Democracy and the Volatility of Economic Growth

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A large literature in political economy finds that democracy is associated with lower volatility of economic growth. I argue that existing scholarship has reached misleading conclusions by relying heavily on a historically anomalous period of democratic stability after the end of World War II. Postwar democratic stability reflected conscious policy choices adopted in response to the Great Depression, often described as "embedded liberalism." Using a panel dataset extending back two centuries and a variety of proxies for economic volatility, I show that there is no inherent association between democracy and economic stability. The findings have important implications for our understanding of democratic advantages and contemporary debates about the stability of the liberal economic order.

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Do democratic institutions generate economic advantages? A large literature in political economy has debated whether democratic countries enjoy benefits such as more rapid economic growth,[2] lower borrowing costs,[3] or freer trade.[4] Bendor and Bendor assert that liberal democracies dominate the feasible set of regime types across a wide range of characteristics, providing greater benefits without obvious tradeoffs.[5] One notable advantage that has received attention in recent years is the tendency for democratic countries to experience less volatility in their economic growth. As Dani Rodrik notes, "The relationship between democracy and volatility in economic performance… is negative, statistically significant, and quantitatively large."[6] In a more recent article, Chandra and Rudra conclude that "a consensus has emerged: autocracies produce growth volatility, while democracies tend towards economic stability."[7]

This association between regime type and economic volatility is substantively important. Democracies may be better able to develop economically because their growth is more sustained and less subject to disruptive reversals.[8] This mechanism for developmental success has attracted increasing attention as evidence suggests a weak association between regime type and economic growth rates.[9] Economic instability is often associated with regime transitions: autocratic growth volatility may be good news for democratization, while economic instability among democracies may lead to extremism and erosion of liberal norms.[10] More generally, economic volatility is

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[2] Acemoglu et al. 2003, Mobarak 2005, Gerring et al. 2005, Papaioannou and Siourounis 2008, Yang 2008, Klomp and de Haan 2009, Acemoglu et al. 2014, Gründler and Krieger 2016
[3] North and Weingast 1989, Schultz and Weingast 2003, Beaulieu, Cox and Saiegh 2011
[4] Milner and Kubota 2005, Mansfield, Milner and Rosendorff 2002.
[5] Bendor and Bendor 2017
[6] Rodrik 2000.
[7] Chandra and Rudra 2015
[8] Mobarak 2005
[9] Barro 1996, Tavares and Wacziarg 2001. However, also see Gerring et al. 2005, Acemoglu et al. 2014
[10] Linz and Stepan 1978, Haggard and Kaufman 1995, Przeworski and Limongi 1997, Acemoglu and Robinson 2001

inherently undesirable, causing wasteful investment during booms and economic dislocation during busts.[11]

This paper calls into question the predominant view that democracies are less economically volatile than autocracies. Existing work has identified plausible theoretical reasons why democracies are more stable than autocracies, drawing on differences in domestic institutions. Most obviously, institutionally unconstrained autocrats can pursue capricious and arbitrary policies that trigger large growth reversals, such as the Cultural Revolution or Stalin's purges. Mao triggered a major famine and the loss of millions of lives in China by acting on his personal dislike of sparrows and called for their extermination.[12] However, there are equally compelling theoretical reasons why democracies may be relatively *less* stable. Democracies are more susceptible to financial crises than autocracies.[13] Democracies tend to have liberalized financial sectors and relatively open economies, making democratic growth vulnerable to large-scale international crises.[14] Political constraints may make policy responses to serious crises slow and less effective.[15] A priori, there are limited theoretical grounds to believe autocratic sources of instability predominate over democratic sources of instability.

I will argue that the relative importance of democratic and autocratic sources of instability are contingent and vary over time. In doing so, I highlight the importance of *conscious policy choices* as a source of stability among democratic countries. Prior to World War II, major democracies suffered from recurrent and debilitating economic instability. The 1930s Great Depression proved particularly destabilizing, causing massive economic disruption and

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[11] E.g., in most theoretical models of finance, volatility is assumed to be undesirable by assumption and investors must be rewarded with higher returns to hold volatile assets. e.g. Fama and French 1993
[12] Dutt and Mobarak 2016, 500
[13] Lipscy 2018
[14] Dailami 2000, Quinn 2000, Milner and Kubota 2005
[15] Alesina and Drazen 1991, Hicken, Satyanath and Sergenti 2005

democratic reversals. In response, leading democracies developed and implemented policies to suppress sources of volatility that had proven particularly harmful. These policies included suppression of global capital flows under the Bretton Woods System, stringent regulation of financial institutions, social welfare systems that acted as automatic stabilizers, and the advent of Keynesian countercyclical monetary and fiscal policies. Ruggie describes the resulting set of arrangements as "embedded liberalism."[16] These institutions played an important role in preventing and mitigating the economic crises that consistently plagued leading democracies through the mid-20th century.

In the empirical section, I use historical data covering the past two centuries to show evidence broadly consistent with these premises. Across a wide variety of indicators, democratic volatility was no lower than that of autocracies for most of the past two centuries. The same indicators show sharply lower democratic volatility after World War II. The postwar reduction in volatility primarily benefited developed democracies, which were most active in developing stabilizing institutions. The evidence suggests low growth volatility is not an inherent characteristic of democracy but more akin to a conscious choice: the association emerged after World War II primarily among relatively wealthy democracies as these countries sought economic stability.

It follows that the weakening of postwar institutions – e.g. the resurgence of cross-border financial flows and sharp increase in financial crises, pullback of welfare states, and constraints on countercyclical policies, such as fixed exchange rate regimes and deflation – may be elevating democratic volatility toward more historically typical levels. The 2008 subprime crisis and 2011 Euro crisis primarily afflicted leading democracies that had largely escaped catastrophic

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[16] Ruggie 1982

financial crises since the end of WWII. Hence, better understanding the causes and consequences of democratic growth volatility will be of paramount importance to contemporary debates about democratic advantages, democratic reversals, and the future of the liberal international order.

Theory: The Varying Sources of Democratic and Autocratic Growth Volatility

Influential scholarship by economists and political scientists has found that democratic countries experience less growth volatility compared to autocracies. Dani Rodrik appears to be the first to have noted the association.[17] As Summers and Pritchett note, "While autocracies can maintain very high growth rates—even over extended periods—they also tend to have much larger ranges of growth outcomes—with booms and busts—than stable democracies."[18] A large volume of work has examined this association and found largely consistent results, with empirical findings generally suggesting that causality runs from regime type to growth volatility.[19]

Like other salient relationships involving democracy, such as the democratic peace[20] and democratic advantages in war,[21] the precise causal mechanism associating democracy with less volatile growth is challenging to disentangle. Nonetheless, the literature has made important progress in this direction.[22] The relative economic stability of democratic regimes has been attributed to several interrelated factors. These include the moderation of social conflict through

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[17] Rodrik 2000.
[18] Pritchett and Summers 2013, 61
[19] E.g., Mobarak 2005
[20] Bueno de Mesquita et al. 1999, Maoz and Russett 1993, Maoz and Abdolali 1989, Kant 1795.
[21] Partell and Palmer 1999, Schultz 1999, Fearon 1994, Lake 1992.
[22] See, for example, Chapter 4 in Nooruddin 2010

compromise,[23] the decentralization or diffusion of power,[24] stability of policymaking and

distribution of economic rents,[25] better information through public deliberation,[26] and better

representation of the interests of risk-averse citizens.[27]

Although the literature has largely focused on how democracy stabilizes growth, there are

important theoretical reasons why democracy can be a source of economic *instability*.

Democracies are more likely than autocratic regimes to pursue financial liberalization, which can

increase the likelihood of financial crises.[28] Democracies also tend to be more economically

open, which can increase the risk of international contagion during international economic

crises.[29] Constraints on decision-making can be a source of both stability and instability: during a

speculative boom or financial crisis, slow decision-making can hamper effective response and

lead to more serious macroeconomic consequences.[30] Perhaps reflecting these factors,

democracies are more prone to financial crises than autocracies.[31]

A priori, the net impact of democracy on economic stability is indeterminate. I argue that

the relationship has been *historically contingent*. For much of history, the sources of democratic

stability and instability were essentially a wash. Democracies were perhaps characterized by less

idiosyncratic policy volatility, but they were more vulnerable to economic boom-bust cycles

stemming from speculative mania and financial crises. This financial instability became

catastrophic in the 1930s, threatening the survival of democracy itself. The subsequent stability

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[23] Rodrik 2000
[24] Sah 1991, Almeida and Ferreira 2003, Sah and Stiglitz 1991, Nooruddin 2010, Kim 2007
[25] Dutt and Mobarak 2016, Nooruddin 2010, Pritchett and Summers 2013
[26] Chandra and Rudra 2015
[27] Quinn and Woolley 2001, Kim 2007
[28] Dailami 2000, Quinn 2000
[29] Milner and Kubota 2005, Mansfield, Milner and Rosendorff 2002, Yu 2010, Eichengreen and Leblang 2008
[30] Kim 2007, Lipscy 2018.
[31] Lipscy 2018

of democratic growth reflects domestic and international policy measures implemented during the 1930s and 40s.

During and after the Great Depression, leading democracies adopted various measures to rein in financial speculation, which had contributed to prewar boom-bust cycles. Across major economies, greater restrictions were placed on the use of leverage for speculative investments. The US Glass Steagall Act sought to reduce speculative excess by explicitly separating commercial and investment activities.[32] The act also created the Federal Deposit Insurance Corporation, which publicly guaranteed small deposits to prevent destabilizing bank runs.[33]

Reforms were also implemented to cushion domestic adjustment burdens for citizens in order to build support for economic openness, what John Ruggie describes as "embedded liberalism."[34] Reflecting the Keynesian revolution, governments intervened more aggressively to counter recessions using countercyclical fiscal and monetary policy. Social welfare states expanded, playing an important role as automatic stabilizers during economic downturns. Embedded liberalism was spearheaded by relatively developed democracies – the United States and Western European countries – and the policy measures were specifically designed to redress prewar economic volatility.

Internationally, postwar planners set up the Bretton Woods System, restricting global capital flows and creating greater flexibility for domestic monetary policy. Limited capital flows led to a sharp decline in international financial crises.[35] The convertible period of the Bretton Woods System was associated with unusually low volatility in economic output and output

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[32] Benston and Harland 1990
[33] Diamond and Dybvig 1983
[34] Ruggie 1982
[35] Ibid., Reinhart and Rogoff 2009

variability among member states.[36] The Bretton Woods System also implemented a fixed exchange rate system overseen by the IMF to limit instability from currency volatility and beggar-thy-neighbor exchange rate devaluations. The IMF could also act as an international lender of last resort to ease the adjustment burden for countries experiencing balance of payments difficulties.

Importantly, these stabilizing measures have weakened over time. The Bretton Woods System collapsed in 1973, capital controls have been progressively weakened, financial deregulation and liberalization accelerated after the 1980s, and social welfare states have been under siege due to globalization and budgetary pressures. Countercyclical monetary and fiscal policy has also become less potent in some circumstances. The 2011 Euro Crisis was reminiscent of economic adjustment under the gold standard: countries such as Greece and Spain had no independent monetary policy as Euro members but were also subjected to sharp, procyclical fiscal contractions. Japanese monetary policy has been hamstrung by deflation and the zero lower bound in nominal interest rates.[37]

For sure, the recent period does not represent a complete reversal: most major democracies still utilize countercyclical policies and maintain much larger welfare states than the pre-WWII period. Important stabilizing measures, such as deposit insurance schemes, remain in place. Nonetheless, the partial reversal may be associated with greater democratic volatility than suggested by the track record after WWII. Empirically, the period from the end of WWII to roughly the 1990s was characterized by relatively few financial crises among developed democracies, but this historically anomaly appears to have ended in recent years.[38]

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[36] Bordo 1993
[37] Krugman, Dominquez and Rogoff 1998
[38] Lipscy 2018

An important shortcoming of the existing scholarship on democracy and economic volatility is overreliance on a historically anomalous period of economic stability among democracies after World War II. An overview of the literature by the author turned up no empirical analyses that include data prior to World War II. For example, Rodrik considers the association between regime type in 1970 and subsequent economic growth.[39] Mobarak examines 1970-1999,[40] Chandra and Rudra 1961-2000,[41] Yang 1968-2002,[42] Grundler and Krieger 1981-2011,[43] Pritchett and Summers 1980-2008.[44] This focus on postwar data is understandable. Historical data on economic growth is less reliable, and it is possible to conduct more sophisticated analyses using a wider range of variables with recent data. However, reliance on postwar data can lead to misleading theoretical conclusions: the analysis is dominated by a period of relative financial stability among leading democracies, a pattern that is historically atypical. Although the 1990s saw significant financial crises in Japan and the Nordic countries, it was not until the 2008 Global Financial Crisis and 2011 Euro Crisis that advanced industrialized democracies started experiencing financial instability reminiscent of prewar episodes such as the 19th century Long Depression or the 1930s Great Depression.

For sure, autocratic countries were not excluded from taking advantage of postwar stabilization measures. However, the measures did not directly address the principal autocratic sources of economic volatility, such as capricious policymaking by unaccountable leaders. With their relatively closed and less liberalized economies, autocracies stood to benefit less from international economic stability compared to their democratic counterparts. Embedded liberalism

[39] Rodrik 2000
[40] Mobarak 2005
[41] Chandra and Rudra 2015
[42] Yang 2008
[43] Gründler and Krieger 2016
[44] Pritchett and Summers 2013

did little to mitigate the chaos of the Cultural Revolution or the Cambodian genocide. Reforms in the 1930s and 1940s primarily benefited democracies, particularly developed democracies with the capacity and resources to implement countercyclical institutions and financial regulatory measures.

The existing literature generally theorizes that inherent characteristics of democracy – such as institutions facilitating compromise or diffusion of power – lead to less economic volatility compared to autocracies. As such, we should expect democracies to exhibit less economic volatility regardless of time period. In contrast to this conventional wisdom, I argue that the sources of democratic and autocratic volatility are distinct: democracies are particularly vulnerable to volatility stemming from financial instability and international contagion. Postwar democratic stability reflects policy choices consciously adopted after the 1930s and 1940s in response to debilitating prewar volatility. As such, I expect the link between democracy and growth stability to be historically contingent, only appearing in the post-WWII era.

Historical Data

I begin with an overview of the historical data. Data on GDP/capita was not collected officially until 1937, when Simon Kuznets proposed the concept of national economic accounts in a report to the US congress.[45] However, Angus Maddison and colleagues have reconstructed historical GDP/capita series based on available data on historical incomes and growth rates.[46] This data is now widely accepted as the most reliable estimate of historical GDP/capita.[47] The

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[45] Bureau of Economic Analysis 2000
[46] Maddison 2010 and Bolt et al. 2018
[47] Bolt et al. 2018

Maddison data does have some important limitations, but as I will discuss and demonstrate

below, alternative measures and proxies produce very similar substantive results.

Figure 1 depicts the basic relationship between regime type and growth volatility for

1800-2015 using a common measure in the literature: the standard deviation of GDP per capita

growth by decade.[48] The lines are local polynomial smoothers surrounded by 95% confidence

intervals. The thick, solid line is democratic countries, the dotted line is autocratic countries, and

the thin, solid lines are 95% confidence intervals. Regime type is coded according to the

dichotomous democracy measure proposed by Boix, Miller and Rosato.[49] Higher values on the

y-axis indicate greater growth volatility.

As the figure shows, democracies have not consistently exhibited lower growth volatility

over time. In fact, there are long periods when democratic volatility considerably exceeded the

volatility of autocratic regimes: the late 19th century, which saw a series of boom and bust cycles

surrounding railroad speculation, including the Long Depression of 1873; and the period roughly

from the 1920s to the end of World War II, which saw the roaring 20s give way to the Great

Depression and war. In relative comparison, autocratic volatility has been relatively stable, with

modest peaks during the Interwar period and during the Washington Consensus years in the late

20th century, which saw an elevation in financial liberalization among autocratic countries.[50]

Importantly, growth volatility for democracies declined sharply after World War II and

remained consistently below that of autocracies. As the figure shows, this is not historically

typical: the only other times when democratic volatility was consistently lower were for brief

periods in the early-19th and 20th centuries. Nonetheless, existing empirical analyses of regime

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[48] For the figure, standard deviation is measured as a trailing measure covering the last ten years for each observation. Historical data on GDP per capita is from Maddison 2010 and Bolt et al. 2018

[49] Boix, Miller and Rosato 2013.

[50] Lipscy 2018

type and growth volatility have focused essentially exclusively on the anomalous post-WWII period.

**Figure 1: Standard Deviation of GDP per Capita Growth by Regime Type, 1800-2015**
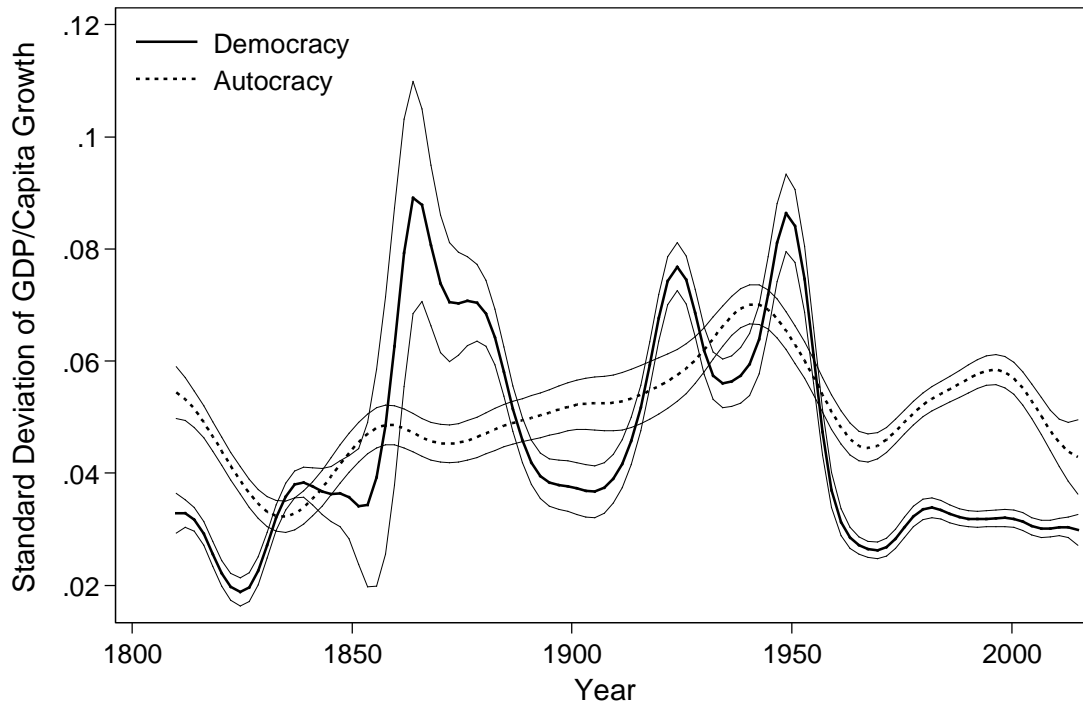
Note: The standard deviation of economic growth among democratic countries has not been consistently lower than that of autocracies over time. The figure depicts local polynomial smoothers for standard deviation of GDP per capita growth by regime type. The thick solid line is democracies, the dotted line is autocracies, and the thin solid lines are 95% confidence intervals. The standard deviation of GDP per capita growth is measured over trailing ten-year periods. Regime type is from the Boix et al 2011 measure.

Figure 2 provides one substantive illustration of democratic volatility prior to World War II. The figure depicts the drawdown in GDP per capita among Interwar great powers during the Great Depression, separated by regime type.[51] Drawdown is calculated as declines in GDP per capita from the previous peak level. As the transition from Weimar Germany to Nazi Germany represented a shift in regime type, they are depicted separately. As the figure shows, the Great Depression was more devastating and produced greater economic volatility for the leading democracies of the era. From prior peaks, GDP/capita for major democracies fell by as much as 30%. In comparison, autocracies weathered the global crisis relatively unscathed, with shallow declines in GDP and relatively rapid recoveries.

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[51] The countries included are the United States and countries that were permanent members of the Council of the League of Nations at any time. Regime type classification is based on Boix, Miller and Rosato 2013

Figure 2: Drawdown in GDP/Capita among Great Powers during the Great Depression by Regime Type
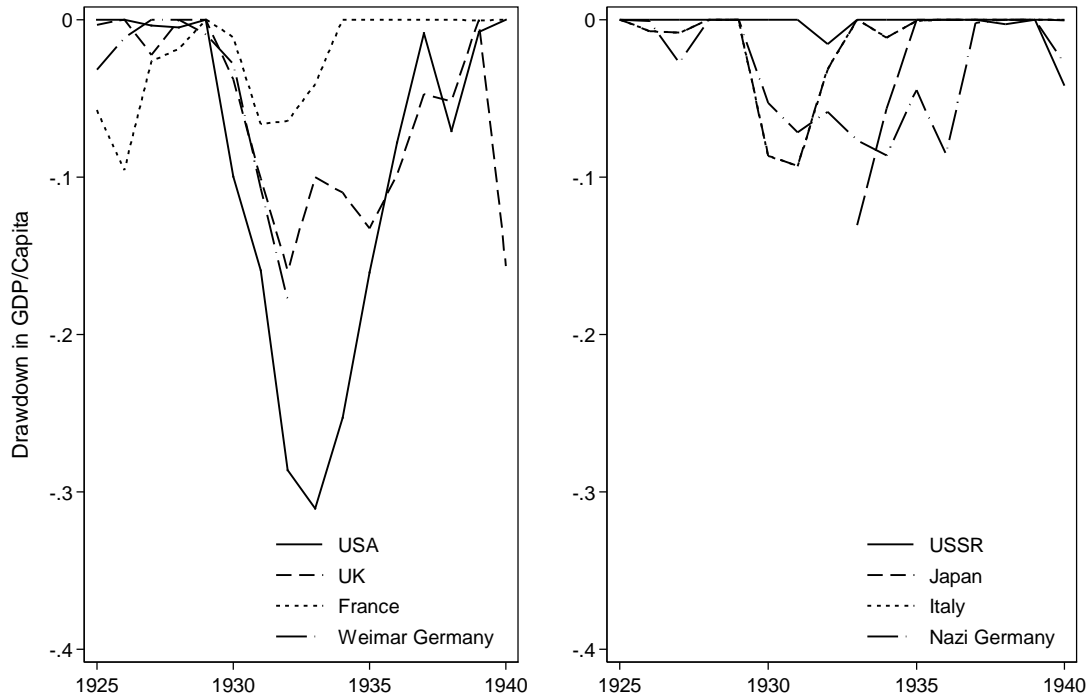
Note: Among the major powers, democratic countries suffered heavier economic declines during the Great Depression. The figure depicts the drawdown in GDP/capita during 1925-1940, which encompasses the depression. The countries included are the United States and permanent members of the Council of the League of Nations. Germany switched from a democracy under the Weimar Republic to an autocracy under Nazi control in 1933.

Empirical Analysis

In this section, I will examine the association between regime type and economic volatility more systematically. For the independent variable, there are several measures for democracy available going back to the 19th century. In the analysis presented below, I will primarily use the dichotomous measure of democracy proposed by Boix et al.[52] Other measures of democracy produce substantively similar results.[53] I will describe the dependent variables, which are proxies for economic volatility, in detail below. The time period of the panel dataset is 1800-2016, and the analysis includes all countries for which data is available. For the empirical analyses, I use OLS with country-clustered standard errors. I also reran the models including year and country fixed effects and obtained generally similar substantive results.

The existing literature has considered many plausible control variables associated with both democracy and economic volatility, such as macroeconomic and financial indicators.[54] This work has generally found a robust association between democracy and volatility despite accounting for these variables. For present purposes, there are a limited number of control variables available going back two centuries. In addition, some variables that are causally prior to economic volatility, such as proxies for financial booms or crises, are unsuitable for inclusion as controls because they are plausibly a consequence of the key explanatory variable, democracy.[55] One control variable that is available for all relevant observations is the absolute level of GDP per capita. There is a well-known association between economic development and

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[52] Ibid.
[53] All models were also run using polity scores (Marshall, Gurr and Jaggers 2010) and a stock measure of democracy (Gerring et al. 2005), and the substantive results were unchanged.
[54] Among others, see Mobarak 2005
[55] King, Keohane and Verba 1994

democratization,[56] and more developed economies may be less volatile due to factors such as less reliance on agriculture or the primary commodities sector. Hence, I include GDP per capita as a control variable in all models. Another plausible control variable is the incidence of war: military conflict can cause serious economic disruptions, and there is a well-known association between regime type and war.[57] I therefore include a dummy variable for participation in a war in all models.[58]

There are several proxies for economic volatility proposed in the existing literature. The most intuitive measure is the standard deviation of the GDP per capita growth rate.[59] I follow existing practice by measuring the standard deviation for each distinct decade of available data, i.e. the 1800s, 1810s, 1820s, etc.[60] I also consider the interquartile range of GDP per capita growth, which prevents extreme growth outcomes from influencing the results.

Although much of the existing literature focuses on volatility per se, we may be more substantively interested in volatility associated with negative growth outcomes. Economic growth that fluctuates between 5% and 10% is less problematic than growth that fluctuates between -5% and 0%. I use two measures that attempt to capture this aspect of growth volatility. The first is "recession entry volatility," the standard deviation of GDP per capita growth multiplied by the number of times a country's growth rate shifted from positive to negative during the relevant decade.[61] The second is "downside deviation," which is calculated as the standard deviation only of the negative values of GDP per capita growth, i.e. where positive

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[56] Przeworski and Limongi 1997, Lipset 1959
[57] e.g., Russett and Oneal 2001
[58] The variable is coded as dummy variable taking on the value of 1 if a country is involved in an interstate, intrastate, or extrastate war during a specific year. Sarkees and Wayman 2010.
[59] Mobarak 2005
[60] For the final period from 2010-2016, the variables are measured for the available seven years of data.
[61] See discussion in Mobarak 2005

values of growth are treated as zero. These variables will tend to take on large values when volatility occurs alongside negative growth outcomes.

One concern about historical GDP is the reliability of data prior to World War II. The first modern national income accounts were developed by Simon Kuznets under commission from the Department of Commerce in the 1930s.[62] Economists, such as Angus Maddison, have sought to estimate historical GDP based on other available measures. The availability and quality of these measures varies by country, which may introduce bias. For example, autocracies may be less transparent with their economic data, creating a greater need for interpolation and hence the appearance of lower volatility in data-poor historical periods.[63] To address this possibility, I use data on GDP per capita and personal consumption from Barro and Ursua.[64] Barro and Ursua collected this data specifically to address shortcomings of the Maddison data when evaluating economic crises on an annual basis. They only include countries for which GDP and consumption figures can be estimated annually from contemporaneous economic statistics. Although this data is only available for a smaller subset of countries, it eliminates potential bias from differing information availability across regime types.

Figure 3 presents the point estimates and 95% confidence intervals for democracy using all of these dependent variables, with the historical data subset at 1945, i.e. before and after World War II. As the figure shows, for every dependent variable examined, there is no meaningful association between regime type and volatility prior to World War II, while there is a negative and statistically significant association after World War II. In Figure 4, I consider several additional proxies for economic volatility. The first is a simple count measure of how

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[62] Bureau of Economic Analysis 2000
[63] See related discussion in Mobarak 2005, 360
[64] Barro and Ursua 2008

many times a country entered a recession (i.e. switch from positive to negative growth) during a decade. The second is the standard deviation of iron and steel production growth, and the third is the standard deviation of primary energy consumption growth.[65] All of these measures exhibit the same pattern. The association between democracy and low growth volatility has only existed in the period since World War II.
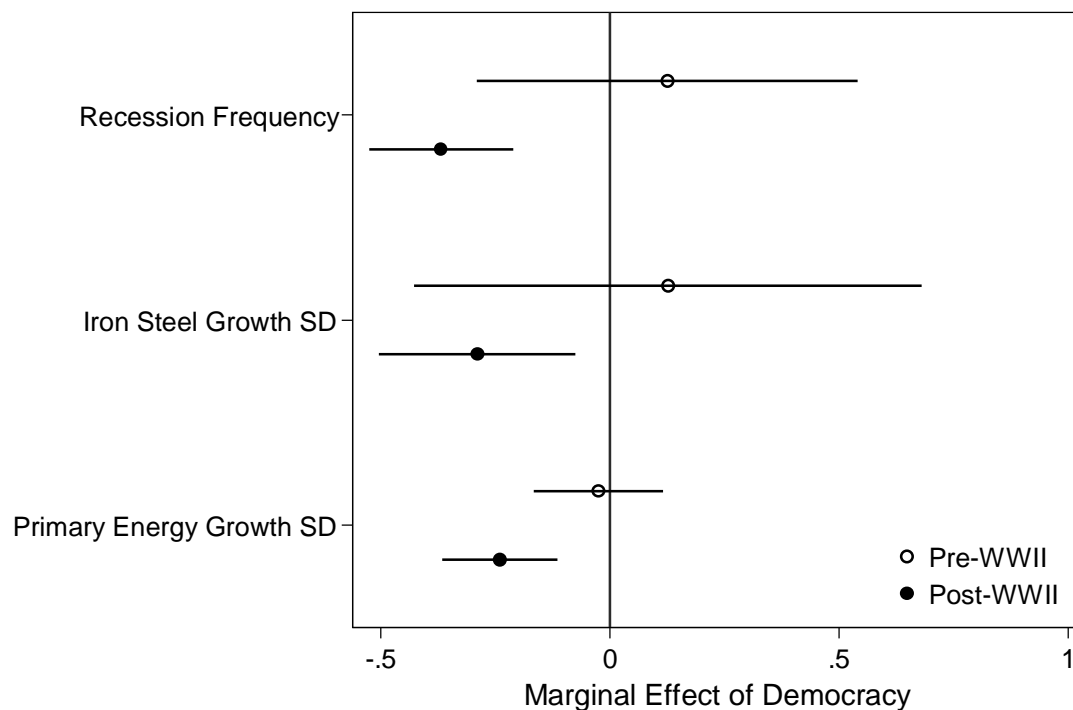
Figure 3: Regime Type and Measures of Economic Volatility, Pre- and Post-WWII
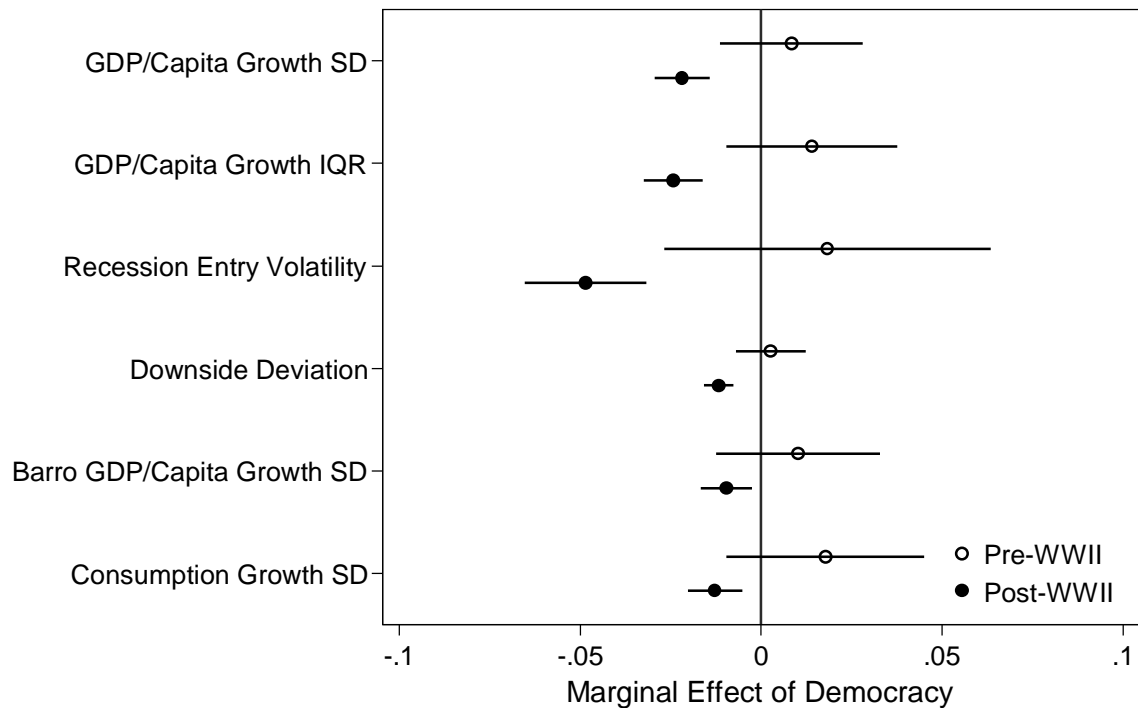
Note: Economic volatility was indistinguishable by regime type prior to WWII. The dots represent coefficients, and lines 95% confidence intervals, from OLS model specifications where democracy is the key independent variable and the dependent variable is listed vertically. Low values indicate that volatility was relatively lower for democratic countries. The open dots are for data prior to WWII, and the closed dots are for post-WWII. Democracy is coded according to the dichotomous Boix et al 2011 measure.

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[65] Data is from National Material Capabilities (v5.0), Singer, Bremer and Stuckey 1972

Figure 4: Regime Type and Additional Proxies for Economic Volatility, Pre- and Post-WWII

Note: Economic volatility was indistinguishable by regime type prior to WWII. The dots represent coefficients, and lines 95% confidence intervals, from OLS model specifications where democracy is the key independent variable and the dependent variable is listed vertically. Low values indicate that volatility was relatively lower for democratic countries. The open dots are for data prior to WWII, and the closed dots are for post-WWII. Democracy is coded according to the dichotomous Boix et al 2011 measure.

Economic Volatility by Income

Why did the relationship between democracy and economic volatility change after World War II? In the theory section, I argued that this is attributable to policies put in place by major democracies in response to prewar financial instability that culminated in the Great Depression. These policies included capital controls under the Bretton Woods System, more stringent

regulation of the financial sector, countercyclical monetary and fiscal policy, and welfare states

that acted as automatic stabilizers. These policies were primarily developed and implemented by

relatively developed democracies, such as the United States, Western European countries, and

Japan. In addition, poor democracies, such as India or Botswana, typically have less developed

welfare states and more limited capacity for regulatory oversight and countercyclical policies.

Hence, one observable implication of my theory is that developed democracies should have seen

a particularly large reduction in economic volatility after World War II.

Figure 5 depicts the marginal effect of democracy on growth volatility by time period and

level of development. As the absolute value of GDP/capita tends to increase over time, I

calculated cross-national percentiles of GDP/capita by decade to distinguish between relatively

wealthy and poor countries: this variable is presented on the x-axis. The statistical model is

identical to the one presented in the previous section, but it includes an interaction term for

regime type and percentile level of development. I again use the democracy measure proposed

by Boix et al, which separates countries dichotomously into democracies and autocracies.[66] The

y-axis depicts the marginal effect of democracy on volatility. Values above zero indicate

democracy is associated with higher volatility, while values below zero indicate autocracies are

more volatile. The thick line is the pre-WWII period (1800s-1940s), the dashed line is the post-

WWII period (1950s-2010s), and the dotted lines are 95% confidence intervals.

As the figure shows, during the pre-WWII period, there is largely no statistically

meaningful association between democracy and volatility, although the point estimates are

generally above zero, indicating democracies were more volatile than autocracies. The post-

WWII period, depicted by the dashed line, exhibits more interesting variation. After WWII,

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[66] Boix 2011. The empirical results are similar using polity scores or the stock measure of democracy.

wealthy democracies have been characterized by meaningfully lower volatility than wealthy autocracies, and this relationship is distinct from the pre-WWII period. In contrast, the volatility of poor democracies cannot be meaningfully distinguished from autocracies at comparable levels of development.

These results provide additional evidence that the reduction in democratic growth volatility after World War II can be attributed to shifts that took place among relatively developed democracies. Democracy is not *inherently* less economically volatile than autocracy. Rather, the evidence suggests lower volatility is disproportionately a feature of relatively wealthy democracies during the post-WWII period.

Figure 5: Marginal Effect of Democracy on Growth Volatility by Time Period and Level of Development
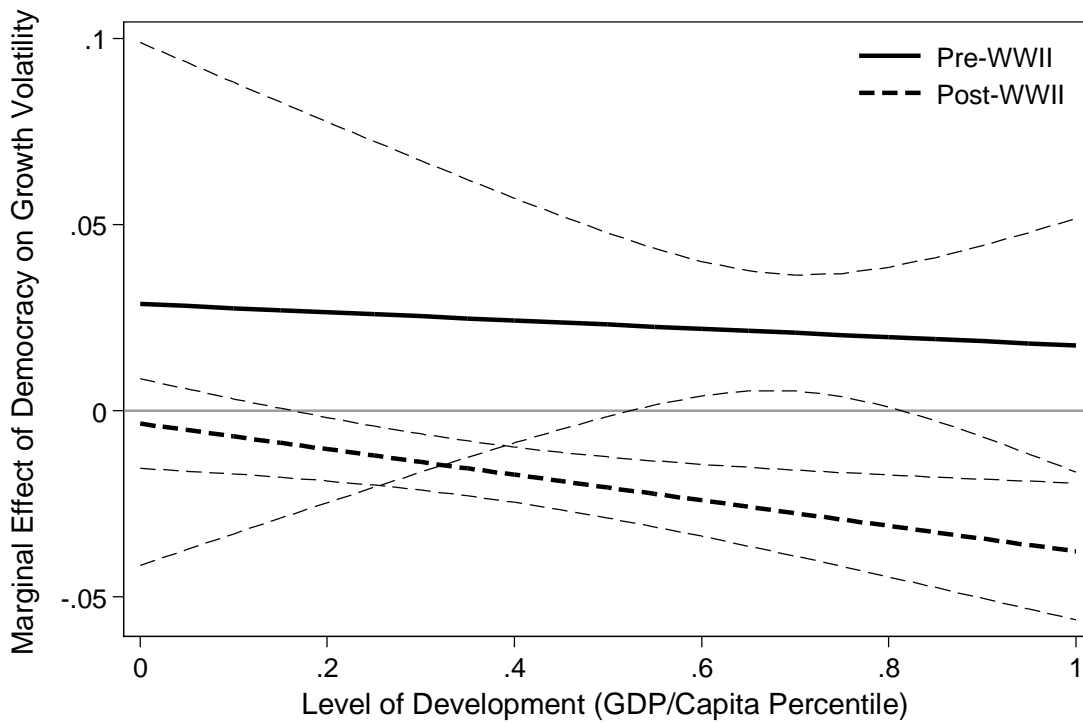
Note: The figure depicts the marginal effect of democracy on growth volatility (the standard deviation of GDP/Capita Growth) according to relative levels of development and time period. The thick solid line is the pre-WWII period, the thick dashed line is the post-WWII period, and the dotted lines are 95% confidence intervals. Values above zero indicate democracies were more volatile than autocracies, and values below zero indicate the opposite. In the prewar period, democracies had somewhat higher volatility than autocracies, although the difference was generally not statistically significant. In the post-WWII period, highly developed democracies had lower volatility than autocracies. However, differences in economic volatility by regime type were muted for less developed countries.

The Return of History? Democracy and Economic Volatility in the 21st Century

One interesting question raised by the preceding analysis is whether the relationship between democracy and economic volatility follows a U-shaped temporal pattern, with democratic volatility increasing again in the most recent period. Democracies have become more susceptible to financial crises in recent years, in a return to the historical association more typical of the period before World War II.[67] The 2008 subprime crisis and 2011 Euro crisis have characteristics similar to major financial disruptions of the pre-WWII period, featuring reckless financial liberalization, asset price bubbles, contagion among leading democracies, and pro-cyclical austerity imposed on crisis economies like Greece and Spain.

If the democratic advantage in growth volatility is eroding, it is likely to have broader geopolitical and economic implications. Like Figure 2 presented earlier for the Great Depression, Figure 6 depicts the drawdowns in GDP/capita during the aftermath of the "Great Recession" following the 2008 global financial crisis. The countries depicted are the largest democracies and autocracies according to nominal GDP as of 2007, the year prior to the crisis. As the figure shows, the crisis severely affected leading democracies, which generally experienced sharp initial drawdowns followed by slow recoveries. Among autocracies, China performed particularly well, with essentially no drawdown in GDP. Russia and Saudi Arabia experienced sharper drawdowns, but both experienced relatively rapid recoveries, with GDP/capita returning to pre-crisis levels earlier than most democracies. For sure, these differences in economic performance across regime type are not as stark as those during the Great Depression: Russia

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[67] Lipscy 2018

experienced the largest drawdown of the countries depicted, and economic dislocation among leading democracies was small compared to the 1930s.

However, the 2008 crisis illustrates a pattern of democratic volatility that is more akin to pre-WWII crises such as the Great Depression. The crisis engulfed many leading democracies simultaneously and triggered prolonged economic difficulties. Meanwhile, leading autocracies, particularly China, emerged relatively unscathed, feeding popular narratives of autocratic superiority such as the "Beijing Consensus."[68] Have we come full circle to conditions under which democratic volatility is comparable to those of autocracies?

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[68] Halper 2010

Figure 6: Drawdown in GDP/Capita among Major Economies during the 2008 Global Financial Crisis by Regime Type
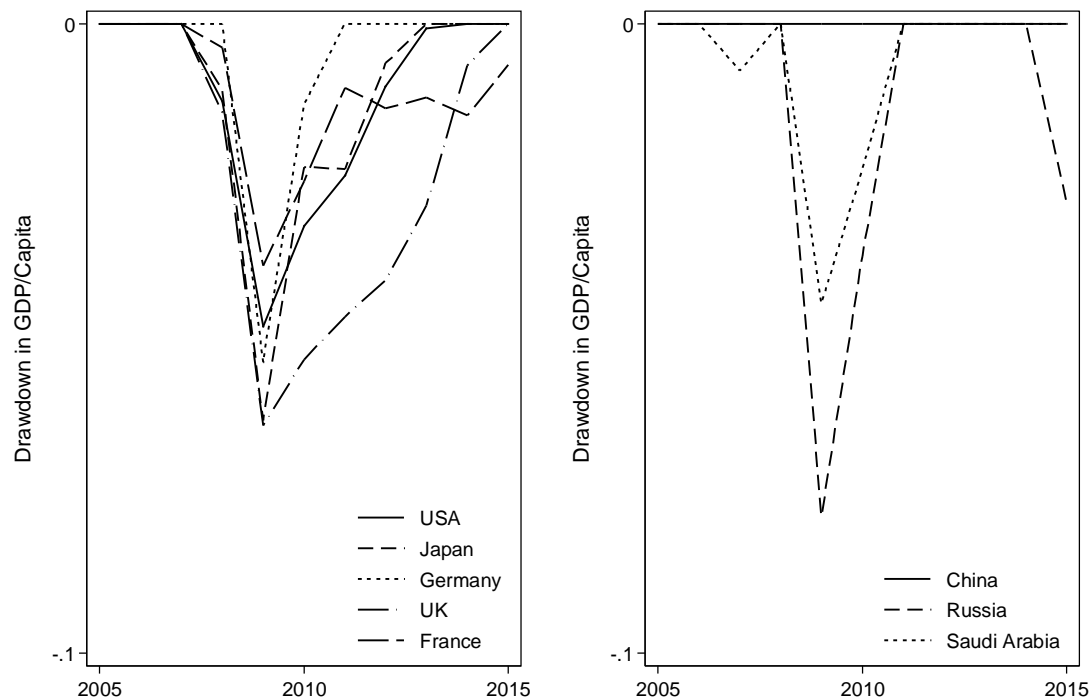
Note: The figure depicts the drawdown in GDP/capita during 2005-2015, which encompasses the 2008 global financial crisis. The countries included are the top democracies and autocracies according to rankings of nominal GDP in 2007, the year prior to the crisis.

Based on theoretical priors, we would not expect a full return of democratic volatility to pre-WWII levels. Some stabilizing policies put into place after WWII have been removed, most notably the Bretton Woods System and important pillars of financial regulatory policies implemented after the Great Depression. However, most countries still maintain some flexibility to implement countercyclical monetary and fiscal policy, and welfare states have been weakened but still remain much larger than before WWII. Some stabilizing measures remain in place largely unchanged, such as deposit insurance schemes to prevent bank runs. The 2008 crisis was

serious, but the macroeconomic impact was relatively muted compared to prewar depressions thanks in part to large-scale government interventions: the "Great Recession" moniker is appropriate. Nonetheless, as postwar stabilization measures are weakened, it is plausible that the democratic volatility advantage will also diminish.

To examine whether recent decades are associated with relatively heightened democratic volatility, I repeated the analysis in the preceding section with a different subsetting of time periods. Specifically, I subset the post-WWII period into the 20th and 21st centuries, such that the first period includes the 1950s, 60s, 70s, 80s, and 90s, while the second period includes the 2000s and 10s. This temporal division follows Lipscy, who observes a reversion in the incidence of financial crises by regime type around the turn of the century.[69]

The results are presented in Figure 7. With the exception of iron and steel production, the point estimates on democracy increase for all dependent variables in the 21st century, and most become indistinguishable from zero. However, in most cases, the confidence intervals on democracy overlap between the two periods. Because volatility is measured over decades, the recent period effectively offers only two observations for the volatility measures per country. There is thus suggestive, but statistically inconclusive, evidence that volatility by regime type has begun to converge in the most recent period.

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[69] Lipscy 2018

Figure 7: Democracy and Growth Volatility: The Return of History?
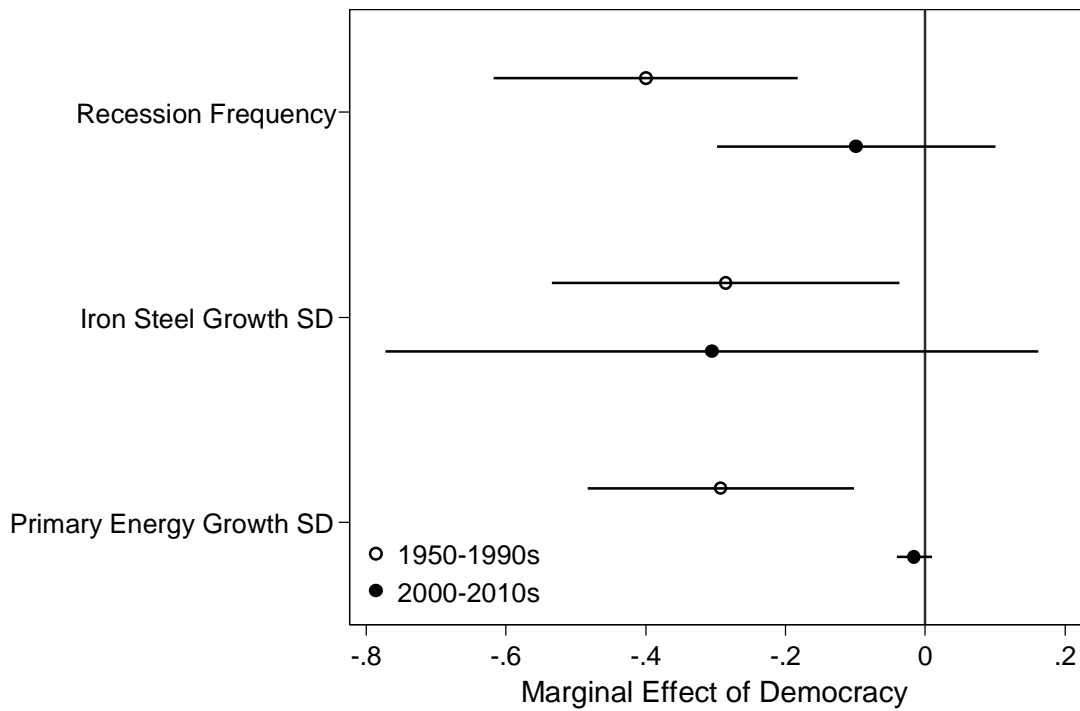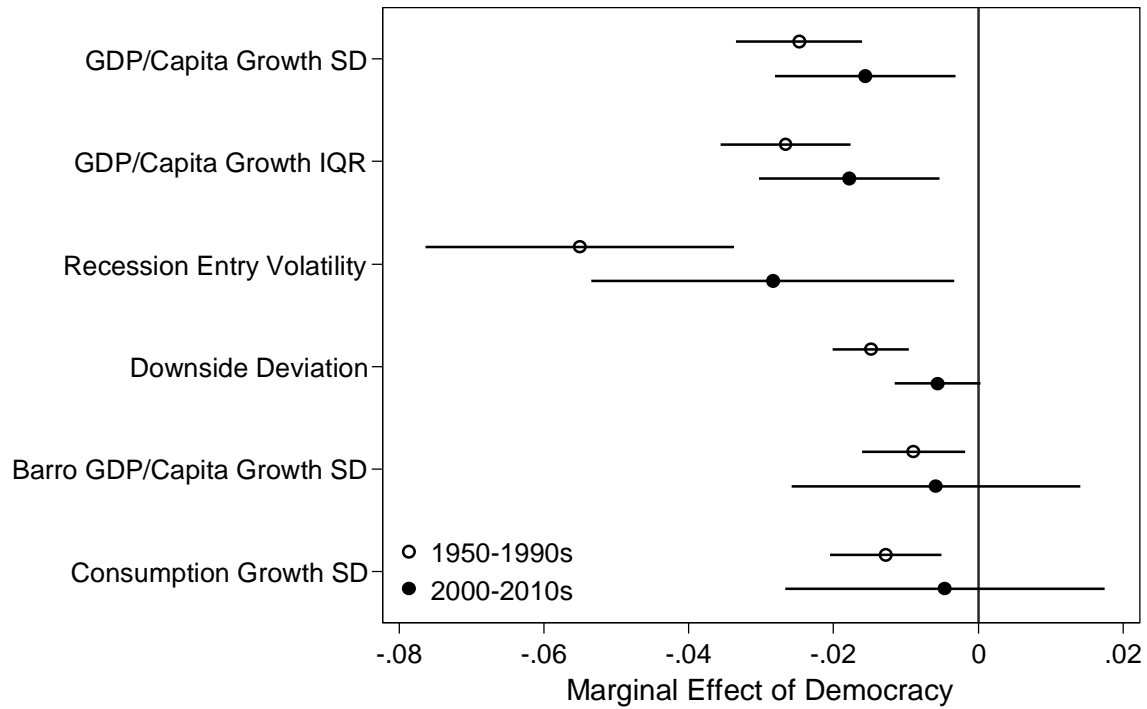
Note: Democracies appear to have become relatively more volatile during the most recent two decades of the post-WWII period. See notes for Figure 3 and Figure 4 for details.

Conclusion

Influential research by economists and political scientists has argued that economic growth in democracies is less volatile than that in autocracies. I showed that this research has likely reached misleading conclusions by focusing on a narrow historical time period during which democratic volatility was suppressed. After World War II, democratic countries implemented a series of policies to address debilitating economic instability that had upended their societies. Now often described as "embedded liberalism," these policies reduced volatility by limiting global capital flows, strictly regulating financial institutions, creating automatic stabilizers, and enabling countercyclical monetary and fiscal policies. These stabilizing policies addressed an important source of historical volatility for democratic countries: the susceptibility to financial crises and contagion.

Empirically, I showed that economic volatility has not been consistently lower among democratic countries for much of history. Until WWII, democracies often exhibited higher volatility than autocracies, particularly during periods of global financial distress such as the Long Depression of the late 19th century and the Great Depression of the 1930s. Because their economies tend to be financially liberalized and economically open, democratic countries are particularly vulnerable to economic volatility stemming from financial crises and contagion. Autocratic countries tend to experience volatility for idiosyncratic reasons, such as arbitrary policy choices by their leaders.

These findings reinforce recent work on the limitations of the Open Economy Politics (OEP) approach, which has come to dominate contemporary international political economy

scholarship. OEP typically begins from theories of domestic preferences, builds up to aggregation through domestic institutions, and finally considers international interaction.[70] While the approach is parsimonious and generates important insights, it can miss important macro-processes at the international level.[71] Existing work on democracy and volatility has largely sought to explain democratic stability through reference to domestic political factors alone – e.g., citizen preferences for stability and institutional constraints on policy volatility. I have argued that this approach misses the crucial role of macro processes at the international level, particularly prewar international financial instability and subsequent efforts to create stabilizing institutions among leading democracies.

In recent years, the foundations of democratic stability established after WWII have weakened. Restrictions on cross-border capital flows under the Bretton Woods System gave way to liberalization.[72] Social welfare states have shrunk with neoliberal reforms and globalization, weakening an important stabilizer against external shocks.[73] Countercyclical monetary and fiscal policy has become less effective for several reasons: 1. capital mobility creates a tradeoff between fixed exchange rates and monetary policy flexibility; 2. deflation has forced some countries to push interest rates to or below zero and rely on unconventional monetary policies that are not as clearly effective; 3. fiscal policy is constrained in some countries by internal and external political pressures for austerity.

A "return of history" may be in the making: a convergence in democratic and autocratic volatility to levels more consistent with the historical record. Although the evidence for this is weaker than evidence for a postwar break, it is substantively important. A return of economic

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[70] For an overview, see Lake 2009.
[71] Oatley 2011, Bauerle Danzman, Winecoff and Oatley 2017
[72] Reinhart and Rogoff 2009
[73] Rodrik 1997

volatility to levels comparable to the 1870s or 1930s would be catastrophic for leading democracies already reeling from financial crises and the rise of extremism. If autocracies exhibit greater stability in the face of international crises, it may lead to further disillusionment with democratic institutions and feed incipient narratives of autocratic advantages, such as the "Beijing Consensus."[74]

It should not be assumed that democracies will always exhibit greater economic stability. Postwar democratic stability was, to an important degree, a conscious choice. Can democracies rein in what Susan Strange calls "casino capitalism"[75] and reestablish institutions that support embedded liberalism and stable, equitable growth? The track record since WWII does not inspire great confidence. Democracy may be self-destructive in the long-run, promoting a liberalized and open international system that ironically leaves democracies particularly vulnerable to economic disruption. More research is needed to understand the sources of democratic instability within a broader, historical perspective.

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[74] Halper 2010
[75] Strange 1997

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