Apologies for a somewhat incomplete submission as is. I expect to be able to fill in remaining gaps and complete data analysis in the next few weeks. Also, I was not sure if there was separate internal Georgetown deadline, so I will leave the following available for preliminary review in advance.

Isaac

Commitment Institutions and Electoral and Political Instability: A Reduced-Form Approach

Isaac Liu

# Abstract

In this paper, I take a reduced form approach to test whether the limiting institutions of central bank independence and fixed exchange rates affect electoral and political instability in open economies without capital controls. This provides insight into choice among social welfare, political business cycle, and economic voting theories, which provide for numerous competing mechanisms. Differing from previous work, I extend theory and empirical analysis to autocracies and take care to address issues of potential endogeneity by using panel data and instrumental variables techniques over a wide range of countries from 1970-2012. FINDINGS HERE. IMPLICATIONS HERE.

# Introduction

The linkage between limiting institutions such as central bank independence and electoral stability in democracies is a largely relevant debate that evades a straightforward intuitive answer. On the one hand, independent central banks are widely known as welfare-enhancing institutions which reduce inflation (Fed Appointments | IGM Forum n.d.). This benefit comes no long run cost to real macroeconomic variables (Alesina and Summers 1993). It is not difficult to imagine a grateful populace consistently rewarding incumbents for better economic conditions. On the other hand, the capacity of central banks, rather than politicians to steer the economy has been assumed to have serious electoral costs in disputes such as those between President Donald Trump and Federal Reserve Chairman Jay Powell (Long n.d.). Over time, we might expect central bank independence to repeatedly harm the electoral chances of incumbents.

Central bank independence need not be the only economic constraint that matters for political outcomes. Fixed exchange rate regimes should also provide the same mechanism of economic policy “hand-tying” to politicians, with the outsourcing of monetary policy in open economies without capital controls (Fleming 1962; R. A. Mundell 1963). Previous work has widely documented the importance of considering these institutions jointly (Bernhard, Broz, and Clark 2002). We thus might expect to find similar stories of fixed exchange rates affecting political and electoral stability: this is indeed the case. For example, in February 2019 the President of Cote D’Ivoire, Alassane Ouattara said that the pegged CFA franc has played a key role in stabilizing the country by helping control inflation (Bassompierre n.d.). On the other hand, in Lebanon, a fixed exchange rate is considered to have led to increasing political unrest and reform pressures in the country (Diwan 2020).

Relationships between limiting regimes and political instability also need not be limited to democracies. China’s tight control of the renminbi with the aim of trade promotion fits within a broader national aim of economic development to maintain domestic stability (Kroeber 2011). Contrary arguments for growing unrest and coup attempts are easily extended to current crises in semi-autocratic Turkey (Turkish economy shrinks again as currency crisis bites - Reuters n.d.) and Venezuela (Venezuela approves parallel currency exchange system amid political crisis 2019). These nations are caught in currency crises with political spillovers, due in part to fixed rate mismanagement.

Having established the relevance of the issue, in this paper I examine arguments such as these and determine whether the limiting institutions of central bank independence and fixed exchange rates affect electoral instability. In the first section, I begin by providing an overview of competing social welfare, political business cycle, and economic voting theories and relevant literature in line with these explanations and examples. I also extend theory to cover autocratic cases, which I have not seen tested in the literature.

The presence of a robust, cross-national examination of these theories can be helpful. In the next section I provide an outline of the reduced form strategy pursued by this paper. This allows for a step back from mechanisms at work in various stages of the process to see if broad predictions align. I review similar work that has examined the reduced form relationship in democracies. General findings are that limiting institutions increase the durability of cabinets and leader tenure in open economies without capital controls, although the timing of and mechanisms affecting such effects is disputed.

In the next section I address a critical issue, attention to which sets me apart from this past literature: any potential interventions affecting limiting regimes may be electorally motivated, made in the interests of maintaining political stability, or as a result of confounding institutions. This is a critical endogeneity problem. For example, de jure central bank independence may not be implemented, or de facto central bank independence may be eroded. Politicians may threaten to remove central bank officials from office: President Trump considered legal options to remove Chairman Powell (Can Trump Fire Fed Chair Jerome Powell? n.d.). In the past, such electorally motivated erosions of independence may have been successful and influential in creating low interest rate environments in the Johnson and Nixon administrations (Trump is attacking the Federal Reserve. This explains why — and what comes next. - The Washington Post n.d.).

To deal with such endogeneity problems as these, I construct a design using panel data and instrumental variables techniques over a wide range of countries from 1970-2012. Interactions with levels of capital controls and trade openness are considered. Fixed effects and controls are employed to account for institutional differences between countries. Education and economics technical expertise provide an admittedly imperfect instrument for central bank independence, and aggregate GDP for fixed exchange rates. These topics are covered in the next few sections.

Finally, I then present results that demonstrate FINDINGS. Implications: which theoretical chunks are best supported. I conclude with a discussion of these and other implications and directions for future research. The consideration of any destabilizing effects of limiting regimes may add a new dimension to any normative debates over their adoption. The Eurozone may offer a chance to compare results following varied entry dates of member nations, as well as an opportunity to examine the ideological style and type of upheaval expected based on various factors.

# Theory

In some sense, the adjudication of the question of whether limiting institutions affect instability, and in which direction, is one between two strands of theory (some sense of this division for central banks can be found in Alesina, Roubini, and Cohen 1997, p. 212). In both strands, incumbent politicians seek to deliver electoral victory. As will become clear, however, in one strand their electoral incentive usually is aligned with the general or long-term welfare interests of the population, as adopting limiting institutions usually provide key benefits. In the other strand, however, interests are not aligned: limiting regimes prevent opportunistic or partisan political business cycle manipulations of voters and are electorally costly. Mechanisms from both strands are then translated into electoral outcomes of increased or decreased stability through the economic voting literature.

## General Welfare Effects of Limiting Institutions

In the first strand lie the social welfare or planner-style implications of adopting limiting regimes. These are most often economic, but occasionally political. They affect the entire population or are focused on nationwide aggregates. They almost always rest upon the beneficial effects of commitment but may also account for a costly loss of flexibility.

The key economic commitment benefit derived from central bank independence is the resolution of the well-known inflation time-inconsistency problem. The appointment of an independent, conservative (relative to society) central banker can improve welfare by controlling expectations of inflation (Rogoff 1985), with little cost to long run real macroeconomic performance (Alesina and Summers 1993). Along with a similar time-inconsistency inflation benefit in reducing inflation (when there are no capital controls used to maintain monetary autonomy), a fixed exchange rate may provide economic benefits such as reducing uncertainty and barriers to external trade and investment (Robert A. Mundell 1961). It may also allow for access to foreign capital for any nations faced with an “original sin” problem, able only to borrow in foreign currency (Eichengreen and Hausmann 2005).

There may also be political benefits to limiting regimes which also increase stability and possible social welfare through increasing political efficacy. For example, monetary commitments such as central bank independence may provide information about policy for both sides of the government, increasing transparency and promoting trust (Bernhard and Leblang 2002). In terms of decisions, a fixed exchange rate may either provide a justification for hard but necessary choices or a focus for negotiations. There does not appear to be much empirical evidence to verify this part of the theory, admittedly difficult due to the abstract nature of these variables, but the theoretical logic is sound.

However, limiting regimes may also introduce costs to valuable policy flexibility. Harmful flexibility consequences in the event of a recession may not be a major issue for independent central banking, as technocratic officials are still capable of responding. There may be problems if an inadequately flexible monetary policy rule is adopted (Bernanke 2015), or central bankers are excessively conservative, as may have been the case in the early 2010s in the Eurozone (Krugman 2011). But there is no reason to believe that these problems always or directly correlate with central bank independence, while the evidence clearly shows that low and stable inflation does.

A more serious problem from the loss of flexibility is clear for regimes of fixed exchange rates. The fixed exchange rate precludes the free exercise of monetary and potentially fiscal policy unless capital controls are introduced (Fleming 1962; R. A. Mundell 1963). Policy is tied to that of other nations, which may not be experiencing a recession. Adjustment may be slow and painful.[[1]](#footnote-2)

Overall, net social benefits appear to outweigh the costs for limiting regimes, at least in the long run or on average, abstracting from specific incidents and problems. Commitment brings major benefits despite any costs of flexibility, especially for the case of central bank independence relative to fixed exchange rates. Arguments of net welfare drawbacks for central bank independence (to the point of advocating dependence) are especially rare, excepting complaints calling for the adoption of democratic oversight for distributional considerations or a desire for more inflation (Fels n.d.).

The merit of fixed exchange rates appears to be far more debatable, although a large number of countries still maintain them (IRR Data n.d.). Time inconsistency solutions, stable trade, and greater access to capital for “original sin” nations clearly provide serious value. If fixed rates had a net welfare cost and prevent manipulation of the economy as outlined in the section below, there would seem to be little reason left for their wide adoption, so here I maintain that they also provide a net welfare benefit.

## Political Business Cycle Effects of Limiting Institutions

The main driver of the second strand is the idea of a political business cycle: that politicians have a motivation to manipulate the economy in the short run and that institutions such as central bank independence and fixed exchange rates can limit this tendency. Motivations for political business cycles may be opportunistic (explicitly focused towards staying in office) or partisan (aimed towards implementing party policy; but as I would argue, in the process satisfying party elites and staying in power), and a wide variety of traditional and rational expectations models exist to characterize them (Alesina, Roubini, and Cohen 1997). In general, methods of manipulation for either of these sets of cycles may be monetary or fiscal (Fortunato and Loftis 2018), and there may be some sort of substitutability between instruments in the case of limits.

Limiting regimes should normally reduce these political business cycles. Independent Central Banking can put major limitations on incumbents’ capacity to engage in both monetary and fiscal policy business cycles. When monetary policy tools are in the hands of central bankers with non-electoral time horizons and relative freedom from political pressures, political manipulation is clearly limited. Evidence on the impact of independence on, for example, monetary, rational partisan business cycles in OECD nations have found serious reductions (Maloney, Pickering, and Hadri 2003).

Aside from limitations on monetary policy, central bank independence may also reduce the scope for fiscal policy manipulation. In democracies with adequate protections of the rule of law, independent central banks may prefer fiscal restraint and low deficits to avoid inflation, any may threaten interest rate increases or denial of credit to enforce it. This pattern has been found to hold particularly true in non-election years under left government tenure (Bodea and Higashijima 2017).

Fixed exchange rates are also likely to put major constraints on monetary policy. Again, citing the trilemma, in an open economy without capital controls, fixed rates preclude independent monetary policy. They effectively represent an outsourcing of what was once a means to manipulate the economy. Policy is subject to the maintenance of the rate, rather than electoral opportunism or partisanship.[[2]](#footnote-3)

Adopting a fixed exchange rate may, on the other hand, allow for a loosening of fiscal policy. A fixed exchange rate may increase confidence in a nation’s ability to repay external debt which is not denominated in its own currency, opening access to vast amounts of foreign capital. This may be particularly important for any nations faced with an “original sin” problem, able only to borrow in foreign currency (Eichengreen and Hausmann 2005). The theoretical effect of fixed rates on overall manipulation is hence unclear.

However, the evidence for a net limiting impact of both CBI and fixed rates on political business cycles through these theoretical mechanisms seems to be convincing. For OECD nations from the 1960s to the 1980s, evidence suggests that both regimes, at least at levels above their average values, reduce cyclical (opportunistic) behavior in both time-series and cross-sectional analysis, although the effect of fixed rates is of net small and difficult to detect as significant (William Roberts Clark et al. 1998). This occurs for variables of both output and employment, potentially affected by both monetary and fiscal policy.

## Economic Voting

Central to the electoral implications of the strands above is the literature on economic voting. There must be a mechanism in place through which voters respond to economic variables and manipulation, and politicians should be aware of this mechanism. Voters may be concerned with their own status (pocketbook concerned) or with the overall economy (sociotropic), and retrospective (backward-looking) or prospective (forward-looking).

A review of the literature generally reveals that economic voting exists, which means that political business cycles are in fact plausible. In particular, this economic voting is sociotropic and retrospective, with the exception of cases when an incumbent is not running, when voting is more prospective (Lewis-Beck and Stegmaier 2019; Nadeau and Lewis-Beck 2001).[[3]](#footnote-4) I am able to abstract from these prospective cases by making use of detailed data on whether incumbents are running, and by noting that prospective evaluations are still likely to be informed by past performance.

Politicians also appear to be aware of economic voting, creating the appropriate motivations for welfare enhancing or manipulative behavior. There is at least good anecdotal evidence on this point.[[4]](#footnote-5) In the US, for example, statistical studies were actually commissioned by top government officials which found a clear responsiveness of vote shares to economic conditions as early as the 1970s (Tufte 1980). Perhaps the most famous articulation of awareness was that of the 1992 U.S. presidential campaign, when Bill Clinton’s chief strategist James Carville put up a sign in campaign headquarters that read: “It’s the economy, stupid!” (Anderson 2007)

With a sociotropic, mostly retrospective, and well-known model of economic voting in place, we can now move through to evaluate the electoral implications of limiting institutions through each strand of mechanisms. The implied instability consequences of welfare effects of limiting institutions fit well with findings of mostly retrospective and sociotropic voting. Voters reflect on their net improved present condition under the limiting regimes. They are glad to see that society is permanently better off with the new institutions, facing a better output-inflation tradeoff, stable trade, and greater political efficacy along with other net benefits despite some loss of flexibility. As a next step, a happy society and electorate consistently rewards elected officials for maintaining these good conditions and institutions.

Within the political business cycle strand, with sociotropic and mostly retrospective voting, the general effect seems to be that of increased instability from limiting institutions due to decreased manipulation. If political business cycles are opportunistic or directly driven by short-term desire to stay in office, economic voting predictions of the consequences of limits on manipulation are relatively straightforward. The incumbent would like to create socially desired short-term conditions for variables such as low inflation and unemployment but cannot do so.[[5]](#footnote-6) Retrospective voters may then explicitly punish them at the polls by voting for an opponent. This increases instability.

In a partisan model, the only real change to the consequences of failure to deliver on preferences comes from the fact that optimal levels of economic variables are not socially uniform, but instead specific to parties and groups of heterogenous agents. Again, the incumbent tries to satisfy their party optimums but cannot do so. Now retrospective elites or party voters are not adequately satisfied. They need not vote for opponents; however, a loss of turnout or participation may be enough to inflict electoral damage, a case especially strong if there is some cost to voting (Downs 1957). Here again, limiting institutions in the political business cycle model are likely to increase instability.

## Adjustments for Autocracies

In an autocracy, many of the above mechanisms may be altered or non-existent. The classification of regimes from democracy to autocracy may contain many facets, but for our purposes there are two important characteristics which inform specific predictions on changes to these mechanisms (PolityProject n.d.). Autocracies may have a low level of constraints on the executive with respect to policy decisions. They may also lack a level of competitiveness in the selection of those in power.

In cases of weak constraints on the executive, it is harder to place credibility on any limitations of autocratic power. For central bank independence, the law (de jure independence) may be unable to stand up to dictatorial desires to alter or ignore it. This means de jure independence can lose many of its commitment benefits due to even the possibility of such behavior. For example, with the problem of time-inconsistency, there may be a loss of control of inflation expectations. On the other hand, policy flexibility and the potential for political manipulation may return. In sum, de jure central bank independence is unlikely to fit any of the theoretical expectations outlined above in the presence of weak executive constraints.

Several possible corrections present themselves. De facto central bank independence, perhaps established through norms or informal constraints, may still be credible. Previous studies have found that the turnover of central bank governors rather than de jure independence is a good predictor of inflation credibility in developing nations (Cukierman, Webb, and Neyapti 1992); data on this can be employed to modify the theory. Other work suggests that a lack of credibility for central banking in the face of a lack of constraints on autocrats makes fixed rates the preferred commitment device (Broz 2002). Exchange rate pegs are more transparent than central banking as they are visibly sustained or abandoned, and hence more difficult to renege on. As an alternative approach, then, central bank independence may be dropped from the specification in favor of fixed rates.

The idea of economic voting in autocracies runs into problems due to obvious reasons. Although many autocracies worldwide continue to have elections (Freedom House 2017), their competitiveness and fairness is suspect: openness of the political system is limited. A lack of accountability may mean the ability of citizens to carry through on economic voting may be disrupted, weakening responses to welfare effects of limiting institutions and substituting a need for political business cycle manipulation for outright electoral manipulation. When there is a lack of competitiveness, limiting institutions are unlikely to predict any higher or lower electoral instability through any of the theories above.

Nevertheless, evidence suggests that even if elections are not competitive, autocrats may still be accountable to at least elites (Selectorate Theory), and thus the forces of politics; no sovereign is truly absolute (Mesquita et al. 2005).[[6]](#footnote-7) There may also be the violent threat of popular rebellion or revolution. A solution, therefore, which may be employed to arrive at a meaningful prediction is the substitution of political for electoral instability, accounting for coups, revolts, and revolutions when there is little competitiveness.

With respect to the welfare strand, factors such as inflation which could be improved by limiting institutions have long been considered drivers of political unrest in nations such as Venezuela when electoral accountability has been limited. However, the importance of political business cycle manipulation and the effect of constraint by limiting institutions is somewhat more difficult to translate into political instability. Manipulation in this case would not necessarily follow a clear electoral calendar, but instead be responsive to ad hoc threats and incidents. In these cases, an autocrat may desire to relax some facet of policy to placate the unhappy but be unsuccessful.

## (Optional) Adjustments Under Capital Controls

This section would not be long, but perhaps it should be left as a direction for future exploration.

Capital controls, at least for the period studied, do not appear to be common.

Theoretical Implications

Fixed exchange rates no longer serve as a commitment device for time inconsistency but monetary policy may now be flexible, and currency crises averted. Net welfare effects unclear. Central Bank Independence may be the fallback device. Without an independent central bank, possible political business cycles for monetary policy could emerge again, although fiscal manipulation could be lower if foreign capital is harder to access with the controls.

# A Reduced-Form Approach

The key merit in the reduced form approach to the question is that of the ability to take a step back from literature on specific mechanisms mentioned above. It could be the case that certain mechanisms are true and others false: partisan or opportunistic political business cycles, or action and limits through only fiscal or monetary policy. Mechanisms could be further tangled between each other in complex causal relationships such as substitutions between regimes (central banks and fixed rates) or kinds of policy. The reduced form approach allows for overall focus on whether the regimes weigh on instability, adjudicating whether basic intuitions are reasonable.

*Effects of Limiting Institutions on Instability in Open Economies without Capital Controls*

*Democracy:*

*High Executive Constraints and Competitiveness*

*Welfare*

*De Jure Independent CB/Fixed Exchange Rate 🡪 (Welfare) Net Social Benefits from Commitment Despite Potential Cost to Flexibility --> (Economic Voting Theory) Net Less Electoral Turnover/Instability*

*PBC*

*De Jure Independent CB/Fixed Exchange Rate –> (PBC Theory) Net Less PBC Manipulation -> (Economic Voting Theory) Net More Electoral Turnover/Instability*

*Autocracy:*

*Low Executive Constraints, High Competitiveness*

*Welfare*

*De Facto Independent CB/Fixed Exchange Rate 🡪 (Welfare) Net Social Benefits from Commitment Despite Potential Cost to Flexibility --> (Economic Voting Theory) Net Less Electoral Turnover/Instability*

*PBC*

*De Facto Independent CB/Fixed Exchange Rate –> (PBC Theory) Net Less PBC Manipulation -> (Economic Voting Theory) Net More Electoral Turnover/Instability*

*High Executive Constraints, Low Competitiveness*

*Welfare*

*De Jure Independent CB/Fixed Exchange Rate 🡪 (Welfare) Net Social Benefits from Commitment Despite Potential Cost to Flexibility --> (Selectorate Theory or Popular Unrest) Net Less Political Instability*

*PBC*

*De Jure Independent CB/Fixed Exchange Rate -> Net Less Manipulation -> (Selectorate Theory or Popular Unrest) Net More Political Instability*

*Low Executive Constraints and Competitiveness*

*Welfare*

*De Facto Independent CB/Fixed Exchange Rate 🡪 (Welfare) Net Social Benefits from Commitment Despite Potential Cost to Flexibility --> (Selectorate Theory or Popular Unrest) Net Less Political Instability*

*PBC*

*De Facto Independent CB/Fixed Exchange Rate -> Net Less Manipulation -> (Selectorate Theory or Popular Unrest) Net More Political Instability*

Similar work has examined the use of monetary commitments to increase the durability of cabinets (as a share of maximum legal duration) in the face of growing international economic openness and globalization for 16 parliamentary democracies from 1972 to 1998 (Bernhard and Leblang 2002). These commitments are hypothesized to allow for the management of diverse interests and improve policy efficacy by providing information, justifying hard decisions, and providing a focus for negotiations, in line with the social welfare strand. In OLS results, independent central banks were found to increase cabinet duration by nearly three months, and fixed exchange rates by about five. Coalition governments saw stronger benefits, while openness to trade had a mixed impact on the scale of effects.

A focus on parliamentary democracies only as in Bernhard and Leblang unfortunately weakens the use of this paper in the judgement of political business cycles. Instability may be more a function of party and coalition dynamics, rather than actual voter stances in many situations. In my work, I instead focus on a broader range of types of democracy and, of course, develop autocratic adjustments.

Probably the most similar work to mine I have located on the reduced form relationship between limiting institutions and political survival has made use of a Cox-proportional hazard model for leader tenure on 19 OECD countries during the recent era of high capital mobility[[7]](#footnote-8) (William R. Clark, Golder, and Poast 2013)**.** Included were controls for endogenous elections, single-party majority governments, and the number of electoral districts (to represent fractionalization). The hypotheses that under capital mobility, fixed exchange rates (with independent central banks) and dependent central banks increased leader survival after 7 years in office were seemingly confirmed.[[8]](#footnote-9) This is claimed to provide evidence against political business cycle and economic voting literatures, at least in the early part of incumbent terms: outside means such as diversionary war or other factors such as resignations are said to be likely more important in determining leader survival.

*Revision begins here*

# Endogeneity Issues

Importantly, I argue that both works on the topic are faced with potential endogeneity problems. Several institutional variables accounted for do give a good sense of changes relative to “normal” cabinet duration induced by limiting institutions. These include controls for fractionalization, polarization, and endogenous electoral timing, items which I seek to replicate using country fixed effects. But the provided OLS and hazard regressions do not adequately capture other potential confounders such as federalism or corporatism, nor do they rule out the potential that the choice of commitment institutions may be dependent on politics and stability considerations specifically.

Potential of rate dependence: in MC simulations this causes bias and inconsistency for cox estimators: <http://goodliffe.byu.edu/papers/tvc2.pdf>

Directly from paper: motivations of political actors can be affected by likelihood of government ending

Time varying covariate and solutions?

Look at a Cox hazard model for resource, see Klasnja

Significant evidence for these concerns can be found in a variety of arguments, providing a potential complication for outlined causal mechanisms in all stages. Central bank independence is a political question. For example, there are a wide variety of areas on which responsibilities between governments and central bankers can be divided where political considerations may come into play, such as the setting of broader targets and objectives and the appointment of central bank officials (Eijffinger and Haan 1996).

Central in de jure versus de facto comparison

~~This point is especially salient in the consideration of de jure and de facto independence. De jure, or statutory independence tends to be rather fixed over time (Garriga 2016), meaning that it tends to be based on a single set of decisions when relevant legal measures are passed, perhaps limiting political considerations to that period. But the matter of de facto central bank independence is far more often political. This can be seen in the current example given earlier: political interference and threats are very much possible. Political actors may be heterogenous in the value they place on independence, as outcry indicates.~~

~~Some authors have argued that de facto independence may not even exist in developing nations or non-democracies. In terms of predicting the impact on average inflation rates, turnover of bank executives is superior to de jure independence in a number of countries (Cukierman, Webb, and Neyapti 1992). Justification for the fact that independence seems to create fiscal restraint only in democratic and rule of law countries comes from the fact that, due to political circumstances, these countries have de jure and not just de facto independence (Bodea and Higashijima 2017).~~

If politics in general may influence the level of central bank independence, then it is not a far leap to presume that political stability or instability has an impact; we should be wary of reverse causality problems in this reduced form examination. The literature in fact documents specific models and mechanisms for this impact (Eijffinger and Haan 1996). Political instability may lead to a more independent central bank as incumbents seek to limit the range of options available to opponents (see case studies discussed in Goodman 1991). On the other hand, increased instability may inspire a greater need to make use of the political business cycle to remain in office, reducing independence.

Attempts have been made to unify these theories by noting that in nations with high degrees of consensus or low polarization, instability increases independence, with the reverse true in nations with low consensus. Tests find expected signs when using appropriate measures of legal central bank independence and instability for each type of nation (party instability in high consensus nations, regime instability in low) (Cukierman 1992). Later work focused on de jure independence and found effects only for high-level changes in regimes and coups (Cukierman and Webb 1995) (J. D. Haan and Siermann 1996). Finally, other checks using the frequency of government changes and significant government changes and a variety of central bank autonomy measures find mixed results and negative or null results (J. de Haan and van’t Hag 1995).

Aside from these concerns that instability affects independence, there are many other channels through which independence and turnover may be related: competing mechanisms relative to political business cycle theory and economic voting. Here I cover several such confounding institutional mechanisms: checks and balances (including bicameralism, federalism, and judicial review), and corporatism.

Various components of systems of checks and balances within government have been shown to be positively associated with central bank independence. De jure independence has been shown to be far higher in OECD nations with two legislative decision making bodies and a veto system (Moser 1999). De facto independence in terms of the relationship between statutory independence and actual inflation outcomes has also been demonstrated to be stronger in nations with such checks and balances.

As another example, there is significant evidence suggesting a relationship between central bank independence and federalism (Lijphart 2012). A correlation of 0.60, significant at the 1% level was demonstrated, particularly strong in the period before the 1990s, when independent central banking was “internationalized.” Notable examples of the pairing included Germany, the US, and Canada. Aside from the association between bicameralism and federalism, subnational authorities may assert their own policy preferences on economic issues, providing another check. Overall, Lipjhart also places the power of judicial review on the same “unitary-federal” dimension as central bank independence, also demonstrating its linkage. Thus, we have one final link between a check and central bank independence.

It is also easy to see how checks and balances could be related to instability. One potential mechanism for this can be constructed from a model of retrospective voting similar to those considered earlier. Voters expect their elected officials to deliver on general, and not just economic policy promises. When checks and balances prevent officials from doing so, they may explicitly punish them at the polls or more simply fail to turnout and participate. As this mechanism occurs across governments, instability increases. Hence, checks and balances increase central bank independence but also instability directly, leading to a potential overestimate of effects.

Coordinated and centralized wage bargaining, often referred to as corporatism, may increase control of inflation. This can provide a helpful complement motivating central bank independence, as committed central bank reactions to negotiation developments improve outcomes (Hall and Franzese 1998). Inflation expectations are controlled, allowing for lower unemployment and inflation. A key example can be found in the remarkable success of the German Bundesbank before European integration. With this realization, one might expect these institutions to go together, although the evidence is not clear on this account (Lijphart 2012).

Corporatist institutions may also be linked to lower electoral or political instability. Centralizing demands for negotiation may lead to less need for strike, open protest, or other action. Since corporatism might be linked to central bank independence and decreased instability, we may obtain an underestimate of the effects of independence on turnover.

Endogenous elections and other things explored in clark golder poast and Bernhard leblang

Exchange rate regimes are also likely to face endogeneity problems. As an example of a reverse causality problem, electoral instability is also likely to effect choices of rate regimes in democracies. One mechanism functions through political economy desires to balance incumbent rent extraction and reelection. When there is no approaching election, the incumbent seeks to extract rents from a strong tradeable goods sector helped by a competitive and flexible exchange rate. Non-tradeable workers prefer fixed rates which minimize inflation, and due to numerical superiority, their preferences are critical when an election approaches. Overall, frequent elections and the associated higher levels of electoral instability should support the maintenance of a fixed exchange rate.

This argument found support with the usage of hazard models to analyze the duration dependence of Latin American exchange rate arrangements from 1960 to 1999. Results showed that impending election increases the conditional likelihood of staying on a peg by about 8 percent, while the aftershock of an election conversely increases the conditional probability of going off a peg by 4 percent (Blomberg, Frieden, and Stein n.d.).

Under certain conditions, the probability of a change in cabinet may also fuel speculative attacks which precede changes in exchange rates (Leblang and Bernhard 2000). Market expectations about changes in government policy here are critical. Research seems to suggest that the link is causal, although effects are small: two standard deviations of increase in political uncertainty increased the chance of speculative attack by only about two percent.

Autocracy political instability and fixed exchange rates

Several factors may also have an impact on exchange rate regimes and instability. For example, different groups in society are likely to have different rate preferences. Firms involved in cross-border trade and investment are likely to support a fixed exchange rate, especially if currency options markets are insufficiently developed (Frieden 2015). These are likely to include specialized exporters, multinationals, and international banks. On the other hand, standardized exporters and tradeable producers are more likely to prefer flexible rates (often depreciated in reality). For both kinds of exporters, the tradeoff between stability offered by fixed rates and gains from depreciation is critical.

Institutional factors provide the link between groups with the most power (and hence control over rate regimes) and political stability. Federalism and bicameralism again provide good examples. Populations of commodities producers such as farmers may be widely geographically dispersed, increasing their power in federal systems and in bicameral ones when an upper house is geographically districted. This increases the likelihood of a flexible rate. For reasons similar to those above, these checks on power may also imply increased instability. Hence the potential for fixed rates to decrease stability is likely to be overstated.

Another example of potential confounding factors comes directly from the “original sin” argument (Eichengreen and Hausmann 2005). Original sin nations (and firms and citizens in them) are likely to have large amounts of foreign currency debt, providing incentives for the maintenance of a fixed rate regime. These nations may also be subject to increased economic instability, justifying their original sin nature. This be tied or spill over into political or electoral instability. Again, the potential for fixed rates to decrease stability is likely overstated.

# Methodology

When using the reduced form approach, I implement several measures to account for these sources of endogeneity across both types of limiting regimes. Most importantly, I aim to use panel data from a broad range of countries over the period considered. Panel data should allow me to conduct my analysis using the appropriate number of lags and alternative estimators (Arellano and Bond 1991) to help deal with reverse causality. The implementation of fixed effects may also deal with some of the endogeneity issues mentioned. Institutions such as bicameralism or other institutional variables may be constant for many nations over the period studied. In the same vein lie issues such as the “regular” length or terms of office for leaders in a nation noted in previous work (Bernhard and Leblang 2002).

As an additional measure and robustness check to deal with endogeneity, I also pursue an instrumental variables approach for central bank independence. Past literature has used instruments such as governance indices from the World Bank’s Aggregate Governance Indicators Dataset on national measures such as “rule of law” and “voice and accountability” (Crowe and Meade n.d.). These measures are clearly inadequate for the study of turnover and instability, presenting poor exclusion restrictions as they could be obviously related to dependent variables.

Therefore, I introduce a novel instrument for central bank independence in the form of tertiary education enrollment rates. The theoretical justification for the first stage of this instrument is as follows: a requisite level of expertise is needed for the controlled, technocratic administration of monetary policy. For example, this may involve the presence of PhD economics graduates. Higher levels of education may proxy or at least signal for competence; they at least indicate higher private labor market returns (Card 1999). Outside of central bank operations, education may be necessary for the understanding of time inconsistency problems at the core of arguments for independence.

Backup: OECD Monetary Institutions Aid as an IV for ICB. Probably not a great er, driven by stability?

Of course, tertiary education enrollment may not be fully necessary or the only path to central bank independence. I abstract from technical assistance programs provided by the IMF and other organizations that may substitute for homegrown capacity achieved through education. Nevertheless, levels of education are likely to have an influence.

In terms of an exclusion restriction, past work has exogenously tied, for example, primary education to social-political instability in simultaneous equations models; results may be similar for tertiary education (Alesina and Perotti 1993). Theoretically, a connection can be explained by aspirations of modernization through education exceeding the reality of economic development, causing to a peak of instability when measures such as literacy rates, for example, are at intermediate levels. Educated and unemployed students can form a serious source of instability, seen clearly in cases such as Korea in the 1960s (Huntington 1976, p.48).

I argue that such an exclusion restriction between tertiary education and instability remains defensible, however. First, statistical evidence for the of connection of the education and development gap and political violence appears to be somewhat weak, holding in some specific cases but not as broad cross-national model (Hibbs Jr 1973). Next, the case applies to imbalances, not levels of education more generally. We need not assume that on developmental paths towards higher education a gap between education and development always emerges at similar stages. Finally, in this paper, I will seek to use the instrument mostly for democratic cases, with a focus on electoral turnover rather than political instability. Above theories seem to apply more to revolutionary activity.

The strongest counter case in democracies might come from an observation of events such as the Vietnam war protests in the United States or other movements of educated students with electoral implications. While an increase in education might cause animosity against certain policies or leaders particularly unpopular with key groups however, it is not clear that over the span of the full period this directly and generally translates into more frequent electoral turnover and alterations of power. Another notable counterpoint is that the youth share of the vote in national elections. In Western democracies, youth turnout low is compared to other groups, a fact compounded by aging populations and small shares of populations (mean of about 20%) (Youth Voter Participation: Involving Today’s Young in Tomorrow’s Democracy | International IDEA n.d.). Overall, for the period studied, the percentage of college graduates in national vote totals is likely to be small.

In the case that the restriction remains unconvincing, I also make use of an alternative instrument more specific than tertiary education. My original ideal instrument in the vein of technical expertise was the number or amount of Economics graduates (or PhD graduates) in a country. Unfortunately, data on this subject specifically was lacking. Nevertheless, the OECD does have some data from 2005 on for the percentage of all graduates in the more general fields of business and social sciences (Students - Tertiary graduates by field - OECD Data n.d.). I multiply these values by total population graduation rates to get a sense of the total availability of experts in these fields. I believe that while the technical expertise first stage mechanism remains in place, the argument for an exclusion restriction between the amount of graduates in these fields and electoral instability is stronger.

The adaptation of an instrument for fixed exchange rates is somewhat more challenging. One good predictor of exchange rate regimes is inflation (Mauro and Juhn 2002), but here we run into a clear endogeneity problem. Fixed rates probably allow for lower inflation through solution of the time inconsistency problem. Other candidates may be a nation’s level of development, trading share with primary partners, terms of trade volatility, and various capital mobility indicators, but relationships appear to be unclear and disputed in the data. Openness to trade may be a good predictor with additional IVs of land area and status as a landlocked nation, but this variable already serves as an interaction term and precondition for the entire theory.

As a solution, I adopt what is considered to be one of the best predictors found in the literature: absolute size of the national economy in terms of GDP or GNI. Large economies are associated with floating rate regimes in nearly all studies. The explanation comes from optimum currency area literature.

<https://www.imf.org/external/pubs/ft/wp/2002/wp02104.pdf>

(Mauro and Juhn 2002)

The exclusion restriction for large economies is certainly not perfect, but

Economic size escapes any explanations for instability or turnover based purely on levels of economic development; here we do not use per capita values.

*Revision Ends here.*

# Data

## Dependent Variables

Electoral and political instability measures can be derived from the Political Institutions and Political Events Dataset originally compiled by Przeworski et al. with additional calculations by Marques, covering the period 1917-2008 for all countries independent at any time in that period (The Political Institutions and Political Events (PIPE) dataset — PIPE n.d.). For electoral instability, PIPE offers the potential for an event-based analysis of turnover (probabilities) with varying levels of central bank independence and fixed rates. A useful variable is “salterl,” or Strong Alteration Resulting from an Election, indicating changes in partisan control over the chief executive. This is coded as 1 for such a change and as 0, -1, or -2 for a wide range of other events, including if the incumbent and their successor party/person wins or does not run, if the incumbent loses and stays in office, and if no one in the election holds office.

The variable “did not run” in PIPE allows for the separation of occasions when the incumbent is not running for office in presidential systems (in parliamentary systems, focus is given to the party, which almost always runs, so this variable rarely fires). As mentioned above, whenever the incumbent is not running, voters are more likely to be prospective, so the predictive power of the model may be weakened. I test models including and excluding these instances.

For more profound political instability in PIPE, the variable “coups” represents the number of successful armed interventions resulting in removal of chief executives. The variable “autocoups” also represents autocratic actions against opposition such as the dissolution of a legislature. Aside from these specific events, there are other ways to quantify political instability. The Center for Systemic Peace’s Armed Conflict and Intervention project provides additional data in the Major Episodes of Political Violence from 1946-2018. Most useful are magnitude scores for episodes of civil violence and wars, “CIVVIOL” and “CIVWAR” and ethnic violence and wars, “ETHVIOL” and “ETHWAR.” These are compiled as one indicator “CIVTOT” representing intrastate war and violence, although interstate variables are also available. Finally, for an idea of the overall perception of political instability and violence without a breakdown into components, I also make use of the World Bank Governance Indicators on Political Stability and Absence of Violence, a constructed index for 1996-2018 in over 200 countries (WGI 2019 Interactive > Home n.d.). The variable PV.EST follows a standard normal distribution.

## Independent Variables

To measure Central Bank Independence I use the components of the Cukierman, Webb, and Neyapti (Cukierman, Webb, and Neyapti 1992) index as compiled by Garriga (Garriga 2016). This gives a good sense of the statutory or de jure central bank independence particularly relevant in democracies and is based on legal characteristics concerning terms of office of governors, resolution of conflict, objectives, and limitations on lending to the public sector. Garriga provides data from 1970-2012 for 187 countries.

Measures of de facto central bank independence allow for robustness checks and the testing of different theoretical predictions in autocracies. One common index more concerned with de facto independence is that developed by Grilli et al, which focuses largely around governor appointment terms and practices (Grilli et al. 1991). Recent work has updated the index for at least 50 countries, including many developing nations from 1974-2014 (Romelli n.d.). Another de facto measure with a good fit for inflation in developing countries is that of turnover rates for central bank governors (Cukierman, Webb, and Neyapti 1992), which can be located for a number of industrialized and developing countries from the 1950s to 1980s. More recent evidence has been compiled from Morgan Stanley’s 2005 Central Bank Directory as well as bank websites (Crowe and Meade n.d.).

For data on exchange rate regimes, I use annual classifications developed by Ilzetzki, Reinhart, and Rogoff which cover 1946-2016 for 194 countries (IRR Data n.d.). These are de facto values. Here the distinction between de jure and de facto arrangements does not appear to be necessary: rate regimes do not have the same kind of rule of law or governance basis, so the de facto values are likely enough. I use their coarse classification coding. Values of 1 and 2 represent a lack of own legal tender to a crawling peg: I consider these fixed, and other values 3 through 6 as floating. I also check usage of numeric values on the entire scale. As a secondary check, original AREARS IMF data on de jure arrangements (as well as capital controls) are available from 1995 (IMF AREAER Database n.d.).

Separation into autocracies and democracies is provided by the Polity IV dataset from 1800-2017, (PolityProject n.d.). This dataset contains the critical executive constraints and political competitiveness/openness variables necessary to adjust predictions for autocratic elements. “XCONST” represents executive constraints by charting constitutional restrictions and adherence and relevant “accountability groups” with veto power and influence on executive actions. The variable is divided into a scale with seven categories which can be used for interactions. Competitiveness and openness can be measured via several variables: the simplest specification is that of “XRCOMP” which represents the style of selection of chief executives, ranging from hereditary rule and rigged or boycotted elections to competitive choice on a three-point scale. Alternative specifications include “XROPEN” which represents the potential for any individual to rule and “PARREG” and “PARCOMP” representing the regulation of political participation and extent to which alternative preferences can be pursued politically. Polity also provides backup information on regime changes and transitions to verify instability events.

It is also important to separate out cases based on economic openness in terms of the presence of capital controls; theoretical predictions are likely to be stronger in open countries. Reliable data on capital controls and capital account openness comes from the IMF for a wide range of countries and periods studied. Chinn and Ito compile the KAOPEN index from this data covering 1970-2017 for 182 countries (Chinn and Ito n.d.). KAOPEN tracks de jure controls based on the presence of multiple exchange rates, restrictions on current and capital account transactions, and measures concerning the surrender of export proceeds. Results using the index can be compared with the use of capital account restrictions only (IMF data), or the assumption that all nations were open in the period studied.

For the gross tertiary education enrollment (%) instrumental variable, I use global indicators data published by the World Bank (in turn collected from the UNESCO Institute for Statistics) (School enrollment, tertiary (% gross) | Data n.d.). At this point it is important to note the usage of percentages for enrollment versus absolute levels. It could be argued that a country only needs a certain raw number of tertiary graduates before it is cable of running an independent central bank. First, more populous nations may require more central bank staff. This may be particularly relevant when one considers the example of the system of regional Federal Reserve Banks in the United States. Next, the use of percentages better accounts for the actual availability of graduates for service to the central bank. Tertiary graduates are assumed to have a choice between occupations in the government or private sector; raw numbers do not necessarily mean more expertise available, and a large educated share of the populace provides a better proxy.

As mentioned above, for the secondary instrument of social sciences and business graduates I make use of OECD data provided from 2005-2017 (Students - Tertiary graduates by field - OECD Data n.d.). The restriction to OECD nations is not a major problem, as these make up a good representative share of worldwide democracies, but the short time horizon leaves some reason for concern, particularly given the emergence of the Eurozone and relevant monetary uniformity. The data is multiplied by World Bank figures used above to get a total population share of social science and business graduates of tertiary education.

As my imperfect instrument for exchange rate regime, I use the World Bank’s aggregate GDP indicator in current US dollars(GDP (current US$) | Data n.d.). Alternatives in the form of PPP adjustments to various years are also available, but over restricted time period and sample. They may nonetheless be checked to see which provides the best first stage prediction.

I obtain data on most of my control variables from the compiled Varieties of Democracy Dataset (Varieties of Democracy Codebook Version 8 n.d.). V-Dem contains hundreds of variables, including extra copies of PIPE (with electoral turnover by chamber), Polity and World Bank data. It also contains numerous institutional controls. Although many institutional characteristics are likely absorbed as country fixed effects for the period studied, I still seek to make use of available data tracking changes over time where possible. One such included variable is the Inter-American Development Bank’s index on checks and balances and other governmental stability measures for over 180 countries from 1975-2017 (Scartascini, Cruz, and Keefer 2018). For the evaluation of federalism, I use built-in V-Dem data on whether regional governments exist and their degrees of relative power. For a measure of corporatism there is no variable in V-Dem, but here I use Visser’s index compiled with methodology which seems to be in line with the literature (AIAS n.d.; Kenworthy 2003).

*Revision begins here.*

# Results

All of the following regressions were performed with robust and clustered standard errors. We expect levels of variation in stability or number of turnover events to vary considerably across the sample (Bernhard and Leblang 2002).

Do all as interactions with openness and capital mobility/controls

Incumbent running elections excluded test

Panel of Democracies

Fixed Effects Regression effect of CBI on probability of election turnover

Arellano Bond of the same

Add in the first stages and show more

Regime as a binary or interaction- if interaction, can be continuous

Harder interpretation for the interaction regressions

Splitting the sample easier to explain

Instrument

* + - Tertiary Education instrument: Appears to have a good first stage for CBI, lvaw\_garriga and lvau\_garriga give pvals of 0, F of 500-600, robust
      * Note: I did this on a somewhat small subset of countries that matched in Stata, will need to do a lot of fixing to get a full sample working
      * Coeff of like 0.003 units on the CBI scale
      * Time and country fixed effects still leave a significant relationship
      * Spurious regression?

Check and develop binary classification for independent or no, repeat

Fixed Effects Regression effect of Fixed Exchange Rate on probability of election turnover

Arellano Bond of the same

Instrument

Check and develop binary classification for fixed rate, repeat

Combined model- interact independence and fixed rate regime scale

Fixed Effects

Arellano Bond

Both instruments

Binary for fixed rate OR independent CB (use binaries from earlier), repeat

Panel of Autocracies

Interpretability with a split sample better, but also should use interaction terms

Try with both autocracy and democracy de jure and de facto independence just in case theory is wrong

Other controls- Parliamentary System

*Revision Ends here.*

# Discussion

Evaluate the results

Implications: which theoretical chunks are best supported

# Conclusion

The consideration of any destabilizing effects of limiting regimes may add a new dimension to any normative debates over their adoption. As evidenced by occasional debate over issues such as term limits for politicians, opinions on optimal lengths in office vary (Greenberg n.d.). Within the political economy literature, short shadows of the future can have adverse effects on the provision of public goods and peaceful order (Olson 1993). The results of this paper show that the institutions of \_\_\_\_\_\_\_\_ specifically should be weighed with respect to these potential effects. Normative revaluations may thus be appropriate.

Implications for IMF policy recommendations, etc.

If there was evidence CBI affected turnover after the instrument: issues for Cukierman, de Haan, etc.? Reverse causal problems for the reverse causal argument!

Most importantly, the consideration of endogeneity should be adequately considered in future work on the impacts of limiting regimes. In some cases, the careful usage of panel data with adequate fixed effects and measures to handle reverse causality may be enough. In other cases, the introduction of instruments as in this paper should be helpful.

One interesting case study which could shed more light on the mechanisms at work in the link between limiting institutions and instability could be a closer examination of the joint arrangement of central bank independence and a fixed exchange rate on the European continent. Trouble concerning the eurozone is a common explanation for turmoil on the continent (Stiglitz 2016). Varying dates of entry into European systems provide a means to track political impacts. European elections also offer a more detailed picture of the specific kinds of upheaval following from limits. Populist victories overturning the status quo may come from the Left, as in Greece, or the Right, as in Italy, or there may be a change in centrist parties with reform promises (Henley n.d.). Factors which determine the style of revolt are worth examining.

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1. Probably the most serious other welfare loss attached to fixed exchange rates is a lack of automatic trade rebalancing through rates (Friedman 1953). A lack of automatic trade rebalancing is not an a priori problem for fixed rates with consequences for instability: the level of the rate may be adjusted or other trade deficit correcting measures may be taken, and there is evidence that trade is not a top issue for voters (Guisinger 2009). Also not a “flexibility” welfare loss per se, currency crises and speculative attacks may also be a problem of fixed rates (Krugman 1979). These situations may be mitigated, however, if IMF lending can be obtained and credible commitment to the fixed rate can be established. [↑](#footnote-ref-2)
2. One notable manner of escaping a fixed exchange rate constraint may come from the synchronization of electoral cycles identified as a growing trend worldwide (Tufte 1980). A synchronized electoral cycle may allow a nations monetary policy controlled from abroad through a pegged rate to again align with domestic political interests, provided that the nation which the currency is pegged to experiences its own political business cycles, perhaps due to factors such as a lack of central bank independence. [↑](#footnote-ref-3)
3. Argument for more widespread prospective voting in the literature does appear to be common, so the simplifying consensus here is perhaps overstated. US Index of Consumer Sentiment data seems to indicate that presidential approval ratings, for example, can be fully accounted for by prospective evaluations and forecasting (MacKuen, Erikson, and Stimson 1992). [↑](#footnote-ref-4)
4. To my knowledge, there has been no statistical or cross-national analysis of politician beliefs on the importance of the economy to voters, or on which economic variables they think matter to voters. [↑](#footnote-ref-5)
5. In rational opportunistic or partisan models covered in detail in earlier drafts of this paper, a similar mechanism is at play as incumbents try to demonstrate competence to society or the party but cannot do so under limits. [↑](#footnote-ref-6)
6. Of course, the economic concerns of elites may differ from those of the general population. It is unclear that elites would care about certain macroeconomic variables such as unemployment, although substantial levels of assets may lead them to care about variables such as inflation. In this case they could still demand limiting institutions. It is somewhat harder to imagine central bank independence or a fixed exchange rate placing a limit on transfers to elites to maintain support as “manipulation,” so the mechanism is less clear here. Overall, popular unrest may be a more powerful driver. [↑](#footnote-ref-7)
7. As a key difference, I employ data on capital controls and openness rather than making any temporal assumptions of this nature. [↑](#footnote-ref-8)
8. The assumption here appears to be that fixed exchange rates actually free up access to fiscal policy manipulation (with increased access to capital), which is an acceptance of the counterargument mentioned near the end of the section “Political Business Cycle Effects of Limiting institutions” at the end of this paper. This seems to contradict the evidence arguing fixed rates reduce manipulation at least for output and unemployment (William Roberts Clark et al. 1998), although (note again) results on this topic are tentative (correctly signed but not very significant) and there may be other means of fiscal policy manipulation such as transfers not as easily detectable in the aggregate. [↑](#footnote-ref-9)