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# What Causes Ministers of Finance to Get Fired?

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Abstract:

This paper seeks to establish the determinants of turnover in finance ministers. Based on an original worldwide data set, political and economic factors are considered for 58 countries. While the same political factors affect Minister of Finance turnover in both advanced and developing economies, the economic variables that matter differ between the sub-samples. Finance minister turnover is higher during years that there is also presidential turnover. Further, emerging economies have a higher Minister of Finance turnover than developed economies during years without presidential turnover. Results largely hold for robustness checks.

1. Introduction

This paper is motivated by the well-established literature on central bank independence (CBI). A central debate within this literature is the direction of causality: does high inflation cause central bankers to get fired, or does a change in central bank governor, at least above some threshold, cause higher inflation? Dreher, Sturm, and de Haan question the causality direction in their 2008 paper, "Does high inflation cause central bankers to lose their job? Evidence based on a new data set," ultimately postulating that after instrumenting for turnover rate endogeneity, high inflation caused central bankers to get fired, not the other way around. The idea being that a high inflation rate represents a failing of the central banker to meet his/her mandate or mission statement of the Ministry. Although the exact goals vary, maintaining price stability or low to moderate inflation is a common theme among central bankers. And just as with the central banks, various finance ministries have different duties and specific mandates (hence why some nations employ the title Ministry of Economy) but, there are common, overarching themes: managing federal finances, collecting taxes & paying government bills, and currency and coinage.

In a similar vein to the literature on central bank independence, this paper examines turnover in finance ministers and what causes them to get fired. No paper has been written on this topic. Motivated by the literature on central bank independence and this literature gap, I assembled an original, worldwide data with economic and political variables on 58 countries set at the quarterly and annual frequency. The data set captures turnover in Ministries of Finance (MOF), presidents, and other top government ministries. Unlike central bankers, the president usually appoints finance ministers. Hence, we are likely to see greater MOF turnover during years when there is presidential or cabinet turnover. By collecting turnover data on ministries

unrelated to the economy, I am able to better tease out cabinet changes exogenous to economic activity.

Using a conditional logistic model, I regress the change in minister of finance against political factors, then adding economic factors. I then go on to differentiate between advanced and emerging economies, and ultimately introduce a variable capturing default crises for developing economies. The paper proceeds as follows. Section 2 introduces the data set. In Section 3, I discuss the model specifications. Section 4 gives results and, in Section 5, some robustness checks. Section 6 presents my concluding remarks.


2. Data set


For the purpose of this paper, I collected an original, worldwide data set containing political and economic variables on 58 countries (Table 1). The data was collected from the Rulers of the World website and economic variables gathered from central banks and Ministries of Finance. Aside from turnover in finance ministers, I also gathered information on presidential turnover (*pres*) as well as other ministries unrelated to the economy, such as Defense (MOD), Foreign Affairs (MOFA) and Interior (MOI), at quarterly and annual frequency. Since the president usually appoints the finance minister, I collected data on turnover in other ministries unrelated to the economy to capture cabinet-wide changes unmotivated by economic conditions.

The data set has upwards of 23,000 observations as well as observations for 2000 individual MOF changes, 1597 presidential changes, 1776 changes in MOD, 1742 for MOFA, and 1990 changes at various DOI. The data set also contains both the political and economic variables at quarterly frequency (Table 2). I also recorded a dummy variable for each executive branch post

to capture officials serving an abbreviated or "acting" term; usually this occurs when a minister or president is serving another's behalf. The official's name, dates in office, gender, and, in some cases, political party are captured for each of the four ministries examined (Fig 1). Country specific studies involving political parties can be teased out of the data set, and creating a gender dummy is even possible. The time horizons vary for each sample country from the Slovak Republic's 19 to the United Kingdom's 322 years of data. The mean time horizon for each sample country is roughly 76 years (median of 67).

| country | ifs | year | quarter | mfinance | mof | mof_a |
|---------|-----|------|---------|----------|-----|-------|
| Poland | 964 | 1988 | 1 | | 0 | 0 |
| Poland | 964 | 1988 | 2 | | 0 | 0 |
| Poland | 964 | 1988 | 3 | | 0 | 0 |
| Poland | 964 | 1988 | 4 | 14 Oct 1988 - 1 Aug 1989  Andrzej Wróblewski          PZPR  (b. 1950) | 1 | 0 |
| Poland | 964 | 1989 | 1 | | 0 | 0 |
| Poland | 964 | 1989 | 2 | | 0 | 0 |
| Poland | 964 | 1989 | 3 | 1 Aug 1989 - 12 Sep 1989  Wincenty Lewandowski      (acting)     -    (b. 1937) | 2 | 1 |
| Poland | 964 | 1989 | 4 | 12 Sep 1989 - 23 Dec 1991  Leszek Balcerowicz  (1st time)          NSZZ/UD  ( | 0 | 0 |
| Poland | 964 | 1990 | 1 | | 0 | 0 |

Fig 1. Screenshot of data set

There is a great degree of volatility in the mean MOF turnover, even between advanced and emerging economies (Fig. 2). The entire sample mean turnover rate for finance ministers is 0.4461 years, or alternatively a new MOF every 2.24 years on average. There is no significant difference when comparing the averages between advanced and developing countries. With the exception of Greece, no sample country averages a TOR above 1 finance minister per year. Turnover typically does not exceed 1 minister per year except in incidences of crises and other exigent circumstances. Incidents are so infrequent that for the purpose of this paper I consider whether or not there was a change, not the number of changes in MOF.
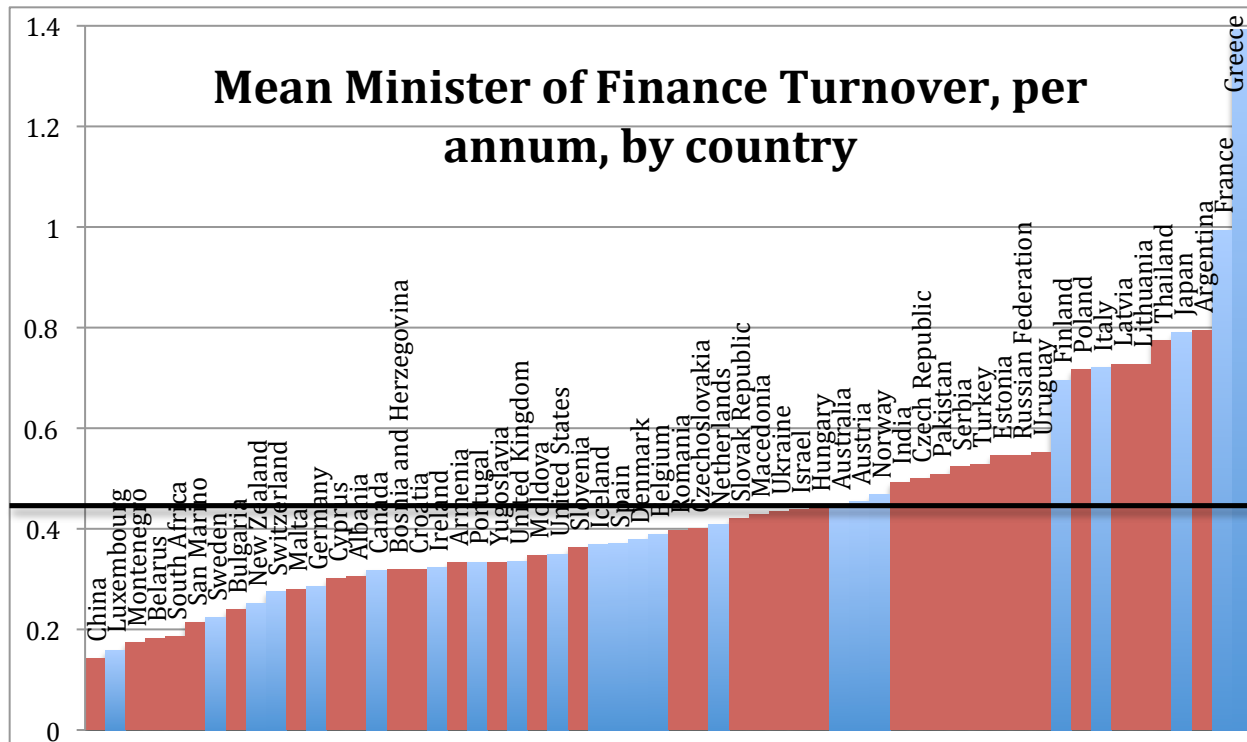
Fig 2: Mean annual turnover rate for finance ministers. Advanced economies in red, emerging in blue. Bar marks sample average, 0.4461

As finance ministers are appointed, it would follow that we see are a higher turnover in ministers during years that there is a presidential change as opposed to when there is no presidential turnover in the same year (Fig 3). The core idea being that newly heads of government are more likely to appoint top ministers of their own choosing. Mean presidential turnover typically doesn't exceed 1 per annum with the exceptions of: Switzerland, Greece, Bosnia and Herzegovina, and San Marino[1]. The whole sample averages a finance minister turnover of 0.6960 during years that the president also changes[2]. When there is no presidential turnover, MOF turnover averages 0.3216. Developed economies average 0.6868 changes in finance minister when there is a presidential change, as compared to 0.3025 during years that there is no presidential change. Emerging economies average a MOF turnover of 0.7190 and .3529 per annum respectively. There are two takeaways from this brief non-parametric analysis:

- Advanced and developing economies have a very similar finance minister turnover rate during years when there is also presidential turnover

- During years when there is no presidential turnover, emerging economies, on average, have a higher turnover in finance ministers (0.3529 versus 0.3025)



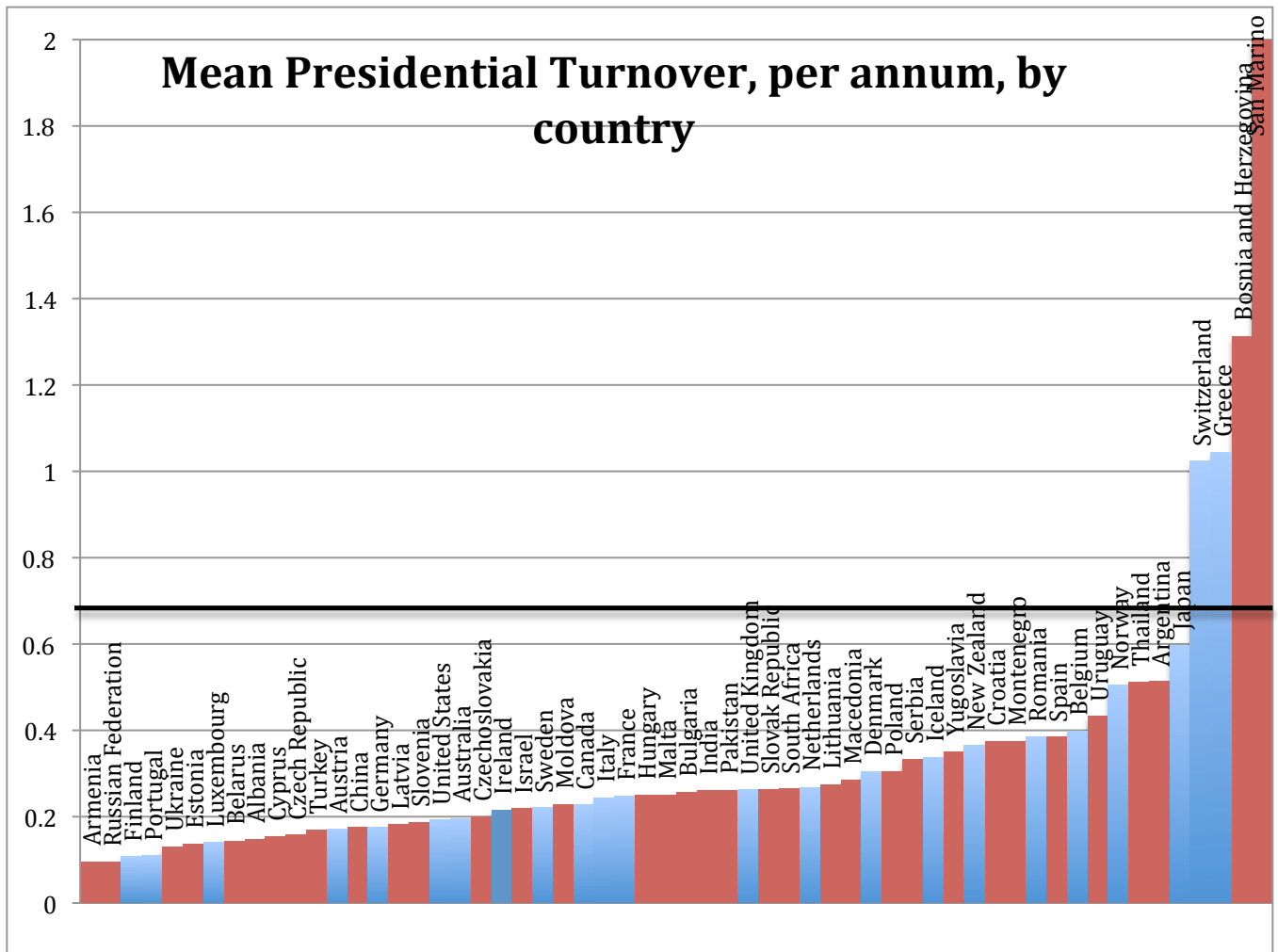Fig 3 Mean annual presidential TOR, Advanced economies in red, emerging in blue.  Horizontal bar shows sample mean average, 0.6960

3. Model Estimation & Econometric Approach

While there are instances in which more than one minister is replaced each year, they are infrequent, except in the case of Greece. I define a new variable *change* which is simply a dummy=1 when there is a change in finance minister, allowing us to use a conditional logitistic regression model. I regress the binary variable *change* first on political variables: presidential turnover along with MOD, MOFA, and MOI. I then add economic variables, and then move on to split the sample and compare results for advanced and emerging economies, ultimately adding a default dummy for developing economies.

4. Results

Results for the initial regression are displayed in Table 1. All four political turnover variables have positive coefficients and are statistically significant at the 1-percent level. This follows the initial supposition that presidential changes as well as cabinet changes increase the probability of turnover in the finance ministry. Interestingly enough, changes in the Minister of Defense have the most explanatory power. When the economic variables are added, we first notice inflation is insignificant. Apparently inflation doesn't matter for finance ministers after all. However, the growth rate of real gdp (*change_rgdp*) does matter—it is negative and statistically significant at the 5-percent level. A positive growth rate decreases a finance minister's chances of being replaced—when the economy is booming and tax revenues are up, the inherent or systematic likelihood of a minister failing the ministry's goals or mandate decreases.

However, when we divide the sample into sub-samples (advanced and emerging economies), different pictures emerge. Firstly, when only developed economies are considered, the political variables remain significant however *change_rgdp* is no longer significant, but inflation (*inf)* is significant at the 10-percent level. This is to be rationalized as follows: more developed economies have Ministries of Finance that are seen as "economic stewards" as is the case in the United States, and the turnover in MOF responds to changes in general or economy-wide health, captured by the inflation rate (*inf*).

The picture is slightly different for emerging economies. Here I introduce a dummy variable allowing us to control for incidents of default (*default*) in emerging economies. There are insufficient observations of default among this sample's advanced economies. It follows from the Ministry of Finance's duties that a default episode signals a grave error or at the least a serious violation of the Ministry's mandate or mission statement—manging the federal finances, colleting taxes, paying the government's bills. Default incidents have strong predictive power at the 5-percent level, bolstering the pseudo-R2 from 0.236 to 0.252. Further *change_rgdp* still has some predictive power for lesser-developed economies, however it is now only significant at the 10-percent level. This makes more intuitive sense in the context of developing countries where fiscal policy tends to be strongly procyclical. The Ministers of Finance have relative job security during good times when tax revenues are up, decreasing the inherent chance of being a "bad" finance minister.

5. Robustness Checks


Inflation, change in RGDP, IMF programs, and default are all significant on their own, and most

remain significant when considering all economic variables.  However some economic variables

loose significance when political variables are added.  I'm concerned particularly with presidents

who get the blame for bad economic conditions, either through not winning reelection or another

presidential turnover mechanism.  It is possible that presidential turnover is essentially taking the

juice out of the economic variables.  So here I perform a robustness check: I run the same

regression panel for years in which there is no presidential turnover (*pres*==0).  The Ministry

variables remain significant (MOD, MOFAR, MOI).  For the entire sample default incidences

(*default*) remain significant (Table 6).  Additionally, IMF programs (*imf_prog*) have become

significant.  If there isn't presidential turnover and there is an IMF program, a finance minister's

probability of turnover increases 0.543.

   Splitting the sample, inflation (*inf*) remains significant as in the economic variable set,

however it just barely falls out of the conventional 10-percent significance cut-off (Table 7,

Regressions 9 and 10).  In the emerging economies sub-sample, only the ministry turnover

variables and default survive the robustness check.


6. Conclusion


Finance minister turnover has a lot of variability, even between sub-samples.  On average, MOF

turnover is relatively similar between advanced and emerging economies, except developing

economies have a higher replacement rate for finance ministers relative to advanced economies

during years which there is no presidential turnover (0.3529 versus 0.3025). Greece has the

highest mean MOF turnover, while China has the lowest. The same political variables affect

both developed and emerging economies, however the economic variables of importance differ.

Inflation matters more for MOF turnover in advanced economies—in keeping with the view of

finance ministries as having a role of "economic stewards," while default episodes and changes

in RGDP matter in emerging economies. This paper makes an original contribution to economic

literature—no paper has been published on this topic to date. Behind the paper is a powerful

data set with applications beyond this paper.

Notes:
1. Switzerland and San Marino both have presidential terms of 1 and 0.5 years respectively.
Greece's head of state, the prime minister, is an appointed position by the president. Political
instability explains the turnover in Bosnia and Herzegovina, in addition to supplementing the
explanation for Greece.

2. For the entire sample, MOF turnover of 0.7912 if we consider years with at least one change.
Comparing the sub-samples, of advanced and emerging economies, during years of at least one
presidential turnover the mean MOF turnover is 0.8487 and 0.6710 per annum respectively

References

Dreher, Axel & Sturm, Jan-Egbert & de Haan, Jakob (2008). "Does high inflation cause central bankers to lose their job? Evidence based on a new data set," European Journal of Political Economy, Elsevier, vol. 24(4), pages 778-787, December

## Table 1: Overview of Sample Countries

| Country | Economy/Finance | Defense | Foreign Affairs | Interior | Time Horizon |
|---|---|---|---|---|---|
| Albania | 1944-2011 | 1944-2011 | 1944-2011 | 1944-2011 | 67 |
| Argentina | 1973-2011 | 1973-2011 | 1973-2011 | 1973-2011 | 38 |
| Armenia | 1991-2011 | 1991-2011 | 1991-2011 | 1991-2003 | 20 |
| Australia | 1976-2011 | 1901-2011 | 1901-2011 | 1901-2011 | 35 |
| Austria | 1918-2011 | 1918-2011 | 1918-2011 | 1918-2011 | 93 |
| Belarus | 1990-2011 | 1991-2011 | 1990-2011 | 1990-2011 | 21 |
| Belgium | 1899-2011 | 1899-2011 | 1896-2011 | 1899-2011 | 112 |
| Bosnia and Herzegovina | 1990-2011 | 1990-2011 | 1990-2011 | 1990-1996 | 21 |
| Bulgaria | 1944-2011 | 1944-2011 | 1944-2011 | 1944-2011 | 67 |
| Canada | 1867-2011 | 1867-2011 | 1909-2011 | 1873-1936 | 144 |
| China | 1949-2011 | 1954-2011 | 1949-2011 | 1949-72 (Interior), 78-2011 (Civil Affairs) | 62 |
| Croatia | 1990-2011 | 1990-2011 | 1990-2011 | 1990-2011 | 21 |
| Cyprus | 1959-2011 | 1959-2011 | 1959-2011 | 1959-2011 | 52 |
| Czech Republic | 1992-2011 | 1992-2011 | 1992-2011 | 1992-2011 | 19 |
| Czechoslovakia | 1918-1992 | 1918-1992 | 1918-1992 | 1918-1992 | 74 |
| Denmark | 1848-2011 | 1848-2011 | 1848-2011 | 1848-2011 | 163 |
| Estonia | 1990-2011 | 1992-2011 | 1990-2011 | 1990-2011 | 21 |
| Finland | 1917-2011 | 1918-2011 | 1918-2011 | 1917-2011 | 94 |
| France | 1870-2011 | 1870-2011 | 1870-2011 | 1870-2011 | 141 |
| Germany | 1949-2011 | 1955-2011 | 1951-2011 | 1949-2011 | 62 |
| Greece | 1862-2011 | 1862-2011 | 1862-2011 | 1862-2011 | 149 |
| Hungary | 1944-2011 | 1944-2011 | 1944-2011 | 1944-2011 | 67 |
| Iceland | 1917-2011 | | 1939-2011 | | 94 |
| India | 1947-2011 | 1947-2011 | 1947-2011 | 1947-2011 | 64 |
| Ireland | 1919-2011 | 1919-2011 | 1919-2011 | | 92 |
| Israel | 1948-2011 | 1948-2011 | 1948-2011 | 1948-2011 | 63 |
| Italy | 1944-2011 | 1944-2011 | 1944-2011 | 1944-2011 | 67 |
| Japan | 1945-2011 | 1945 (war) 1954-2011 | 1945-2011 | 1945-2011 | 66 |
| Latvia | 1990-2011 | 1991-2011 | 1990-2011 | 1990-2011 | 21 |
| Lithuania | 1990-2011 | 1991-2011 | 1990-2011 | 1990-2011 | 21 |
| Luxembourg | 1848-2011 | 1937-2011 | 1848-2011 | 1848-2011 | 163 |
| Macedonia | 1991-2011 | 1991-2011 | 1991-2011 | 1991-2011 | 20 |
| Malta | 1962-2011 | | 1964-2011 | 1976-2011 | 49 |
| Moldova | 1990-2011 | 1992-2011 | 1990-2011 | 1990-2011 | 21 |
| Montenegro | 1990-2011 | 1991-2011 | 1990-2011 | 1991-2011 | 21 |
| Netherlands | 1814-2011 | 1813-2011 | 1813-2011 | 1813-2011 | 197 |
| New Zealand | 1893-2011 | 1893-2011 | 1919-2011 | 1909-2011 | 118 |
| Norway | 1905-2011 | 1905-2011 | 1905-2011 | | 106 |

**Table 1: Overview of Sample Countries con't**

| Country | Economy/Finance | Defense | Foreign Affairs | Interior | Time Horizon |
|---|---|---|---|---|---|
| Pakistan | 1947-2011 | 1947-2011 | 1947-2011 | 1947-2011 | 64 |
| Poland | 1917-2011 | 1917-2011 | 1917-2011 | 1917-2011 | 94 |
| Portugal | 1936-2011 | 1936-2011 | 1936-2011 | 1936-2011 | 75 |
| Romania | 1944-2011 | 1944-2011 | 1944-2011 | 1944-2011 | 67 |
| Russia | 1991-2011 | 1992-2011 | 1990-2011 | 1990-2011 | 20 |
| San Marino | 1973-2011 | | 1945-2011 | 1945-2011 | 38 |
| Serbia | 1991-2011 | 1991-2011 | 1991-2011 | 1991-2011 | 20 |
| Slovak Republic | 1992-2011 | 1993-2011 | 1992-2011 | 1992-2011 | 19 |
| Slovenia | 1990-2011 | 1990-2011 | 1990-2011 | 1990-2011 | 21 |
| South Africa | 1910-2011 | 1910-2011 | 1927-2011 | 1910-2011 | 101 |
| Soviet Union | 1923-1991 | 1923-1991 | 1923-1991 | 1934-1991 | 68 |
| Spain | 1931-2011 | 1931-2011 | 1931-2011 | 1931-2011 | 80 |
| Sweden | 1936-2011 | 1945-2011 | 1945-2011 | 1947-2011 | 75 |
| Switzerland | 1848-2011 | 1848-2011 | 1848-2011 | 1848-2011 | 163 |
| Thailand | 1932-2011 | 1932-2011 | 1932-2011 | 1932-2011 | 79 |
| Turkey | 1922-2011 | 1922-2011 | 1922-2011 | 1923-2011 | 89 |
| Ukraine | 1990-2011 | 1991-2011 | 1990-2011 | 1990-2011 | 21 |
| United Kingdom | 1689-2011 | 1940-2011 | 1782-2011 | 1782-2011 | 322 |
| United States | 1789-2011 | 1947-2011 | 1781-2011 | 1789-2011 | 222 |
| Uruguay | 1955-2011 | 1955-2011 | 1955-2011 | 1955-2011 | 56 |
| Yugoslavia | 1945-2006 | 1945-2006 | 1944-2006 | 1945-2006 | 61 |

**Table 2: Variable List**

| Variable Name | Description |
| --- | --- |
| **Political Variables in Sample** | |
| **country** | Country name |
| **code_ifs** | 3-digit IMF International Financial Statistics (IFS) Code |
| **year** | Observation's year |
| **quarter** | Observation's quarter |
| **mfinance** | Dates of term, name, gender, acting status [when applicable], and, in some cases, political party |
| **mof** | Count variable for the number of changes in Minister of Finance during a given year or quarter |
| **mof_a** | Count variable for incidences in which an acting finance minister serves during a given year or quarter |
| **Presidents** | Dates of term, name, gender, acting status [when applicable], and, in some cases, political party |
| **pres** | Count variable for the number of changes in President or Chief of the Executive Branch during a given year or quarter |
| **pres_a** | Count variable for incidences in which an acting president or chief of the executive branch serves during a given year or quarter |
| **mdefense** | Dates of term, name, gender, acting status [when applicable], and, in some cases, political party |
| **mod** | Count variable for the number of changes in Minister of Defense during a given year or quarter |
| **mod_a** | Count variable for incidences in which an acting defense minister serves during a given year or quarter |
| **mofaffair** | Dates of term, name, gender, acting status [when applicable], and, in some cases, political party |
| **mofar** | Count variable for the number of changes in Minister of Foreign Affairs during a given year or quarter |
| **mofar_a** | Count variable for incidences in which an acting foreign affairs minister serves during a given year or quarter |
| **minterior** | Dates of term, name, gender, acting status [when applicable], and, in some cases, political party |
| **moi** | Count variable for the number of changes in Minister of Interior during a given year or quarter |
| **moi_a** | Count variable for incidences in which an acting interior minister serves during a given year or quarter |
| **Economic Variables in Sample** | |
| **change** | binary variable for whether or not there is a change in Minister of Finance during a given year or quarter |
| **change_rgdp** | Percent change in real gross domestic product |
| **inf** | Percentage change in inflation |
| **bank_crisis** | Dummy variable=1 for years in which a country experienced a banking crisis |
| **imf_prog** | Dummy variable=1 for years that a country has an IMF program |
| **default** | Dummy variable=1 for years in which a country has an episode of sovereign default |

## Table 3: Entire Sample

| EQUATION | VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| change | pres | 1.105*** [16.981] | | | | 0.275*** [3.572] | | | | | | | 0.693*** [4.545] |
| | moi | | 1.265*** [28.712] | | | 0.579*** [8.452] | | | | | | | 0.694*** [5.581] |
| | mofar | | | 1.256*** [20.642] | | 0.431*** [6.101] | | | | | | | 0.553*** [4.317] |
| | mod | | | | 1.284*** [20.275] | 0.511*** [7.405] | | | | | | | 0.944*** [6.896] |
| | change_rgdp | | | | | | -0.051*** [-3.872] | | | | | -0.054*** [-2.971] | -0.030 [-1.301] |
| | inf | | | | | | | 0.000 [0.453] | | | | -0.000 [-0.340] | -0.001 [-0.836] |
| | bank_crisis | | | | | | | | 0.085 [0.283] | | | -0.184 [-0.526] | -0.234 [-0.563] |
| | imf_prog | | | | | | | | | 0.366* [1.788] | | 0.260 [1.148] | 0.337 [1.197] |
| | default | | | | | | | | | | 0.824*** [3.682] | 0.369 [1.234] | 0.691* [1.895] |
| | Observations | 4,625 | 3913 | 4137 | 3720 | 3,195 | 1771 | 1,816 | 2496 | 1,668 | 2,046 | 1397 | 1197 |
| | Observations | 4625 | 3,913 | 4,137 | 3,720 | 3195 | 1,771 | 1816 | 2,496 | 1668 | 2046 | 1,397 | 1,197 |
| | Pseudo R2 | 0.0655 | 0.138 | 0.112 | 0.124 | 0.191 | 0.00845 | 0.000106 | 2.86e-05 | 0.00165 | 0.00587 | 0.00918 | 0.238 |

z-statistics in brackets

*** p<0.01, ** p<0.05, * p<0.1

## Table 4: Advanced Economies

EQUATION: change

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pres | 1.396*** [15.952] | | | | 0.273** [2.445] | | | | | 0.550*** [2.685] | 0.592*** [2.927] | |
| moi | | 1.284*** [50.525] | | | 0.683*** [7.378] | | | | | 1.024*** [8.229] | 1.028*** [8.384] | |
| mofar | | | 1.303*** [16.955] | | 0.401*** [4.429] | | | | | 0.435*** [2.834] | 0.400*** [2.844] | 0.400*** [6.384] |
| mod | | | | 1.300*** [16.160] | 0.429*** [4.820] | | | | | 0.884*** [5.098] | 0.869*** [5.081] | |
| change_rgdp | | | | | | -0.039 [-1.507] | | | | -0.038 [-1.414] | 0.000 [0.010] | 0.004 [0.110] |
| inf | | | | | | | 0.049*** [3.214] | | | 0.045*** [2.829] | 0.034 [1.623] | 0.039* [1.905] |
| bank_crisis | | | | | | | | -0.525 [-0.977] | | -0.634 [-0.809] | -0.836 [-1.255] | |
| imf_prog | | | | | | | | | 0.304 [0.718] | 0.375 [-1.174] | 0.345 [-1.297] | |
| Observations | 2,926 | 2329 | 2,566 | 2234 | 1797 | 1,025 | 1058 | 1,100 | 1,050 | 940 | 755 | 798 |
| Observations | 2926 | 2,329 | 2566 | 2,234 | 1,797 | 1025 | 1,058 | 1100 | 1050 | 940 | 755 | 798 |
| Pseudo R2 | 0.0993 | 0.170 | 0.125 | 0.136 | 0.223 | 0.00196 | 0.00874 | 0.000809 | 0.000412 | 0.0123 | 0.242 | 0.238 |

z-statistics in brackets

*** p<0.01, ** p<0.05, * p<0.1

## Table 5: Emerging Economies

| EQUATION | VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| change | pres | 0.636*** [6.853] | | | | 0.324*** [2.928] | | | | | | | 0.827*** [3.448] | 0.861*** [3.972] |
| | moi | | 1.049*** [11.904] | | | 0.494*** [4.751] | | | | | | | 0.204 [1.021] | 0.398** [2.427] |
| | mofar | | | 1.173*** [11.734] | | 0.590*** [5.048] | | | | | | | 0.747*** [3.233] | 0.644*** [3.333] |
| | mod | | | | 1.258*** [12.231] | 0.739*** [6.477] | | | | | | | 1.101*** [4.739] | 0.948*** [4.871] |
| | change_rgdp | | | | | | -0.058*** [-3.570] | | | | | -0.058** [-2.341] | -0.049 [-1.619] | -0.049 [-1.781] |
| | inf_prog | | | | | | | | 0.385* [1.845] | | | 0.147 [0.555] | 0.277 [0.854] | 0.277 [0.854] |
| | inf | | | | | | | 0.000 [0.353] | | | | -0.000 [-0.510] | -0.000 [-1.013] | -0.001 [-1.031] |
| | bank_crisis | | | | | | | | | 0.433 [1.111] | | 0.351 [0.256] | 0.563 [0.162] | 0.351 [1.522] |
| | default | | | | | | | | | | 0.876*** [3.743] | 0.126 [0.854] | 0.128 [1.163] | 0.698** [1.990] |
| | Observations | 1,699 | 1,584 | 1571 | 1488 | 1,398 | 746 | 758 | 818 | 1396 | 998 | 457 | 442 | 583 |
| | Observations | 1699 | 1584 | 1571 | 1486 | 1398 | 746 | 758 | 818 | 1396 | 998 | 457 | 442 | 583 |
| | Pseudo R2 | 0.0258 | 0.0936 | 0.0924 | 0.108 | 0.157 | 0.0176 | 0.000149 | 0.00386 | 0.000822 | 0.0129 | 0.0212 | 0.260 | 0.251 |

z-statistics in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table 6: Entire Sample, Robustness Check, years without presidential turnover

| EQUATION | VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| change | moi | 1.068*** [14.576] | | | 0.749*** [8.923] | | | | | | | 0.716*** [5.021] |
| | mofar | | 0.955*** [12.920] | | 0.527*** [5.986] | | | | | | | 0.539*** [3.728] |
| | mod | | | 0.982*** [13.313] | 0.597*** [6.818] | | | | | | | 0.894*** [5.721] |
| | change_rgdp | | | | | -0.031** [-1.976] | | | | | -0.033 [-1.495] | -0.018 [-0.677] |
| | inf | | | | | | 0.000 [0.092] | | | | -0.001 [-0.514] | -0.001 [-0.623] |
| | bank_crisis | | | | | | | 0.438 [1.298] | | | 0.052 [0.125] | 0.063 [0.139] |
| | imf_prog | | | | | | | | 0.652*** [2.671] | | 0.517* [1.908] | 0.543* [1.713] |
| | default | | | | | | | | | 0.795*** [2.812] | 0.666* [1.766] | 0.836** [1.975] |
| | Observations | 2,894 | 3,035 | 2761 | 2,373 | 1378 | 1409 | 1,738 | 1,291 | 1516 | 1,106 | 944 |
| | Observations | 2894 | 3035 | 2,781 | 2373 | 1,378 | 1,409 | 1738 | 1291 | 1,516 | 1106 | 944 |
| | Pseudo R2 | 0.0847 | 0.0608 | 0.0716 | 0.134 | 0.00350 | 5.82e-06 | 0.000931 | 0.00533 | 0.000508 | 0.0109 | 0.170 |

z-statistics in brackets

*** p<0.01, ** p<0.05, * p<0.1

Table 7: Advanced Economies, years with no presidential e

| EQUATION | VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| change | moi | 1.191*** [11.488] | | | | | | | | | 1.030*** [5.503] |
| | mofar | | 0.908*** [9.650] | | 0.438*** [3.754] | | | | | | 0.356** [2.135] |
| | mod | | | 0.917*** [9.666] | 0.541*** [4.531] | | | | | | 0.727*** [3.713] |
| | change_rgdp | | | | | -0.020 [-0.653] | | | | -0.018 [-0.575] | 0.018 [0.427] |
| | inf | | | | | | 0.055*** [3.033] | | | 0.048** [2.531] | 0.035 [1.448] |
| | bank_crisis | | | | | | | -0.574 [-0.865] | | -0.847 [-0.969] | -0.772 [-1.076] |
| | imf_prog | | | | | | | | 0.627 [1.238] | 0.602 [1.059] | 0.273 [0.399] |
| | Observations | 1,676 | 1836 | 1,590 | 1255 | 796 | 817 | 888 | 842 | 759 | 602 |
| | Observations | 1676 | 1,836 | 1590 | 1,255 | 796 | 817 | 888 | 842 | 759 | 602 |
| | Pseudo R2 | 0.0981 | 0.0581 | 0.0682 | 0.150 | 0.000544 | 0.0115 | 0.000950 | 0.00175 | 0.0136 | 0.158 |

z-statistics in brackets

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Emerging Economies, robustness check, years without presidential turnover

| EQUATION | VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| change | moi | 0.938*** [9.071] | | | 0.540*** [4.581] | | | | | | | 0.225 [0.952] | 0.464** [2.523] |
| | mofar | | 1.030*** [8.607] | | 0.628*** [4.689] | | | | | | | 0.934*** [3.305] | 0.834*** [2.847] |
| | mod | | | 1.079*** [9.227] | 0.668*** [5.170] | | | | | | | 1.190*** [4.371] | 0.920*** [4.227] |
| | change_rgdp | | | | | -0.034* [-1.898] | | | | | -0.034 [-1.113] | -0.040 [-1.143] | -0.031 [-1.236] |
| | inf | | | | | | -0.000 [-0.047] | | | | -0.001 [-0.648] | -0.002 [-0.788] | -0.002 [-0.800] |
| | bank_crisis | | | | | | | 0.971** [2.242] | | | 0.598 [1.018] | 0.510 [0.787] | |
| | imf_prog | | | | | | | | 0.660** [2.366] | | 0.383 [1.207] | 0.560 [1.490] | |
| | default | | | | | | | | | 0.919*** [3.134] | 0.652* [1.711] | 0.733* [1.668] | 0.828** [2.034] |
| | Observations | 1,218 | 1199 | 1171 | 1118 | 582 | 592 | 850 | 449 | 874 | 347 | 342 | 457 |
| | Observations | 1218 | 1,199 | 1,171 | 1,118 | 582 | 592 | 850 | 449 | 874 | 347 | 342 | 457 |
| | Pseudo R2 | 0.0709 | 0.0650 | 0.0769 | 0.123 | 0.00758 | 3.58e-06 | 0.00569 | 0.0119 | 0.0142 | 0.0310 | 0.234 | 0.191 |

z-statistics in brackets

*** p<0.01, ** p<0.05, * p<0.1