Abstract. Recent events demonstrate once again that financial crises are often bad news for political incumbents. This paper provides evidence that this pattern is also visible across a much longer time horizon, but that it varies considerably by crisis type and political regime. The association is strongest for domestic debt crises, with democracies being most prone to executive turnover. Political regimes in which authority is more centralized and personalized (especially presidential regimes) are also especially prone to loss of office during crises. We argue that two main factors help to account for this observed variation. First, the costs of financial crises for incumbent governments depend on the nature of audience costs, which depend in turn upon crisis severity and scope, but also upon contextual societal expectations. Second, political turnover during financial crises is conditioned by the degree of personalization and centralization of political authority, as well as by the ease of replacement of incumbents.
Financial crises and political turnover: a long run panoramic view

Recent events demonstrate once again that financial crises are often bad news for political incumbents. During the peak of the recent global financial crisis from mid-2008 through mid-2009, there were abnormally high levels of political turnover as measured by the number of falls of incumbent governments and finance ministers, and prime ministerial resignations (figure 1). But is this pattern also visible across a much longer time horizon? This paper provides evidence that it is, and investigates in detail the strength and nature of the historical relationship between political turnover and financial crises.

In doing this, we add to a growing but still underdeveloped literature on the political economy of financial crises. On the specific issue of crises and political turnover, the literature exhibits what Reinhart and Rogoff (2010: 1) characterize as an “unfortunate” and “distressing” tendency to focus on very narrow time windows and particular regional experiences. Most existing quantitative cross-country analyses use developed country data going back only to the early 1970s if not sooner (Bernhard and Leblang 2008; Leblang 2003; S. Walter 2008), and most qualitative studies have focused on recent regional crises (Frieden 1992; Haggard 2000; Haggard and Kaufman 1992; MacIntyre, Pempel and Ravenhill 2008; Stallings and Kaufman 1988). We seek to address this deficiency by using a comprehensive new long-term historical database to develop a more panoramic view of the effects of financial crises on political outcomes for a much larger number of countries.

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1 We would like to thank Mike Seiferling, Young Cho and Javier Diaz-Cassou for their excellent research assistance in this project. We also thank the Department of International Relations and the STICERD fund at the LSE for financial assistance.

2 Ministerial resignations may occur earlier in crises than do changes of government, the timing of which is often determined by scheduled elections.

3 There are some exceptions, mostly from economic historians (e.g. Eichengreen and Lindert 1989). Bordo and Oosterlinck (2005) discuss the relationship between crises and political changes for 29 countries from 1880 to 1913.
Given the narrowness of the existing literature, there are large gaps in our existing knowledge. We know little about, for example, whether the relationship between political turnover and financial crises is consistently strong, and whether it varies substantially over time, across political regime types, and across different kinds of financial crisis. In this paper, we address a series of questions to help to fill this gap. First, are financial crises and political turnover significantly associated over the long run? Second, since we might expect the causal
relationship between financial crises and political turnover to be reciprocal, is this relationship asymmetric? (That is, do crises increase political turnover more than turnover increases the probability of crises?). Third, do different kinds of financial crises have different relationships with political turnover? Fourth and finally, do the relationships between financial crises and political turnover vary by political regime type? The rest of this paper is organized as follows. First, we first develop a theory of the relationship between crises and political turnover. Second, we discuss some conceptual definitions and relevant data. Third, we provide some evidence and preliminary answers to each of the four questions outlined above. A final section considers the implications of the findings and the implications for future research.

1 Financial crises and political turnover: theory

Why might incumbent governments be punished for financial crises? What factors condition such punishment?

The obvious starting point is that financial crises are both dramatic events and have costly economic consequences that are often deep, widely distributed, and long-lasting. Table 1 indicates the average economic effects of major banking crises since 1945 (these pre-date the most recent global crisis). This might appear to be sufficient reason to “kick the bastards out”.

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4 In this paper we focus on single financial crises to tease out the relationship of each to political turnover and leave aside cases of “dual”, “triple” and higher number multi-crisis.
Table 1: Economic consequences, major banking crises

<table>
<thead>
<tr>
<th>Economic Consequence</th>
<th>Peak to Trough Averages (%)</th>
<th>Duration (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate increase</td>
<td>7</td>
<td>4.8</td>
</tr>
<tr>
<td>Real per capita GDP fall</td>
<td>-9</td>
<td>2</td>
</tr>
<tr>
<td>Real government debt increase</td>
<td>86</td>
<td>3</td>
</tr>
<tr>
<td>Real house price fall</td>
<td>-35</td>
<td>6</td>
</tr>
<tr>
<td>Real equity price fall</td>
<td>-55</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Reinhart & Rogoff, "Aftermath", 12/19/2008

But might voters punish political incumbents because they wish to take retrospective revenge on policymakers they judge to have inflicted real economic hardship on them, because voters are forward-looking and judge such governments more likely to make mistakes in the future, or because they view incumbents as having broken policy promises (Anderson 2000; Leblang 2005; Lewis-Beck 1988; McGillivray and Smith 2000, 2008)? Or for all of these reasons? There is a long literature on rational economic voting going back at least as far as Downs (1957) that is compatible with all of these possibilities. The more severe and widely shared the audience costs, the greater the likelihood, and perhaps frequency, that citizens will try to punish governments. In response to growing scepticism that voters assessed all the available evidence and policy alternatives when voting, Fiorina (1981) argued that even relatively uninformed voters generally have hard data about their experiences during a government’s term in office that they use as a shortcut when undertaking minimally rational “retrospective voting”. Others have argued that voters (and presumably citizens more generally) are even less rational than this and often engage in “blind retrospection”, punishing
governments for random events such as shark attacks and pandemics over which they have little plausible influence (Achen and Bartels 2004). Cole, Healey and Werker (2009) agree with this finding, but argue that voters also punish or reward incumbent governments depending upon the effectiveness of their response to such disasters.

In this paper, we do not try to test for all of these possibilities, in part because our data does not as yet permit us to do so. Rather, we make three main arguments that are intended to apply to electoral democracies as well as non-democracies. First, citizens are likely to prefer to punish governments more severely for economic outcomes that inflict substantial and widely distributed costs on society – as opposed to punishment for “broken promises” per se (in part because breaking promises might produce net benefits for society). Second, citizens are more likely to wish to punish governments to the extent that they can draw upon a minimally coherent narrative that links past policies with negative economic outcomes. Third, the ability of citizens to punish incumbent governments will be conditioned by the relative ease of their replacement, and by the degree of personalization and centralization of political authority (i.e. more personalization and centralization will make it easier to attribute blame).

The first hypothesis predicts that the political turnover effects of crises will vary by crisis type, since the aggregate economic costs and the distribution of these costs generally vary substantially according to the variety of crisis. For example, exchange rate peg collapses might break a promise and cast doubt on a government’s credibility, but depreciations can (if accompanied by limited wage increases) increase the competitiveness of export industries and improve growth and employment outcomes. By contrast, banking and debt crises typically have much more serious and sustained negative consequences (Reinhart and Rogoff 2009), though only the latter tend to involve explicit broken promises (“the government will
repay its creditors"). Thus, evidence that the political turnover effects of banking crises are similar to those of debt crises and more powerful than (single) currency crises would support this argument.

As regards the distribution of costs due to crises, consider the complex case of banking crises. Generally, household sectors suffer significant losses of wealth in the aftermath of such crises. Before the mid-1930s, when governments and central banks were often unwilling to rescue failing banks, such losses were imposed on savers and other holders of bank deposits (which will include many businesses) through bank failures and losses of deposits. In the more recent period when governments and central banks have been much more likely to rescue large failing financial institutions, depositors generally still lose, but in a much less transparent manner. Since the Great Depression, most depositors in advanced countries have been protected, with a large proportion of the nominal value of deposits guaranteed either formally or implicitly. However, since this modern system requires banks to honour the nominal value of most deposits, governments must compensate banks in other ways in order to inject new capital into the banking sector. Some of these methods are more transparent to social actors than others, but all impose losses of some form on the household sector; sometimes the business sector is also penalized.

These methods include direct public capital injections into failed banks, which require the subsequent imposition of either new taxes of some kind (including an inflation tax) and/or losses for recipients of public transfers. Such losses tend to fall disproportionately on the household sector, though they are more widely spread across taxpayers and transfer recipients rather than concentrated on depositors. But such wealth transfers from households to banks can be achieved in a variety of less transparent ways; indeed, given the concerns of political

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5 The exception would be if bank failures occurred in state-owned banks. In the modern era, large banks, especially state-owned ones, tend to be intervened by governments and depositors protected.

6 Such protection is not universally provided in the modern era – the Argentine case after 2001 provides an important example in which large direct losses were imposed on depositors.
incumbents to avoid punishment for banking sector interventions, they will have incentives to choose less transparent bank recapitalization methods when possible. Hidden capital injections can be achieved through financial repression (allowing banks to increase profits through a higher spread on lending) by maintaining artificially low and often negative real deposit rates. This entails a wealth transfer from depositors to banks and their borrowers. Examples of this include China since the early 1990s and the US, UK and Eurozone since 2008. Wealth transfers from households to banks can also be achieved through the socialization of nonperforming loans (public purchases of NPLs from banks at prices higher than their true economic value), and regulatory forbearance regarding the treatment of NPLs (through lax loan accounting definitions and lax enforcement of bank treatment of NPLs). Such government interventions have also often been accompanied by concerns to promote business investment to maintain growth and employment levels, and to limit the increases in business NPLs that banks must report. This gives incumbent governments additional incentives to ensure that banks continue to lend to businesses at lower real interest rates than their appropriate risk-adjusted levels (especially to the SME sector since it tends to be more dependent on bank finance) rather than to consumers. This can lead banks intent on shrinking their balance sheet to reduce the proportion of their lending going to the consumer sector. To summarize, the direct costs of bank failures before and during the Great Depression fell heavily and transparently upon savers and firms dependent on bank finance (and these firms’ employees). In the modern era of bank and deposit protection, savers and households still tend to lose, but in less transparent ways. Much depends on voter understanding, a point developed below.

Savers and other recipients of nominal income flows also lose from inflation crises, though their ability to detect their loss of real wealth depends on the extent to which they are

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7 See Walter (2006, 2008) for an analysis of the cases of Japan and developing East Asia after the 1990s crises.
subject to money illusion. Holders of government bonds will also be directly impacted by outright sovereign defaults – this is likely to give governments an incentive to default against foreign rather than domestic bondholders where this is possible. Certainly, we would expect outright domestic debt defaults – especially in circumstances where such debt is widely held – to create powerful incentives for losers to mobilize to punish incumbents. Thus, again, incumbent punishment is more likely, we predict, in domestic debt crises than in inflation and currency crises, where costs will be widely but more thinly and less transparently spread.

The second argument suggests that social, historical and ideational contexts will also matter. As Achen and Bartels (2004) argue, a desire on the part of citizens to exact utterly blind retrospective punishment is likely to require a plausible narrative – perhaps supplied by political entrepreneurs and oppositions – that links negative social outcomes with the policies adopted previously or contemporaneously by incumbent governments. Although most citizens are unlikely to be well versed in high economic theory, developments in economic thinking are likely to shape the way in which citizens judge the record of governments. Before the twentieth century, there was no clear understanding on the part of economists that governments could or should “manage” economies, let alone stabilize the financial sector or manage business cycles.

The Keynesian revolution was a watershed in this respect: Keynes argued that governments should take responsibility for both of these things and provided reasons why governments both could and should adopt policies aimed at producing full employment and stable growth (Skidelsky 2000). Keynes himself was active in popularizing his own revolutionary ideas. Pragmatic politicians such as FDR in the United States also proclaimed that it was the job of governments to manage the economy and to provide better outcomes for the majority of citizens [cite Roosevelt??]. Rival ideologies, including both fascism and communism, also held out the promise of more managed, “rational” economies in the early
twentieth century. Keynesian doctrines spread slowly and unevenly in policy circles (Hall 1989), though they were associated in a number of developed countries during and after World War II with the adoption of policy platforms that promised full employment, development and stable growth. Such promises are likely to contribute to growing societal expectations that governments are responsible for economic outcomes and will prevent catastrophic economic outcomes of the kind that occurred in so many countries in the 1930s. Thus, our argument predicts that heightened societal expectations regarding economic management after the 1930s is likely to mean that incumbent governments would be punished more severely than in the past – even if such economic management may itself lead to shallower business cycles and lower real economic costs for societal groups.

The third argument is straightforward: punishment will be contingent on the ease of replacement of incumbents and on the ability of citizens to direct their anger towards responsible policymakers. Ease of removal will be higher in electoral democracies than in authoritarian polities; in authoritarian polities in which incumbents do not possess a credible monopoly on the means of violence; in majoritarian electoral democracies; and in electoral democracies with shorter electoral cycles or with elections in the short to medium term aftermath of crises. Ease of identification will be lower if the level of transparency in the political system is low, in more anonymous and less personalized polities, and in coalition governments (McGillivray and Smith 2000, 2008). In polities like Suharto’s Indonesia or Mubarak’s Egypt, everyone knows who to blame even though their understanding of the complex linkages between policy choices and socioeconomic outcomes is surely limited.

A complicating consideration is that it is likely the relationship between crises and political turnover is reciprocal: political turnover (instability) might plausibly increase the probability of financial crises, and financial crises might also increase the probability of political turnover (cf. Bernhard and Leblang 2008). Politically unstable governments might
be more prone to adopt destabilizing economic policies that eventually produce financial crises; political instability can also trigger capital flight, producing currency and banking collapses (Edwards and Tabellini 1991). On the other hand, there are many reasons to suppose, as noted above, that financial crises lead to a backlash among domestic audiences that will cause incumbent governments to lose support and perhaps political office. Another consideration is that economic conditions may affect the timing of political instability in countries where elections are endogenously determined (Smith 2004; Kayser 2005, 2006). We take account of these possibilities in our empirical analysis where possible so as to focus on our claims about the ways in which crises are likely to affect political turnover.

2 Data

To its credit, much recent quantitative scholarship on the political economy of financial crises has used data that provide fine-grained temporal analysis (e.g. Bernhard and Leblang 2008; Leblang 2003; S. Walter 2008). This approach has advantages, but as noted above it does not permit analysis from a more panoramic view. For this reason we use annual data, which enables analysis of a larger number of countries over a much longer time period. Specifically, our dataset contains annual data from 1800 to 2006 across a sample of 160 countries. To measure political turnover we employ two indicators from the Cross-National Time-Series Data Archive (Banks 2010). One indicator, polit12, measures the number of times in a year that effective control of executive power changes hands ("executive turnover"). This indicator requires that the new executive be independent of his/her predecessor. The other indicator, polit11, measures the number of times in a year that a new premier is named and/or at least half of the cabinet posts are assumed by new ministers ("cabinet turnover"). We modify both measures to create two dichotomous indicators set

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8 The minimum number of countries in the system ranges from 20 in the early 1800s to 160 by the end of the period. In practice, the Banks dataset (see below) is restricted to 1815-2006, which currently prevents us from deploying crisis data before or after this period.
equal to one if a country experiences one or more turnover events and zero otherwise. Figures 2a and 2b [ALL REMAINING FIGURES ARE AT THE END OF THE PAPER] show the percentage of all countries for any given year that experience executive and cabinet turnover events respectively (although we do not undertake separate analysis in this paper of the much smaller number of cases in which countries experience multiple turnover events in a single year, these figures also show these in the form of “polit12high” and “polit11high” respectively). The trend in both measures of turnover is up over time (perhaps related to rising levels of democracy in the international system), but especially so in the case of cabinet turnover. Executive turnover peaks in the troubled interwar period, and cabinet turnover peaks in the troubled (for developing countries) 1990s.

For financial crises, we use Reinhart and Rogoff’s (2009) now canonical classification of crises into five different kinds: banking, currency, domestic debt, external debt, and inflation. The problem of defining and timing the onset of crises is harder in some cases than others (Reinhart and Rogoff 2009: chapter 1). It is relatively straightforward for currency and inflation crises. Currency crises are defined quantitatively by an annual depreciation exceeding a threshold of 15 percent per annum against an anchor currency, and an inflation crisis is recorded when a country’s inflation rate excides a threshold of 20 percent per annum.

Measuring banking and debt crises raises more challenges. Quantitative indicators of stress in the banking system, such as the relative price of bank stocks, have limited coverage, so Reinhart and Rogoff use an events measure. They define banking crises by: (1) bank runs that lead to the closure, merging, or takeover by the public sector of one or more distressed financial institutions; or (2) if there are no runs, the closure, merging, or large-scale public assistance of an important financial institution that begins a string of similar outcomes for other financial institutions. Similarly, (domestic and foreign) debt crises are defined by events

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9 In this paper, we leave aside the question of multiple turnover events, which, as figures 2a and 2b show, are comparatively rare.
in which a debtor defaults, repudiates, or begins restructuring of debt that imposes some form of loss on existing (domestic or foreign) creditors. The final resolution of such crises may occur several years into the future, decades later, or never. Such extended resolutions may be economically and politically costly, but it stretches the concept to designate all years in these lengthy spells as crises. Indeed, this problem applies to all kinds of financial crisis.

For this reason, we have chosen to focus on the relationship between political turnover and new financial crises. Accordingly, we measure the timing of debt crises as being marked by the first year in which default, repudiation, or restructuring takes place. New crises generally are defined as events in which the crisis indicator crosses the relevant quantitative or event threshold in any year following a tranquil year (i.e., no crisis). Figure 3 shows the percentage of all countries experiencing new banking, currency, debt and inflation crises respectively by year. They indicate that all forms of crisis have a long history but that their frequency and historical distribution can vary substantially. This underlines the value of a long run panoramic approach.

Finally, we also use data on political regime type from Polity IV and Cheibub et al. (2010). The Polity IV data offer a measure of regime type that ranges from -10 to +10, with lower values indicating greater autocracy and higher values indicating greater democracy. We follow Polity in deploying a tripartite indicator in which autocracies are defined as countries with Polity2 scores of less than -5, anocracies those with scores between -5 and +5, and democracies those with values greater than +5. Cheibub et al. (2010) provide a six-fold political regime classification: parliamentary democracy, semi-presidential democracy, presidential democracy, civilian dictatorship, military dictatorship, and royal dictatorship. We modify this classification by consolidating in to one category the three different categories for dictatorship. Note that this data is more restrictive in time-frame, only available for 1946-2008. Figures 4a and 4b shows how both sets of regime indicators evolve over time.
3 Financial crises and political turnover: is there a stable long run relationship?

Our first empirical question is whether financial crises and political turnover are significantly related over the long run. The answer is a categorical yes: new financial crises (of any kind) are associated with higher rates of turnover for both the political executive (polit12) and cabinet officials (polit11). Figure 5 shows that the average annual rate of political turnover in crisis-hit countries is consistently higher than political turnover rates for non-crisis (“tranquil”) countries. Moreover, these results hold for the whole period (1800-2006), as well as in what we label in shorthand as the “gold standard”\(^\text{10}\) (1800-1933), post-gold standard (1934-2006), and post-Bretton Woods (1974-2006) periods. Because the results for the post-1974 period are generally similar to those for post-1933, we do not include the former in the analysis that follows. For each period, the difference in means for crisis and tranquil countries are statistically significant.

For the whole sample period, whereas the average executive turnover rate in crisis countries nears 27 percent, in tranquil countries it is less than 19 percent. Since the average unconditional turnover rates for cabinet officials are significantly higher than that for executives, the respective turnover rates for crisis and tranquil countries are also higher. For the whole sample period, cabinet officials in crisis countries see an average turnover rate approaching 54 percent, while tranquil countries experience a turnover rate of around 43 percent.

There is some, though not very large, variation across different periods. For executives, the average turnover rate is higher in the 1800-1933 period than afterwards and highest in the 1974-2006 period. Crisis-hit countries experienced average rates of executive turnover before 1934 of 37%, compared to about 30% for the entire modern period and 39%\(^\text{10}\) Strictly speaking, most authors would date the international gold standard period from about 1880 to 1931, with interruptions between 1914 and 1924-5. Britain’s gold standard was also suspended during the Napoleonic War period, but our data on political turnover dates from 1815 in practice.
for the period after 1973. Tranquil countries experienced average turnover rates of 24% in the
gold standard period, compared to 20% afterwards. But we also need to consider that for both
executives and cabinet officials, unconditional rates of turnover are highest in the gold
standard period. In fact, it is during the 1974-2006 period that crises bring about the sharpest
percentage increase in the frequency with which executives lose office (at 62%, compared to
54% during 1800-1933). For cabinet officials, while the average rate of turnover is highest
during the gold standard period, differences in turnover rates between crisis and tranquil
countries are higher (and very similar) in the post-1933 and post-1973 periods (at 48%,
compared to 32% during 1800-1933).

These results for different periods might seem surprising given that after the Great
Depression new economic policy ideas and techniques permitted more effective management
of domestic economies and of financial crises in particular. But as Reinhart and Rogoff
(2009) show systematically, even modern-era financial crises are associated with unusually
negative economic outcomes compared to “normal” recessions (they describe financial crises
as “recession accelerators”). Moreover, as we argued above, although governments
developed better techniques for managing financial crises than before the mid-1930s, so too
voter/citizen expectations of government policy rose significantly after the gold standard
period. This evidence supports our contention that incumbent governments after the 1930s
could be punished severely for crises and associated recessions that were often milder than
before 1934, albeit much deeper than the recessions to which they had become accustomed in
the 1950s and 1960s. We extend this argument about the disappointment of “great
expectations” that became entrenched in the post-1945 period below. We also address later
the possibility that the trend towards democracy could make it easier for citizens to inflict
“leader-specific punishment” on incumbent governments.
The reciprocal relationship between crises and turnover

Having shown that financial crises are significantly related to political turnover, the question that follows immediately from this is whether the data permit any conclusions about the direction of this relationship. Our decision to use long run historical data to analyse these questions has the disadvantage that a more sophisticated two-stage multivariate statistical analysis is difficult due to the absence of data for most countries over the whole of our period of analysis. For this reason, we compare the relative importance of the conditional probabilities: that is, of the probabilities of countries experiencing financial crises given political turnover, and the probabilities of countries experiencing political turnover given financial crisis.

Figure 6a compares the size of both of these conditional probabilities for cabinet and executive turnover relative to the underlying probabilities of crises and of political turnover (for all crises and the whole period 1800-2006). The height of the green bars shows the average increase in the probability of crisis given turnover compared to unconditional crisis probabilities for our whole sample. The height of the red bars shows the average increase in probability of turnover given crisis compared to the unconditional probability of turnover. Thus, in absolute terms, the average increase for turnover is considerably higher than the average increase for crises, suggesting that crises may increase the probability of turnover much more than the other way round.

To gain further insight, we normalize these results by converting the absolute increases in probabilities to the relative increase brought about to the unconditional rates of crisis and of political turnover. These results are shown in the blue and orange bars. They show, interestingly, that for executive turnover the percentage increase in the probability of turnover given crisis (at 70%) is significantly higher than the percentage increase in the probability of crisis given turnover (at 48%). This suggests that the reciprocal relationship
between crises and executive turnover may be asymmetric, with crises apparently increasing the likelihood of executive turnover more than the reverse. This does not apply, however, to cabinet turnover, where the percentage increase in the probability of crisis given turnover (at 46%) is slightly higher than the percentage increase in the probability of turnover given crisis (at 42%). This may be because cabinet instability is associated with policy instability, which in turn precipitates crises.

Figures 6b and 6c provide a further breakdown of these conditional probabilities by crisis type. We postpone analysis of the relationships between political turnover and different kinds of crisis to section 4, but for the moment these two figures show that the broad patterns revealed above hold once we take account of the fact that financial crises come in very different forms. Figure 6b shows that in absolute terms, the differences in probabilities of crises given turnover are swamped by the differences in probabilities of political turnover given crises, for all kinds of crisis. Figure 6c also shows that for executive turnover, the results summarized in figure 6a hold for all kinds of financial crisis (i.e. the percentage increases in the probabilities of turnover given crises significantly exceed those for the probabilities of turnover given crises). But figure 6c reveals some differences in the case of cabinet turnover. The general finding in 6a that turnover has stronger implications for crisis than the reverse does not hold in the case of banking, external debt and inflation crises. In fact, the general finding that cabinet turnover has stronger implications for crisis than the reverse appears to be largely driven by domestic debt crises.

What can we conclude from these initial results? First, they may imply that the causal effects of crises on turnover are greater than the reverse, though establishing this requires additional analysis. Second, for cabinet turnover, there is no consistently similar pattern and for some kinds of crisis, notably domestic debt crises, the causal effects of cabinet turnover
on crisis may be more powerful than the reverse. However, the interpretation of causal paths in the presence of these reciprocal relationships clearly requires caution.

5 Which kinds of financial crisis are most strongly associated with political turnover?

With all due caution given the likelihood of the reciprocal relationships outlined above, we now consider how different kinds of financial crisis are related to political turnover. Figure 7 shows the difference in average rates of political turnover between crisis and tranquil countries in our three main periods (1800-1933, 1934-2006, and all years) – note that all differences are positive (i.e. crisis countries have higher average rates of turnover than tranquil countries). It reveals that new domestic debt crises are much more strongly associated with both executive and cabinet turnover. For all years, both executive and cabinet turnover is about 140% higher in countries experiencing new domestic debt crises than in tranquil countries. Again, this holds for both the gold standard and modern eras; indeed, the differences are slightly higher in the modern period. New banking, external debt and inflation crises are less strongly associated with political turnover, with turnover rates in crisis countries in the range of 20-40% higher than in tranquil countries. Currency crises are least strongly associated with turnover. The results are also broadly similar for both measures of political turnover. The colours in figure 7 show levels of statistical significance. We find highly significant results for domestic debt crises and some significant results for banking, external debt and inflation crises.

What explains these results? As noted above, for several reasons the audience costs for domestic debt crises are likely to be particularly severe and widely shared among domestic actors. First, while both external and domestic debt crises typically occur in countries already experiencing recessions, recessions are generally much deeper in the case of domestic debt crises (Reinhart and Rogoff 2008). Second, perhaps the worst (economic) thing governments can do is to default against their own citizens.
Why might turnover rates in the case of domestic debt crises be even higher in the modern period than in the gold standard period? This finding could be due to higher citizen expectations in the modern era and/or the greater prevalence of democratic regimes. We test for both possibilities more fully below.

For banking crises, we find that the relative difference in turnover rates is significant for cabinet officials in both historical periods. There is weaker evidence for executives whom we find experience a modestly significant (p<.10) increase for only the gold standard period. This might be because banking crises were somewhat more severe during the gold standard era, with consequently more severe consequences for incumbent governments (Bordo et al. 2001). The severity of these crises may have been linked to prevailing policy ideas. As constructivist political economists have shown, prevailing policy ideas shape the crisis resolution strategies that policymakers employ (Hall 2003; Widmaier et al. 2007). During the gold standard period, the primary purpose of the central bank was to maintain the external value of the currency and lender of last resort liquidity injections to prevent bank failures was considered potentially inconsistent with this objective (Eichengreen and Temin 1997). To be sure, these “rules of the game” were sometimes violated, but liquidity support, when offered, was typically limited in scope (Bordo et al. 2001; Simmons 1996). In Latin America, the periphery of the gold standard, most countries even lacked central banks before the 1920s so that payments imbalances and changes in monetary reserves fed directly into destabilizing changes in the money supply (Triffin 1972 [1944]).

It was not until the 1930s that economists and some policymakers came to see monetary and fiscal policy as tools for achieving macroeconomic stabilization and full employment (Diaz-Alejandro 1988; Eichengreen 1992, 1996). In addition, banking and

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11 Even after American and British “money doctors” helped establish central banks in Latin America in the 1920s, the underdevelopment of financial markets meant that eligible paper proved scarce and use of the discount rate for as a tool for monetary management tended to be ineffective.
finance generally was repressed and highly regulated in the three or four decades after the Great Depression in most advanced and developing countries (Helleiner 1994). In short, it the experience of the Depression and new Keynesian policy ideas produced fewer crises, greater economic stability, and thus lower levels of political turnover in the years after the early 1930s.

Our view is that this argument gives insufficient attention to the contextual nature of audience expectations and how these can socially mediate, and thus affect the political costs of crises and economic downturns. That is, the willingness of voters/citizens to blame incumbent governments for the sharp recessions that often follow financial crises might depend not upon the absolute economic costs of such crises, but upon the extent to which they disappoint voter/citizen expectations. Such expectations are likely to depend substantially on the perceived relative size of such costs compared to those associated with recent recessions with which audiences had grown accustomed. During the golden age of postwar growth from 1950-73, banking crises were relatively rare and recessions were shallow by historical standards, so that domestic audiences came to expect less instability. Another factor that raised audience expectations was competition among post-1945 politicians to promise much more extensive and effective economic and financial management than in the past, higher and more consistent growth, lower unemployment, lower financial instability, and more rapid economic development (Krugman 2007). These great expectations spread with the democratization trend in the 1980s and 1990s in parts of the developing world and Eastern Europe. Thus, although the financial crises and deeper recessions that followed the end of the postwar boom in 1973 may have been less bad in absolute terms than before the mid-1930s, they were nevertheless unwelcome to voters and citizens who had come to expect much more from governments.
In fact, we find support for this line of argument. The average differences in the relative change in executive turnover rates are not large across our two main periods (the difference between is negligible)\textsuperscript{12} and in the case of cabinet turnover they are significantly higher in the modern period. Governments may be trying to cushion audience dissatisfaction in the post-Bretton Woods period by replacing “failed” cabinets – though clearly any such causal inference requires more analysis.

There are some larger temporal differences for external debt crises, with executive turnover rates in crisis countries 70% higher than in tranquil countries during the gold standard period and only an insignificant 10% higher in the modern period. On the face of it, this is the opposite of what we might expect from the democratization trend over the twentieth century because of the increased ease of replacement of executives. In contrast with domestic debt default, however, government default against external creditors will be less unpopular for domestic citizens if it is seen to deflect the burden of adjustment to foreign audiences by reducing the immediate need for fiscal retrenchment, with its disproportionately harmful impact on public sector employees, the unemployed and the poor (Reinhart and Rogoff 2008; Tomz 2004). Of course, this strategy is not costless: defaulting countries generally lose access to foreign capital markets, though this could prove short-lived. Support for debt repayment is therefore likely to be strongest among those sectors of the economy who value access to foreign capital markets, but lowest among those that stand to lose from the fiscal retrenchment that goes along with repayment. Since the percentage of the workforce employed or supported by the government has increased substantially in many countries since the 1930s, this may have tipped the balance in favour of default against external creditors (when these can be distinguished from domestic creditors). On this logic,

\textsuperscript{12} The difference in the relative change in executive turnover rate between banking crisis and tranquil countries during 1974-2006 is 34%, compared to 37% during 1800-1934, but the first difference is not statistically significant.
democratic governments might have become more prone to choose policies that favour domestic audiences against the interests of foreign creditors (Saiegh 2005). Fiscal retrenchment to repay external creditors might also have become increasingly difficult for democratic governments whose citizens had come to expect more of them. If this line of reasoning is accurate, the trend towards democratization after the 1930s could help to explain both why the rates of political turnover are systematically lower for countries defaulting against foreigners than for those who default against citizens, and why the political costs of external default for incumbents falls substantially after the 1930s.

Of course, populist political regimes with limited domestic legitimacy may also prefer to default against foreigners if the costs of doing so are outweighed by the domestic political benefits. In authoritarian and democratic systems, political executives may also use the sacking and renewal of ministers as a supplementary “safety valve” to respond to domestic discontent. This may explain why rates of cabinet turnover associated with external debt crises do not fall in the modern era.

Regime type explanations alone are probably insufficient to explain these findings. Countries in the gold standard era may also have faced more severe costs from an external debt crisis than countries in the post-gold standard era. Following the end of the Napoleonic wars in the early 1800s, the largest advanced countries were increasingly able to avoid default. Default, however, remained common in peripheral advanced countries and most emerging markets (Qian et al. 2010). With the gold standard providing only a “thin film” of policy credibility and with low domestic savings, when these countries defaulted, in addition to experiencing a sharp economic contraction, they could expect to experience severe adverse reaction from global financial markets (Ferguson and Schularick 2008). Despite the relative difficulty in replacing leaders in the many non-democratic regimes of the gold standard era, the severity of these costs, and perhaps the failure of non-democratic regimes to pursue
policies that favoured domestic audiences, may nonetheless have unleashed significant popular discontent that resulted in high rates of executive turnover.

For inflation crises, in contrast to external debt crises, crisis countries are much more likely to experience both executive and cabinet turnover in the modern period than in the gold standard period. This may be due in part to the fact that extreme inflation crises are a relatively modern phenomenon (Reinhart and Rogoff 2009: chapter 12). It may also be due to the greater prevalence of democratic regimes in the modern era, as greater ease of replacement of political incumbents can heighten the politicization of economic policy decisions concerning adjustment.

There is an extensive literature outlining the distributional consequences of inflation and deflationary adjustment (Kirshner 2001). Inflation redistributes real wealth from creditors to debtors; deflationary adjustment has the opposite effect. Distributive conflict also may translate into inflation by creating political pressures for accommodative monetary and fiscal policies (as, notably, in early 1920s Europe – Eichengreen 1992). In countries where labour and popular sector groups are strong, either due to government support or organizational strength, wage settlements are likely to be more generous than in countries where such groups are repressed or organizationally weak. Inflationary pressure can also come from fiscal policy, which can be subject to distributive conflict over fiscal resources either in the form of increasing spending or resistance to taxation. Rather than resist these competing claims from different groups, governments may find it easier to accommodate them through monetization of fiscal deficits (Drazen 2000).

While the political power of groups opposed to deflationary adjustment is likely to depend on a number of other factors, regime type is, in all likelihood, one factor shaping their capacity to organize and exert influence. It is not only easier to replace government officials in democracies, but such regimes may be less insulated from distributive preferences opposed
to deflationary adjustment; at least in circumstances where the party structure or institutional arrangements do not inhibit their influence (Haggard and Kaufman 1992; Simmons 1994). Deflationary adjustment following an inflationary crisis may thus prove more costly to democratic regimes than to non-democratic ones (Labán and Sturzenegger 1994).

The previous discussion about the rise of Keynesian policies after the experiences of the 1930s is relevant here. The policy consensus associated with the Phillips curve trade-off of the 1950s and 1960s and rising expectations that governments would provide full employment produced steady inflation in most countries. The oil shocks and stagflation of the 1970s were associated with much higher rates of inflation and unemployment in many countries that proved highly costly to incumbent governments. Governments in advanced countries increasingly shifted their policy emphasis after this experience to targeting low inflation, but for many developing countries inflation peaked in the 1980s. This new policy emphasis in advanced countries, and the audience expectations associated with it, may have increased the political costs for governments that did not achieve low inflation – perhaps one reason why many governments subsequently chose to delegate monetary policy to independent central banks.

Finally, currency crises have surprisingly little impact on turnover. Figure 7 shows significant differences only for cabinet turnover in the post-gold standard era, a finding consistent with earlier work that shows that currency crises can affect the probability of cabinet collapses (Bernhard and Leblang 2008). The absence of a strong effect for currency crises may result from the incentives governments face to postpone devaluations. Previous research finds that the political costs of devaluation lead governments, particularly democratic ones, to try to postpone it so that the crash comes under their successor, or hope that something will turn up to improve performance (Frieden et al. 2001; Stein and Streb 2004). This effect can also be observed when countries face a currency crisis (Leblang 2003).
Thus, because devaluation uses up scarce political capital, it is more likely to be implemented by a new leader with a strong mandate, especially in a visible and severe crisis that he/she can blame on his predecessor (Frankel 2005). Generally, currency crises may follow other kinds of financial crisis (banking, debt and inflation) that have already led to a loss of political office for incumbents. If this is the case, then we would observe less political turnover in currency crises.

Distributional consequences from devaluation could also matter. Currency crises are often associated with painful economic recessions and a lower exchange rate will often hurt consumers, producers of nontradable goods and firms with foreign currency liabilities. On the other hand, devaluations can benefit export sectors. Much will therefore depend on the relative political power of winners and losers, the extent to which consumers lose from devaluation, and whether governments socialize the foreign currency liabilities of private firms. But there is a general view in the literature that currency crises are less politically costly than is often presumed, at least for those governments that refrain from making public promises in advance not to devalue (Leblang 2003; Frankel 2005).

6 Do the relationships between financial crises and political turnover vary by political regime type?

In this section we explore how regime type may condition the relationship between financial crises and political turnover. We begin first with the standard Polity IV distinction between authoritarian, anocratic and democratic political regimes. We might expect the differences in political turnover to be greater for democracies because of the relative ease with which incumbent governments in democracies can be punished and removed from office (McGillivray and Smith 2000, 2008). However, figure 8 shows that executive turnover is only substantially higher for democracies than in autocracies and anocracies in the cases of domestic debt crises and banking crises. Anocracies exhibit higher rates of executive turnover.
than democracies in external debt crises. The same is broadly true for cabinet turnover, although autocracies and anocracies that default against domestic debt holders are much more likely to replace cabinets than to suffer executive turnover. Once again, currency crises are not generally associated with large or significant differences in political turnover.

Why might different kinds of crises be associated with different rates of political turnover across different regime types? We suspect it has something to do with the way certain crises lend themselves to particular resolution strategies, and how the distributional and expectational implications of these resolution strategies then play out given differences in the ease of replacement across regime types. Consider first that turnover is only substantially higher for democracies than in autocracies and anocracies in the cases of domestic debt crises and banking crises. Democratic executives in domestic debt crisis countries face an astounding 220 percent greater likelihood of turnover compared to those in tranquil countries. Cabinet officials in domestic debt crisis-afflicted democratic countries also experience an increase of over 160 percent in the likelihood of leaving office. In the case of banking crises, executives and cabinet officials in crisis-afflicted democratic governments are found respectively to be around 67 percent and 53 percent more likely to face turnover than those in tranquil countries (and the results are insignificant for officials in non-democratic regimes).

As argued above, the costs of default against citizens will be high and difficult for political incumbents to deflect, but such incumbents will be more difficult to remove in anocratic and autocratic regimes. However, executives in less democratic regimes will likely try to appease citizens by replacing “incompetent” ministers: cabinet officials in crisis-afflicted anocratic and autocratic governments are found respectively to be around 120 percent and 125 percent more likely to face turnover than those in tranquil countries. (Think of Mubarak’s first move in Egypt in late January 2011).
For banking crises, the difficulty in replacing officials in less democratic countries also likely played an important part in channelling public discontent. The distributive conflict over resolution strategies for banking crises is likely to be more contentious than that for domestic debt crises. Public rescues of the banking system result in a transfer of wealth from the taxpayer to the financial sector, usually at the cost of rising public debt and unemployment, and significantly lower income, growth and asset prices (Reinhart and Rogoff 2008; Reinhart and Reinhart 2010). In simple terms, there is a transfer of wealth from labour to capital and from the non-financial sector to the financial sector. To the extent that democratic regimes are less insulated than non-democratic regimes from labour and popular group pressures, we would expect higher turnover along the lines of our earlier argument for inflationary crises.

Why then for external debt crises do anocracies exhibit the highest increases in political turnover? For these crisis-hit anocracies, executives and cabinet officials are approximately 55 percent and 25 percent more likely to face turnover, respectively, compared to tranquil countries. As argued above, policymakers in more democratic regimes may be more likely to succumb to public pressures and choose resolution strategies that favour domestic audiences over foreign creditors. This is especially likely to be the case where the regime is dependent upon support from those groups (public sector employees, labour, etc.) that would be disproportionately harmed by the fiscal adjustment necessary to pay off foreign creditors. Autocratic governments tend to be more insulated from such public pressures and select resolution strategies less favourable to those groups disproportionately harmed by fiscal adjustment (Enderlein et al. 2008).\textsuperscript{13} Although this may lead to rising discontent among some groups, removing an autocratic leader may prove so difficult that even debt default is

\textsuperscript{13} For a more nuanced view that emphasizes shifting distributive preferences and coalitions, see Tomz (2002; 2004).
not sufficient to trigger it. While anocracies may seek to implement similar resolution strategies, they are more vulnerable to the impact of public discontent.

For inflation crises, we see that the effect on turnover is generally limited to democracies, with cabinet officials in anocracies appearing also to experience some effect. As compared to tranquil democratic countries, inflation crisis in democracies are found to increase the likelihood of turnover by over 50 percent and around 28 percent for executives and cabinet officials, respectively. Cabinet officials in anocracies facing inflationary crises are found to be nearly 20 percent more likely to experience turnover than those in tranquil countries. These results seem to provide some support to the conjecture outlined earlier; that is, that the ease of replacement in democratic regimes permits the distributive preferences opposed to deflationary adjustment felt more forcefully. Anocracies, which are likely less able than autocracies to insulate themselves from distributive preferences opposed to deflationary adjustment, would thus also face some pressure for change.

With respect to currency crises, we again find little impact of turnover regardless of regime type (currency crises are only marginally significantly related to cabinet turnover among democracies). The reasons for this are likely to be similar to those outlined in section 3.

Figure 9 also compares percentage differences in political turnover rates between crisis and tranquil countries but provides additional detail for political regime types in different historical periods. There are a few interesting temporal results worth remarking upon. For domestic debt crises-afflicted countries, cabinet officials are found to experience significantly higher levels of turnover across all historical periods across most regime types, while executives witness greater turnover largely in democratic regimes across both historical periods. The fact that the impact is slightly higher in the post-gold standard era may be due to the dramatic increase in the share of public-sector liabilities accounted for by domestic debt.
in advanced countries after 1933 (Reinhart and Rogoff 2008). Larger public liabilities would heighten the domestic audience costs associated with any crisis.

High rates of executive turnover in anocracies are, in contrast to the results for democracies and autocracies, limited only to the gold standard period. This may be driven by the paucity of long term data, which is especially problematic for domestic debt crises. Reinhart and Rogoff (2009) provide the most comprehensive data, but even their dataset almost certainly catalogues a lower bound. Our sample for domestic debt crises during the gold standard is thus limited to ten countries. Only three anocracies – Argentina (1890), Mexico (1928), and Peru (1931) – experienced a domestic debt crisis during the gold standard period. While some caution is therefore needed in interpreting the results, what is interesting about these countries is that some of them, most notably Peru, had domestic debt markets whose size at the time resembled those of advanced countries following 1933 (Reinhart and Rogoff 2008). Hence, like advanced countries after 1933, these large domestic debt markets probably heightened the domestic audience costs from any crisis.

For banking crises, we find that higher rates of turnover are confined largely to democratic countries. The magnitude of this effect appears to be somewhat higher in the gold standard period than the post-gold standard period (68% to 52% for executives, and 64% to 40% for cabinets).\textsuperscript{14} This lends support to the earlier argument about the role of policy ideas in producing more severe recessions before 1934, but the association between banking crises and political turnover remains strong and significant in the modern period. This supports our expectational modification of the leader-specific punishment literature.

For external debt crises, the results show that anocratic executives during the gold standard period experience higher rates of turnover than during the post-gold standard period.

\textsuperscript{14} For the period 1974-2006, differences in turnover rates are slightly higher than for the whole period 1934-2006.
As already discussed, the economic costs (measured in terms of output and borrowing spreads) from external debt crises were likely more severe during the gold standard period than post-gold standard period (Borensztein and Panizza 2009; Paoli et al. 2006). Reinhart and Rogoff (2010) also find that the median duration of default spells in the pre-World War II period was twice the length that it was during the post-World War II period (six years versus three years (see also Borensztein and Panizza 2009; Bordo et al. 2001). Thus, to the extent that anocracies tend to pursue resolution strategies less favourable to those groups disproportionately harmed by fiscal adjustment, then the domestic audience costs associated with these strategies were likely higher in the gold standard period than the post-gold standard period.

Autocracies are also likely to be tempted to pursue resolution strategies that harm groups disproportionately harmed by fiscal adjustment, but are less easily replaced. They may try to deflect domestic opposition to such policies by replacing ministers. As we find, cabinet officials in autocracies suffering external debt crises witness higher turnover in the post-gold standard period than the gold standard period. This result may also be due to a shift in the composition of borrowing. During the gold standard period, sovereign borrowing occurred exclusively through bond markets, whereas in the post-gold standard period bond markets were supplemented, and for a time supplanted, by bank lending. Borensztein and Panizza (2009) find that default rates on bank loans were higher than on bonds even though the political costs of defaulting on bank loans were higher – cabinet officials in dictatorships may have paid the price in the modern era.

Turning to currency crises, we find that the impact of currency crises is limited to a weak and marginally significant increase in turnover for cabinet officials only in democracies in the post-gold standard era. For inflation crises, we find that democratic regimes in both periods, as well as anocracies in the post-gold standard period, experience higher turnover.
This result is driven largely by the presence of extreme inflation crises in several democracies in five years following the end of the First World War, a period of increasing organizational strength, and to some extent government support, of labour.\textsuperscript{15} Autocracies appear able to resist any public discontent that comes from such crises.

We finish our discussion of regime type by using the Cheibub (2010) data to look at differences among dictatorships, presidential regimes, semi-presidential regimes, and parliamentary regimes from 1946-2006. Theoretically, we might expect that political regimes in which power is more concentrated and personalized will be more dependent on public opinion than parliamentary regimes. Political power is also centralized in dictatorships, but, as noted, it is more difficult to remove them office. Furthermore, as constructivists suggest (Widmaier 2007), institutional settings that personalize authority may generate greater instability if the rhetoric of government officials fails to resonate with mass public beliefs and expectations. To the extent that some regimes have become “rhetorical presidencies” (Tulis 1987), this may also undermine their ability to forestall mass public discontent. Hence, we might expect leader-specific punishment to be greater in presidential and semi-presidential regimes than in parliamentary ones in which power is less personalized. However, parliamentary regimes may prove more unstable if they produce governments reliant on coalitions, as coalition partners may leave government to avoid responsibility or to distinguish their policy position from other government parties. Dictators will be less likely to be removed from office, but they may replace ministers in crises to deflect criticism of their own authority.

Unfortunately, data availability issues, particularly for domestic debt crises, prevent us from fully assessing these conjectures. There were no reported instances of domestic debt crises.

\textsuperscript{15} Eight of the nine democratic countries in our gold standard sample fit this description: Germany and Finland (1919), Austria, Denmark, and France (1920), Poland (1922), Portugal (1923), and Austria (1924). The other country is Colombia (1882).
crises in semi-presidential regimes and only one for parliamentary regimes. There were also similar data availability issues for external debt crises for semi-presidential regimes. In future research, we will seek to resolve these issues. Notwithstanding these limitations, the results presented in figure 10 provide broad support for the argument that democratic regimes that personalize political power are more likely to experience turnover during a crisis. With respect to banking crises, executives and cabinet officials in crisis-affected presidential regimes are found to be 107 percent and 45 percent more likely respectively to experience turnover than tranquil countries. For currency crises, we uncover a similar magnitude for executives in crisis-affected semi-presidential regimes. Executives and cabinet officials in presidential regimes facing a domestic debt crisis also suffer from significantly higher turnover than do their counterparts in tranquil countries. Dictators appear more capable than do presidents in democracies to survive domestic debt crises, but as predicted their cabinet officials are more likely to take the blame.

This latter result for dictatorships also holds for external debt crises. For such crises, democratic regimes, regardless of their degrees of centralization of power and personalization of authority, may seek to avoid leader-specific punishment by succumbing to public pressure from groups that wish to avoid crisis resolution strategies that lead to fiscal adjustment. Since the economic costs of such a strategy may prove short-lived, governments in these regimes may suffer few political costs from those groups that are harmed by it. Dictators may be prone to selecting alternative crisis resolution strategies, but because they cannot be easily replaced they may nonetheless respond to public discontent by reshuffling their cabinets.

Lastly, for inflation crises, we find that executives and cabinet officials in parliamentary regimes and dictatorships suffer higher turnover during inflationary crises, but that presidential and semi-presidential regimes are more likely to survive. The result for parliamentary regimes is in line with the literature stressing the distributive conflicts that can
give rise to inflationary policies. These inflationary policies may help keep otherwise fissiparous coalitions representing diverse and conflicting social groups together. Yet once an inflationary crisis brings about deflationary adjustment, the policies that helped keep things coalitions together are no longer viable and the government collapses. Interestingly, dictatorships also suffer higher turnover during inflationary crises, a result that is at odds with the earlier finding for inflation crises using the Polity IV data.\textsuperscript{16} However, it is in line with those studies that show that democratic governments have been as successful as or even more successful than undemocratic ones in implementing stabilization measures (Nelson 1989; Remmer 1990).

7 Conclusion

We have shown that financial crises are generally associated with higher rates of political turnover and that this is the case over a long period of time, stretching back at least to the early nineteenth century. We have also shown that crises increase the probability of executive turnover more than executive turnover increases the probability of crises – and that the reverse is sometimes true for cabinet turnover. Another important finding is that political turnover is much more strongly associated with domestic debt crises than with any other kind of financial crisis (currency crises appear to be the main exception). Banking, external debt and inflation crises can be bad news for incumbent governments, but the magnitude of associated political turnover appears to be much lower than for domestic debt crises. This in turn implies the existence of substantial money illusion among domestic political audiences, since inflation is nothing more than partial domestic debt default.

There are also some important temporal findings that necessitate a more contextual understanding of the audience costs associated with crises and how this relates to the

\textsuperscript{16} The issue of contrasting findings when using Polity IV and the Cheibub data is by no means unique to our analysis: see Cheibub et al. (2009).
possibilities of leader-specific punishment. For example, the impact of domestic debt crises on executive (and cabinet) turnover are highest in the post-Great Depression era than in the era of the gold standard. This is in tension with other evidence that the economic costs of crises during the gold standard period were often higher than after 1933. We have suggested a modification to the leader-specific punishment literature to account for this. That is, financial crises in the more recent period remain very politically costly because domestic citizens came to expect higher quality economic management from governments of all varieties after 1945. Rising expectations of government economic policy can produce serious discontent with incumbent governments when crises hit, even if such crises are not always as deep as those in the pre-1934 era. If this is correct, it may explain why many incumbent governments have lost office in the past two years even though another Great Depression was successfully avoided.

For political executives, the finding that outright default against citizens has the most powerful implications for incumbents is perhaps not surprising, but this impact is largely confined to democratic regimes where the ease of replacement is likely to make defaults/rescheduling and macroeconomic adjustment more dispute-laden and contentious. Furthermore, turnover is much more likely, at least since 1945, in political regimes in which power and authority is relatively personalized – this makes presidential regimes by some distance most susceptible to loss of office in costly domestic debt, banking and inflation crises.

For external debt crises, however, anocracies and autocracies seem to pay the greater price. Why? We have suggested that policymakers in democracies are more likely to succumb to public pressures and choose policies that favour domestic audiences against the interests of foreign creditors. This is especially likely to be the case where the regime is
dependent upon support from those groups (public sector employees, labour, etc.) that would be disproportionately harmed by the fiscal adjustment necessary to pay off foreign creditors.

By contrast with the results for political executives, cabinet officials appear to be universally affected regardless of regime type. This provides support for the view that non-democratic regimes use cabinet reshuffles as “safety valve” to respond to domestic discontent. But, as noted above, it is also likely that cabinet turnover is associated with policy instability and that this may help to foster certain kinds of financial crisis.
Figure 2a: Percentage of all countries experiencing at least one executive turnover event (polit12_d) and those experiencing multiple executive turnover events (polit12high), by year.

Source: Banks CNTS dataset. Percentages are calculated omitting missing data.
Figure 2b: Percentage of all countries experiencing at least one cabinet turnover event (polit11_d) and those experiencing multiple cabinet turnover events (polit11high), by year.

Source: Banks CNTS dataset. Percentages are calculated omitting missing data.

Figure 3: Percentage of all countries experiencing a new crisis (banking, currency, domestic debt, external debt, and inflation crises respectively), by year.

**Banking crises**
Currency crises
Domestic debt crises

External debt crises
Inflation crises

Source: Reinhart and Rogoff dataset. Missing data excluded from calculations.

Figure 4a: Percentages of countries with democratic, anocratic and autocratic regimes, 1800-2009

Source: Polity IV (Polity2 scores: see text for definitions).
Figure 4b: Percentages of countries with dictatorship, presidential, semi-presidential, and parliamentary regimes, 1946-2008

Figure 5: Average annual percentage rates of political turnover in crisis and non-crisis hit countries, 1800-2006, by type of political turnover and period (all kinds of financial crisis)

Source: Cheibub et al. (2010). See text for definitions.
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<th>1934-2006</th>
<th>1974-2006</th>
<th>ALL</th>
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Avg. Crisis and Avg. Non-Crisis for each Sample broken down by DV. Color shows details about Avg. Crisis and Avg. Non-Crisis. The view is filtered on Sample, which keeps 1800-1933, 1934-2006, 1974-2006 and ALL.
Figure 6a: Conditional probabilities of crisis given turnover and of turnover given crises, by turnover type, all financial crises over 1800-2006.
Figure 6b: **Absolute differences** between conditional probabilities of crisis given turnover and of turnover given crises and underlying crisis and turnover probabilities respectively, by turnover type and crisis type, whole sample (all significant at 0.05 except where otherwise indicated).
Figure 6c: **Percentage increases** in conditional probabilities of crisis given turnover and of turnover given crisis, by turnover type and crisis type, all samples (cases where differences are statistically insignificant marked with “null”)

![Bar chart showing percentage increases in conditional probabilities of crisis given turnover and turnover given crisis, by turnover type and crisis type, all samples. Cases with statistically insignificant differences are marked with “null”.

Measure Names
- Avg. % increase in P(Crisis) given turnover
- Avg. % increase in P(Turnover) given crisis for each Crisis type broken down by DV. Colors show details about Avg. % increase in P(Crisis) given turnover and Avg. % increase in P(Turnover) given crisis. The data is filtered on sample, which keeps ALL.
Figure 7: Percentage difference in rates of political turnover between crisis and tranquil countries for different kinds of financial crisis, 1800-2006, by type of political turnover and period (with detail for statistical significance)

Note: orange bars significant at p<0.05, green bars at p<0.10, and blue bars p>0.10.
Figure 8: Percentage differences in rates of political turnover between crisis and tranquil countries by regime type for different crisis types, 1800-2006 (with detail on statistical significance)

<table>
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<tr>
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<th>Domestic debt</th>
<th>External debt</th>
<th>Inflation crisis</th>
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Note: orange bars significant at p<0.05, green bars at p<0.10, and blue bars p>0.10.

Figure 9: Differences in rates of political turnover between crisis and tranquil countries by political regime type, with breakdown by crisis and period (with detail for significance).

<table>
<thead>
<tr>
<th>DV</th>
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<th>Currency</th>
<th>Domestic debt</th>
<th>External debt</th>
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Note: orange bars significant at p<0.05, green bars at p<0.10, red bar at .10, and blue bars p>0.10.
Figure 10: Differences in rates of political turnover between crisis and tranquil countries by political regime type (dictatorship, presidential, semi-presidential, and parliamentary regimes), with breakdown by crisis, 1946-2006 (with detail for significance).
Appendix: Summary of variables used:

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Note:
PolityIV_regime: Autocracy=1; Anocracy=2; Democracy=3
Cheibub_regime: parliamentary=0; semi-presidential=1; presidential=2; dictatorship=3
Bibliography


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