Democratic breakdowns		
Gasiorowski (1995)	Annual growth rates (MA) and annual inflation rates (MA)	S
Przeworski and Limongi (1997)	Dummy variable: below/above 0% in annual growth rates	S
Przeworski et al. (2000)	Annual growth rates (MA)	S
Bernhard et al. (2001)	Annual growth rates	S
Bernhard et al. (2003)	Annual growth rates + positive/negative growth dummy variable interaction	S
Svolik (2008)	Annual growth rates	S
Kapstein and Converse (2008)	Annual growth rates (MA) and annual inflation rates	M
Teorell (2010)	Annual growth rates and annual inflation rates	N
Møller, Schmotz, and Skaaning (2015)	Annual growth rates (MA)	M
Autocratic breakdowns		
Gasiorowski (1995)	Annual growth rates (MA)	N
Przeworski et al. (2000)	Annual growth rates (MA)	M
Geddes (2003)	Annual growth rates	S
Tanneberg et al. (2013)	Annual growth rates (weighted MA)	S
Coup attempts		
Johnson et al. (1984)	Percent increase in GNP from 1965–1970	S
Londregan and Poole (1990)	Annual growth rates	N
Alesina et al. (1996)	Annual growth rates	S
Galetovic and Sanhueza (2000)	Dummy variable: below/above 0% in annual growth rates	S
Arriola (2009)	Annual growth rates	S
Thyne (2010)	Annual growth rates	N
Powell (2012)	Annual growth rates	N
Singh (2014)	Annual growth rates	N
Bazzi and Blattman (2014)	Commodity price shocks	N
Kim (2016)	Annual growth rates (IV: exogenous variation in temperature and rainfall)	S
Civil war onsets		
Collier et al. (2004)	Annual growth rates (MA)	S

Table 1 (continued)

Author(s)	Measurement	Results
Miguel et al. (2004)	Annual growth rates (IV: exogenous variation in rainfall)	S
Hegre and Sambanis (2006)	Annual growth rates	S
Collier et al. (2008)	Annual growth rates	S
Collier et al. (2009)	Annual growth rates (MA)	S
Bohlken and Sergenti (2010)	Annual growth rates (IV: exogenous variation in temperature and rainfall)	S
Brückner and Ciccone (2010)	Annual growth rates (IV: exogenous variation in commodity prices and rainfall)	S
Devitt and Tol (2012)	Annual growth rates	S
Koubi et al. (2012)	Annual growth rates (IV: exogenous variation in temperature and rainfall)	N
Bergholt and Lujala (2012)	Annual growth rates (IV: exogenous variation in climate-related disasters)	N
Dahl and Hoyland (2012)	Annual growth rates	N
Bazzi and Blattman (2014)	Commodity price shocks	N
Berman and Couttenier (2015)	External commodity price shocks and external banking crises	S
Irregular leader removals		
de Mesquita et al. (2005)	Annual growth rates	M
de Mesquita and Smith (2010)	Annual growth rates	M
Burke (2012)	Annual growth rates (IV: exogenous variation in commodity prices, export partner incomes, precipitation, and temperature)	M

Included studies: Those that either focus on the effects of economic crisis/economic performance as their main research question (e.g. Kim 2016) or that include a measure of economic crisis/economic performance as a control variable but substantially discuss its effect in the empirical analysis (e.g. Powell 2012). Studies that explicitly use terms such as 'economic crises', 'economic shocks', or 'economic downturns' as well as those that use broader terms such as 'economic performance' are included. 'MA' denotes the use of different moving averages (e.g. 2-year or 3-year moving averages) and 'IV' denotes the use of instrumental variable estimation. 'S' denotes that the study primarily finds significant crisis effects, 'N' denotes primarily insignificant effects, and 'M' denotes mixed findings. The table provides a comprehensive sample of relevant studies, but may not be exhaustive

[a]In some of the studies reviewed in this article, the focus is on economic upturns rather than economic crisis. For example, the core concept in the study by Collier et al. (2004) is not economic crisis, but rather foregone income opportunities. Likewise, Bohlken and Sergenti (2010) argue that lower annual growth rates decrease opportunity costs for rebellion, and consistently maintain the focus on annual growth rates in conceptualization, theory, and subsequent empirical analysis. In such cases, the critiques put forward in the present article might prove less relevant. Yet studies that investigate the effects of economic crisis often still cite and refer to such studies as if they were about the impacts of crisis. I therefore include them in this review

This approach has several advantages. Fluctuations in annual growth give a clear summary of short-term changes in the economy. Disruptions in economic growth are likely to impact citizens and state elites directly through lower income and higher unemployment rates (Okun 1963) and indirectly via fewer government resources, lower demand, and lower confidence in the economy. The measure is quite intuitive even for non-economists, and the fact that most prior studies have used it makes it easier to compare new findings with established ones. Yet despite these advantages, the approach comes with at least three shortcomings.

2.1 Crisis severity

When is an economic crisis most severe? While this question can primarily be answered by theory, the AGR approach often leads to impressions of crisis severity that most would surely find misguided. For example, consider the Nigerian economic collapse depicted in Fig. 1. If one perceives 1981 (−10.8%) as the worst crisis year, and 1982 (−3.8%), 1983 (−8.6%), and 1984 (−6.3%) as improvements – because the growth rate is higher – the AGR approach is appropriate. Yet if one sees 1982–1984 as years in which Nigeria descended further into economic crisis, the AGR approach leads to misleading conclusions. The issue here is whether to focus on the *rate* by which the economy decreases or on the *depth* of crisis. In most cases, the arguments that scholars interrogate in fact concern the latter. Studies often theorize about the consequences of losing spoils, social transfers, and the material wealth that citizens and elite groups had before the crisis (see e.g. Haggard and Kaufman 1995). For every year the economy deteriorates, income and government revenues decrease and unemployment keeps rising (Okun 1963). This means that the depth of an economic crisis often best represents its severity, which makes the AGR approach less useful. This is not to say that the AGR approach never captures the depth of a crisis. In fact, in some cases, such as the United States during the Great Depression, the discrepancy between rates and depth is much smaller as the economic situation around 1932 constituted both the year with the sharpest drop (−13.8%) and one of the deepest crisis years (see Fig. 1). Yet in most instances, this is not the case. For example, the well-known Russian, Brazilian, and Spanish crisis episodes in Fig. 1 demonstrate that the problem is a general one that pertains to a range of different crisis episodes.

2.2 Rapid recoveries and rapid expansions

Another shortcoming of the AGR approach is its failure to distinguish between rapid expansion years and rapid recovery years. For example, consider the United States during the Great Depression (Fig. 1). After years with severe economic contractions, the recovery period exhibited impressive growth rates of about 7% in both 1934 and 1935 and a remarkable 13.5% in 1936. According to an AGR measurement logic these years are good ones—indeed some of the best years of the 20th and 21st centuries—for the American economy. Yet few scholars would probably see the period 1934–1936 in this light. For most Western countries, the Great Depression did not end until the advent of World War II, as they were still struggling with high levels of unemployment, inflation, and debt (Bernanke 1983; Overy 2010) (see also France in Fig. 1). The issue here is that the myopic year-to-year focus of the AGR approach does not adequately factor in prior developments in economic performance. Years right after a recession often see rapid growth rates as the economy is 'catching up' (see most countries in Fig. 1), but the side effects of recessions, such as

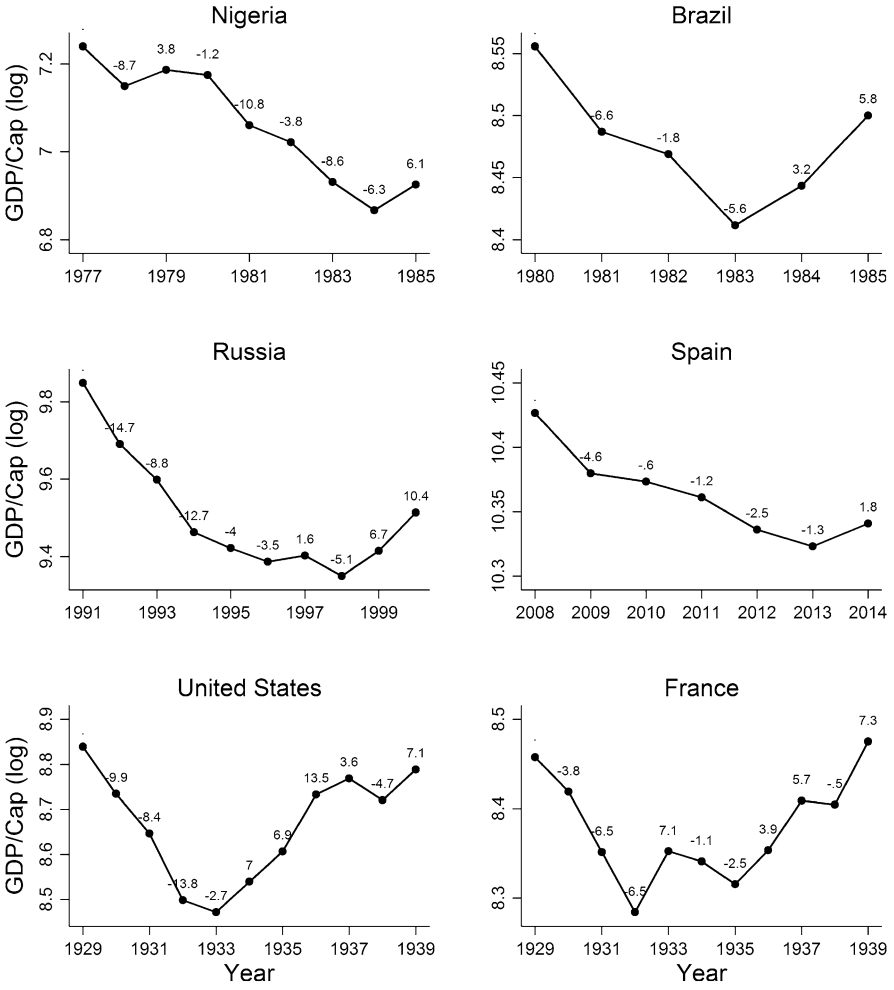


Fig. 1 Economic crisis and the AGR approach in six selected countries. *Note*: The graph depicts six well-known economic crises: The Nigerian economic collapse during the late 1970s/early 1980s, the Brazilian inflation and debt crisis during the 1980s, the Russian economic depression after the dissolution of the Soviet Union in 1991, the recent 2008 recession in Spain, and The Great Depression in the United States and France from 1929. Numbers in the graph show annual growth rates in GDP/cap. Data is from the Maddison dataset (Maddison 2010) and the Penn World Table (Feenstra et al. 2015)

higher unemployment and lower consumer confidence, often last well into the recovery years (Cerra and Saxena 2008). To consider the economy to be performing well based on positive growth rates right after a recession thus often leads researchers to draw debatable conclusions. Take as an example Diamond's (2011) observation that economic crises did not have a notable impact on recent democratic breakdowns:

> By contrast, overall economic performance does not seem to have been a consistent culprit here, as many of these failed democracies of the past decade had positive economic growth rates in the year or two before their collapse. In fact, some of the democracies had quite good—even startlingly good—economic performance around

> the time that they failed […] Rising oil prices produced growth in the year before and the year of democratic demise of 10.3 and 21.2 percent in Nigeria, 6.4 and 10% in Russia, and 18.3 and 10.5% in Venezuela. A weaker version of the same pattern held in non-oil countries such as Kenya and the Philippines, while in Georgia and Niger growth was outstanding in the year before the reversal but slight in the year during which the democratic reversal occurred.

In Russia—where democracy broke down in 2000, according to Diamond (2011)—the two referenced years of growth followed an 8-year period during which seven were severe recessionary years (see Fig. 1). Moreover, the Russian economy was still in the middle of a decade-long sovereign debt crisis, an inflation crisis with levels above 20%, and a currency crisis that had lasted a decade, not to mention the well-known and destabilizing banking crisis of 1998. Thus, Russia, along with several other recent breakdowns that Diamond (2011) discusses, does in fact represent a case of democratic breakdown during an economic crisis. Yet because of the AGR approach, it is not considered as such. Employing 2-year or 3-year moving averages of annual growth does alleviate the problem to some extent, but in cases where recessions last for a long period—as in the Russia example (see Fig. 1)—even such modifications do not adequately address this issue.

2.3 The financial component

Finally, the AGR approach disregards the financial dimension of economic crisis. Broadly speaking, a national economy is the production and consumption of goods and services and the supply of money in a given country. That is, it consists of two major components: A real economy component, which is about real economic performance in the form of production and consumption of goods and services, and a financial component, which is about the money supply.[3] This has important implications for the dynamics of an economic crisis. How can one truly understand the Great Recession in 2008 or the Great Depression in 1929 without referring to the crises in the banking sector; the economic hardships in the Weimar republic in 1919–1924 or the economic collapse in modern Zimbabwe without mentioning inflation levels; or the numerous economic crises in Latin America during the 1980s without focusing on sovereign debt defaults? Economic crises come in different forms, and by only focusing on the real economic component, we often miss important aspects of a crisis. These issues are crucial as different financial troubles have been shown to affect various societal groups differently, which in turn might have important implications for the political outcomes (see e.g. Easterly and Fischer 2001; Granville 2013).

3 Alternative approaches

If these critiques of the AGR approach are valid, what is to be done? One possibility is to turn to the economics discipline. Here, scholars have started to move beyond the AGR approach and have discussed more nuanced measures of economic crises. For the purpose of this article, I classify these alternative measures into three overall approaches: economic shocks, economic slumps, and financial crises.

[3] In the economics literature, the empirical relationship between these two aspects of the national economy has been widely studied (see e.g. Bernanke 1983; Brunnermeier and Sannikov 2014).

3.1 Economic shocks

One approach is to measure economic crisis by identifying specific points in time when a country suddenly hits a negative juncture in its growth trend. Here, economic crises are seen as short, sudden shocks that alter a country's growth path, and they are often identified via econometric time-series techniques typically based on the algorithms developed by Bai and Perron (1998, 2003). Such structural breaks occur when the economy has been growing rapidly for a while and then suddenly slows down markedly, or if a steadily growing economy experiences a sudden recession. The points in time where these breaks occur are identified as instances of economic crisis, or related terms such as 'growth slowdowns' (Ben-David and Papell 1998), 'external shocks' (Rodrik 1999), or 'growth failures' (Jones and Olken 2008). The strength of this approach is that it clearly identifies short periods of economic disruption. Less technical versions of this approach have already found their way to studies in political science—for example Brambor and Lindvall (2014), who identify economic crises as years where the growth rate reaches at least one or two standard deviations below the previous 10-year growth trend—but such examples remain rare.

This approach is relevant in cases where researchers are interested in examining how sudden economic shocks affect political outcomes. For example, in his forceful contribution on revolutions, Davies (1962:6) argues that 'Revolutions are most likely to occur when a prolonged period of objective economic and social development is followed by a short period of sharp reversal.' In quantitative studies with such theoretical expectations, the economic shock approach might prove useful.

3.2 Economic slumps

A second group of crisis approaches goes beyond sudden economic shocks in order to capture the entire crisis duration. In pioneering work, Pritchett (2000) and Jerzmanowski (2006) identify different growth 'regimes', and divide the economy into periods of rapid growth, stagnation, recession, and recovery. Building on this approach, numerous studies have developed different ways to capture periods of economic crisis. Different versions of the 'economic slump' approach have been particularly popular (see e.g. Barro 2006; Hall 2011; Hausmann et al. 2008; Reddy and Minoiu 2005). The standard version is simple: An economic crisis starts with a contraction of GDP per capita[4] and ends when GDP per capita is at or above its pre-crisis level. In this way, the specification captures the entire slump period from the first year of economic contraction up until the economy regains its initial output level. The strength of this approach is that it goes beyond the initial shock and captures the entire duration of the economic crisis.

This is relevant in cases where researchers are interested in examining the destabilizing effects of persistent crisis periods. An extensive psychological literature has demonstrated that people often refer back to prior economic conditions when assessing their current economic situation, and that crisis sentiments often last until the initial wealth is regained (Smith et al. 2012). The regime instability literature provides arguments that relate to such perceptions as well. For example, in the words of Ted Gurr (1970:46), revolutions and civil wars are likely when people 'are angered over the loss of what they once had'. In this context, what matters is not just the initial shock to the economy, but rather the period

[4] At a time when it was higher than ever before in that country.

in between the crisis onset and the regaining of pre-crisis wealth. The economic slump approach might prove useful in quantitative studies where researchers expect such crisis durations to matter.

3.3 Financial crises

The third and final group of approaches goes beyond real economic activity and looks into the financial sector. This approach has recently become more operational due to the impressive data collection work of Reinhart and Rogoff (2009), who map the cyclical history of different types of financial crises from 1800 to 2010 for 70 countries. Reinhart and Rogoff (2009) provide dummy indicators for banking crises, inflation crises, sovereign debt crises (both domestic and external), and currency crises. This impressive work enables researchers to study the effects (or causes) of financial crisis in a much more comprehensive and systematic manner than before.

Including such measures is highly relevant in studies where one expects various financial crises to exert effects on political outcomes. Nordlinger (1977), for example, stresses how economic downturns combined with rampant inflation increase the risk of coup attempts, while Haggard and Kaufman (1995) incorporate deep contractions in economic output, high inflation levels, currency depreciations, and debt burdens when studying crisis effects. Quantitative studies that expect such financial turmoil to matter should include measures of financial crises in the analysis.

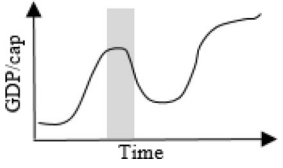
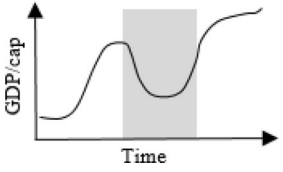
Table 2 summarizes these different approaches. It shows how they capture different aspects of an economic crisis and how they are relevant for different types of theoretical expectations. This is not to say that they there are no pitfalls in using these alternative approaches. For example, the economic shock approach can be criticized for not accounting for the duration of a crisis, whereas the economic slump approach sometimes ends up scoring long periods of stagnation as a crisis. As such, they are no substitute for the AGR approach, but should rather be seen as supplements. Researchers should undertake problem-specific assessments of what type of crisis they theoretically expect to have an effect and, based on this, employ one or more relevant measurement approaches.

4 A replication analysis

To demonstrate the usefulness of these alternative measurement strategies, Fig. 2 presents the results of a replication analysis of Kim (2016) on the relationship between economic crisis and coup attempts. The purpose here is neither to engage in a wider theoretical debate about economic crisis and regime instability, nor to undertake statistical estimations of the measurement bias induced by the AGR approach. The aim is more modest: to highlight some advantages of using alternative measurement approaches. Kim (2016) himself discusses measurement issues and offers an instrumental variable (IV) approach as a solution. Still, his study is relevant for the present purposes, as he undertakes a series of AGR analyses to demonstrate the inconsistency of these results before he turns to the IV estimations. In the following analyses, I use Kim's (2016) model specifications but substitute the alternative approaches for the AGR approach.

The results in Panel A are identical to those presented by Kim (2016). They illustrate a general problem in the literature, namely that the AGR approach yields inconsistent findings. Depending on the data source and model specification, it sometimes produces

Table 2 Summary of measurement approaches of economic crisis

Approach	Description	Illustration/examples	Theoretical expectation
AGR	Captures annual changes in the economy		Year-to-year growth rates are expected to have an effect
Economic shocks	Captures sudden economic shocks		Sudden shocks (a sudden stagnation or a sudden recession) to the economy are expected to have an effect
Economic slumps	Captures entire economic slump periods		Longer periods of economic slumps are expected to have an effect
Financial crises	Captures financial aspects of crises	Debt crisis Inflation crisis Currency crisis Banking crisis	Financial crises are expected to have an effect

The table summarizes four economic crisis measurement approaches. The grey bars in the 'Illustration/examples' column illustrate periods of economic crisis

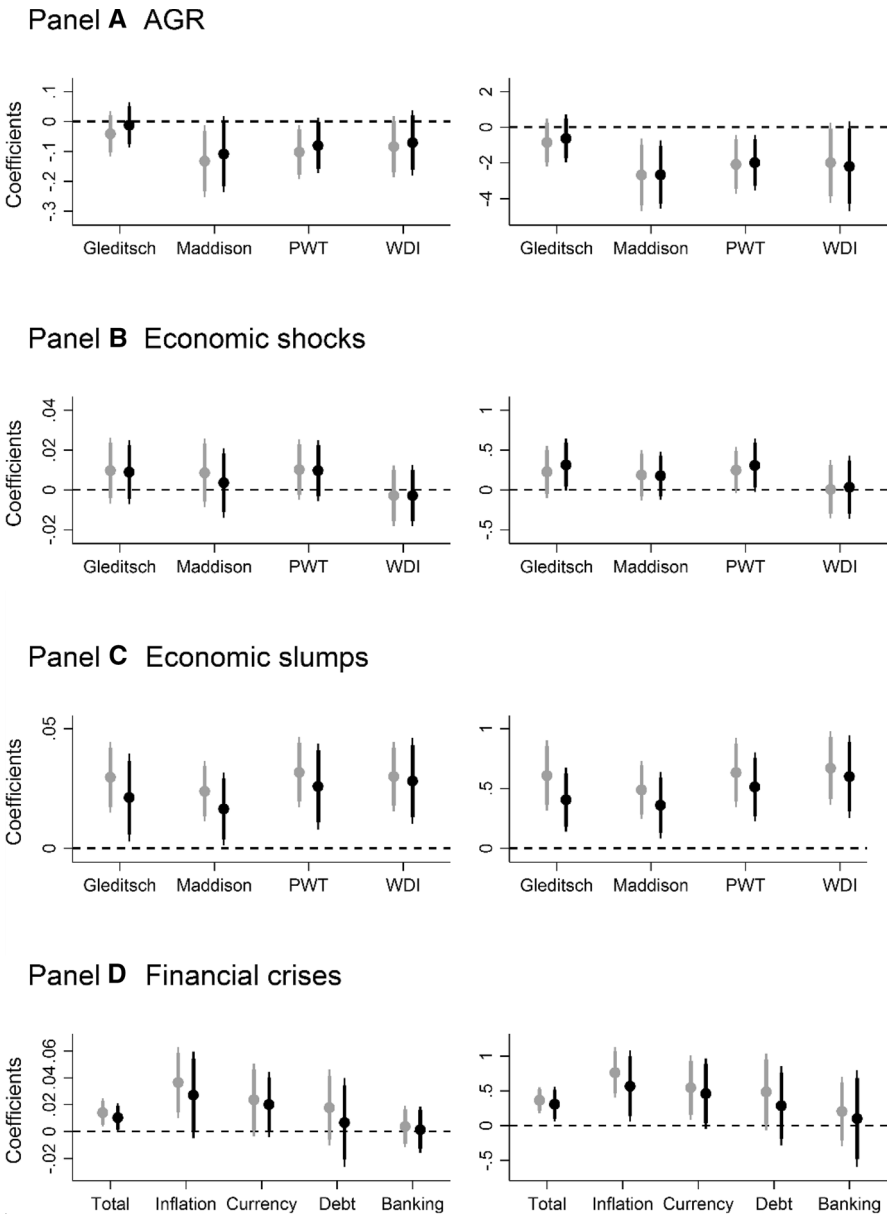


Fig. 2 Replication analysis of Kim (2016). *Note*: X-axis describes the different data sources: Gleditsch's expanded GDP data, (Gleditsch 2002) the Maddison dataset (Maddison 2010), the Penn World Table (PWT) version 7 (Feenstra et al. 2015), and the World Development Indicators (WDI) from the World Bank. In Panel D, different types of financial crises are displayed instead. Y-axis displays estimated coefficients. Dots represent point estimates. Associated horizontal thin (thick) line segments show the 95 (90) percent confidence intervals. Grey indicators display pooled estimates and black indicators denote country fixed effects estimates. Left panel shows results from a linear probability model (LPM) and the right panel shows results from logit estimates. In Panel A, higher values on the AGR measure indicate better performing economy and lower values indicate worse performing economy. In Panels B, C, and D, higher values on the alternative measures indicate economic crisis and lower values indicate non-crisis periods. The coefficients are therefore reversed in comparison to Panel A

significant results and at other times yields insignificant results. While these analyses do not directly suggest that the inconsistent estimations are due to the shortcomings discussed above, they show that the AGR approach can yield mixed findings even though the same measurement approach is being used across different models.

In the following models, I undertake the same analysis with the three alternative approaches (I show full regression tables and provide variable descriptions in the Online Appendix). Empirically, the results are clear. Panel B reveals that sudden economic shocks have no discernable impact on the risk of coup attempts across all models. Panel C, on the other hand, shows that economic slumps have robust effects on coups across all models. These patterns suggest that political leaders are able to weather sudden shocks to the economy. Mobilization for coups seemingly takes time to build up steam, and only persistent economic slumps increase the likelihood of military insurrections.

This finding might inform us regarding the relationship between economic crises and regime breakdown more generally as well. When regimes break down due to an economic crisis, the process is often step-by-step: First, citizens grow discontented with the economic situation in their country during a crisis, which leads them to attribute blame for the economic turmoil to the current regime. Then follows mass and elite mobilization that challenges the regime, typically through anti-regime protests, civil war, or coup attempts. Finally, if unable to resist such challenges, the regime breaks down. This long process from economic crisis to a potential regime breakdown suggests that long persistent slumps rather than short transitory shocks should be the most destabilizing for political regimes generally.

In addition, Panel D reveals that the total number of financial crises in general and inflation crises in particular increase the likelihood of coup attempts. This illustrates the importance of accounting for the financial determinants of instability. Specifically, inflation crises are often argued to be the type of financial crisis that has the broadest societal impact, affecting especially the poor and the middle class (Easterly and Fischer 2001). The fact that this type of financial crisis seems to be most important corroborates the theory of Galetovic and Sanhueza (2000), who argue that broad-based mass upheavals—often overlooked in favor of elite dynamics in the coup literature—are pivotal for the risk of coup attempts.

This short replication exemplifies the usefulness of supplementing the AGR approach with additional measurement approaches. A sole reliance on the AGR approach is more likely to produce ambiguous results that tell us little about what type of economic crisis is most important for a particular outcome. By using the alternative measurement approaches, one is likely to obtain more clear, robust, and theoretically informative findings.

5 Conclusions

Political science teems with studies that investigate the impacts of economic crisis. However, the crucial issue of how to measure crisis has received little attention. In this study, I have attempted to address this gap. I argue that the canonical AGR approach leads to misguided impressions of crisis severity; makes no distinction between rapid expansion years and rapid recovery years; and disregards the financial dimension of economic crises. Instead, I suggest supplementing this measure with alternative measures from the economics discipline. A short replication analysis highlighted the promise of employing such measures: They yield empirically clearer and theoretically more nuanced results. This is the basis for this article's call for researchers to break the habit of relying solely on the

AGR approach, focus more on the measurement of economic crisis, and supplement their analyses with alternative crisis measures.

Fortunately, some subfields have already taken steps in this direction. Most clearly, the economic voting literature has seen recent attempts to account for various benchmarks over time (Aytaç 2018) and space (Kayser and Peress 2012). These specifications have yielded substantial advances and they demonstrate the fruitfulness of moving beyond a sole reliance on the traditional AGR approach. Thus, the point here is not that there has been no progress at all in political science.

Neither is the purpose to argue that studies of economic crisis should look only towards the economics discipline. In the psychology literature, an extensive body of work has examined different aspects of economic crisis as well. For example, prominent work has investigated what type of benchmarks people most often use when evaluating their current economic situation (see e.g. Smith et al. 2012), while another branch examines whether economic gains or losses are most important in determining economic perceptions (see e.g. Kahneman and Tversky 1979; Thaler 1980). Including contributions from these areas may further advance studies of economic crisis in political science. The aim of the present article is to aid, encourage, and expand such progress. Yet in order to materialize, such progress ultimately relies on the willingness of future studies to consider alternative measurements as a supplement to the hitherto canonical AGR approach.

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