

# Online Appendix for “Financial Crises and the Selection and Survival of Women Finance Ministers”

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This appendix presents the supplementary statistical analyses described in the main text. These include:

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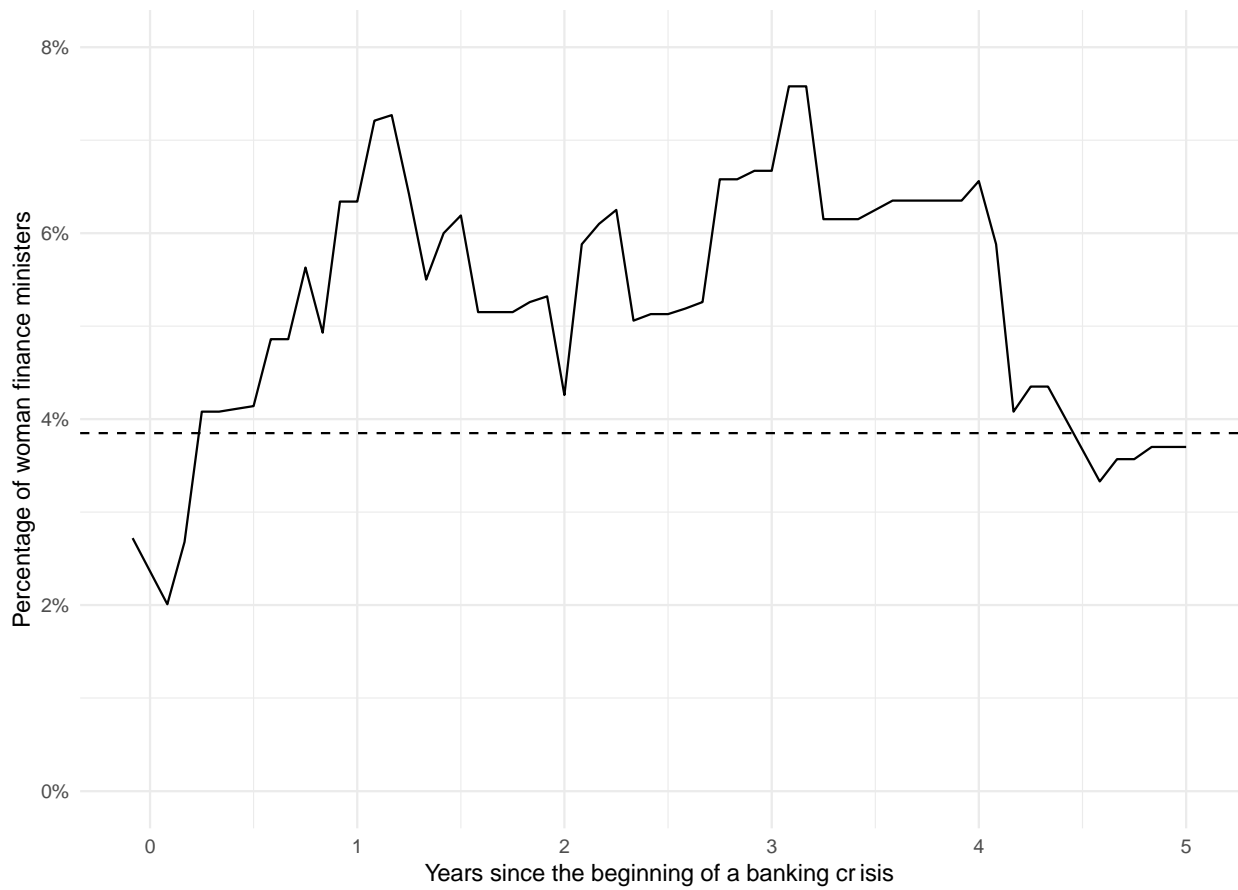
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# Appendix A: Descriptive Statistics

**Table A1: Descriptive Statistics for Annually Measured Covariates, 1972-2017**

Statistic	N	Mean	St. Dev.	Min	Max
Women in Parliament	6,784	12.0	10.2	0.0	63.8
Woman Head of Government	8,403	0.04	0.2	0	1
Presidential System	8,035	0.6	0.5	0	1
Unified Government	7,060	0.6	0.5	0	1
Democracy Score	7,395	0.5	0.9	-1.7	3.1
Inflation	8,005	0.004	1.0	-0.2	60.8
Per capita GDP (logged)	8,362	8.5	1.3	5.1	12.8
Economic Growth	8,359	1.8	4.7	-44.7	82.7
Trade Openness	7,493	81.4	57.0	0.02	442.6
Capital Openness	7,475	-0.04	1.4	-2.0	2.0

Note: The table reports descriptive statistics for our control variables (measured annually). Here, we report the number of observations is country-years (as opposed to country-months) because many of these variables are only measured at the annual level.



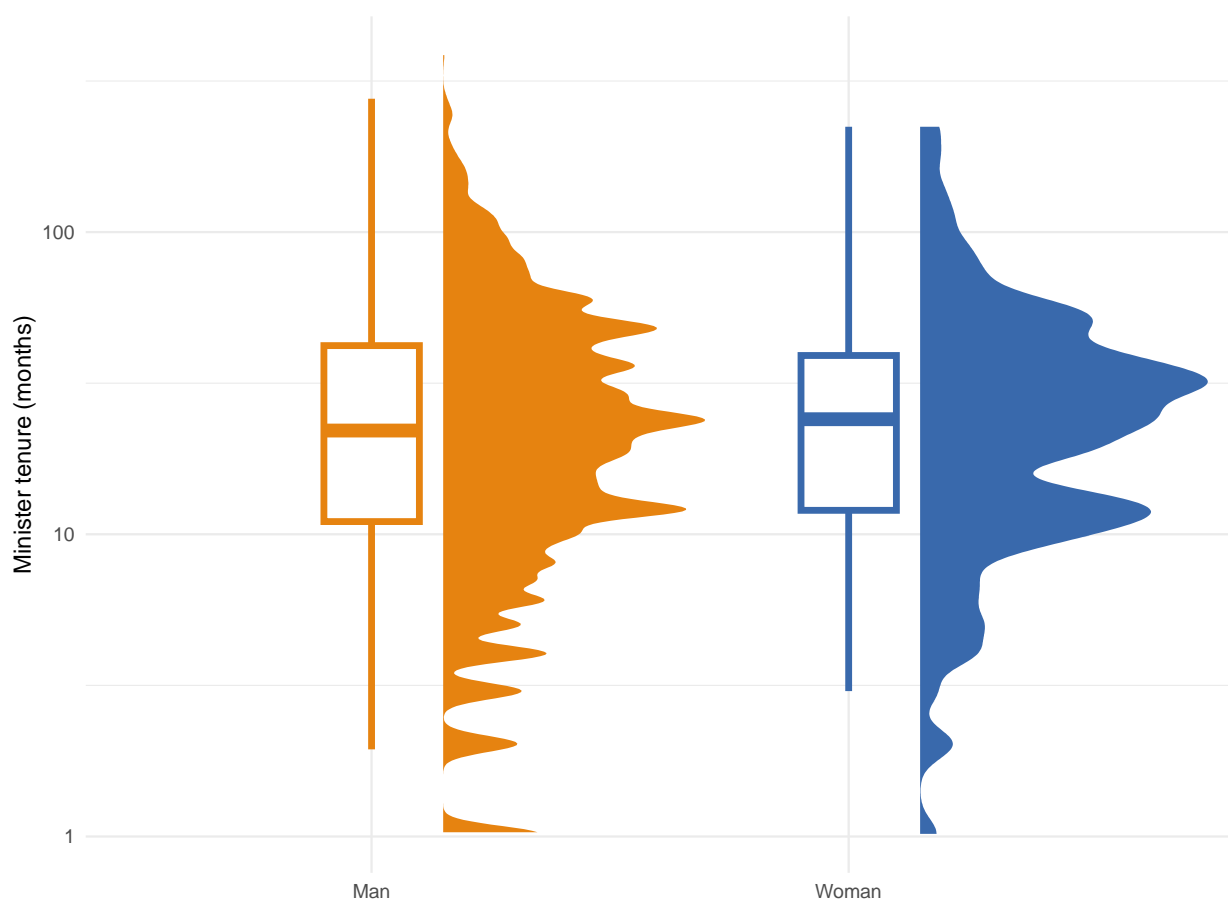
**Figure A1: Ratio of Women Finance Ministers, 1972-2017**

Note: This figure shows the ratio of woman finance ministers at various points in time during a banking crisis. The dashed line is drawn at 3.85%, indicating the baseline ratio of woman ministers during a non-crisis time. The ratio of woman ministers goes above 7% in about one year after the onset of a crisis and reaches its peak at around the beginning of the third year of a crisis.

**Table A2: Minister Tenure by Gender, 1972-2017**

Minister Gender	Number	Mean	Median	Minimum	Maximum	SD
Man	2944	31.9	22	1	385.5	33.8
Woman	111	32.6	24	1	223.3	34.0

Note: The table shows descriptive statistics of ministers' tenures by gender for non-right censored observations. Two hundred and two (202) ministers (one from each country in our data, 12 women and 190 men) were still in office at the end of the observation period (December 2017). They are treated as having a right-censored duration and thus excluded from the table and figure.



**Figure A2: Minister Tenure, 1972-2017**

Note: This figure visualizes the distribution of ministers' tenure by gender, logged scale.

## Appendix B: Model Sensitivity

**Table B1: Women's Initial Access to FM, 1972-2017: Controlling for Corporate Quota**

	Hazard Rate (> 0 means shorter duration)			
	(1)	(2)	(3)	(4)
Banking Crisis	1.130** (0.448)	1.087** (0.449)	1.099** (0.445)	1.118** (0.452)
Corporate Quota		0.457 (0.593)		
Hard Quota			0.301 (0.638)	
Comp Hard Quota				0.105 (0.939)
Women in Parliament	0.051*** (0.013)	0.051*** (0.013)	0.050*** (0.013)	0.050*** (0.013)
Woman Head of Government	0.625 (0.554)	0.568 (0.600)	0.589 (0.593)	0.610 (0.608)
Presidential	0.288 (0.301)	0.286 (0.304)	0.286 (0.303)	0.289 (0.302)
Democracy Score	0.888*** (0.245)	0.877*** (0.243)	0.879*** (0.243)	0.886*** (0.243)
Unified Government	-0.054 (0.294)	-0.041 (0.298)	-0.050 (0.296)	-0.052 (0.297)
Economic Growth	0.044** (0.022)	0.046** (0.021)	0.045** (0.022)	0.044** (0.022)
Inflation	-0.020 (0.104)	-0.014 (0.103)	-0.016 (0.104)	-0.018 (0.105)
GDP per Capita	-0.374** (0.183)	-0.396** (0.187)	-0.387** (0.187)	-0.377** (0.184)
Trade Openness	0.001 (0.003)	0.0004 (0.003)	0.0004 (0.003)	0.0005 (0.003)
Capital Openness	-0.098 (0.147)	-0.093 (0.149)	-0.094 (0.149)	-0.096 (0.150)
N of Countries	150	150	150	150
N of Failures	55	55	55	55
N of Monthly Observations	53,805	53,805	53,805	53,805
AIC	467.7	469.1	469.5	469.7

Note: This table replicates and extends Model 5 from Table 1 by controlling for corporate quota measures. Like Table 1, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the time until women's first appointment to the finance ministry. Standard errors (clustered at the country level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

In Table B1, column (1) reproduces Model 5 in Table 1 as the benchmark. Columns 2-4 test whether our results are changed when we control for corporate gender quotas, as defined by Piscopo and Clark Muntean (2018). Column (2) reports the results of a model that controls for any level of corporate quota (including soft quotas). Column (3) shows that the results are unchanged when we include a measure of hard quotas (including those that only apply to state-owned enterprises). Column (4) reports results controlling for comprehensive hard quotas (those that apply

to both public and private enterprises). Our main result is robust to the inclusion of corporate quotas.

**Table B2: Women’s Initial Access to FM: Alternative Starting Time**

	Hazard Rate (> 0 means shorter duration)		
	1972 as origin	1966 as origin	1946 as origin
Banking Crisis	1.130** (0.448)	1.078** (0.427)	1.057** (0.443)
Women in Parliament	0.051*** (0.013)	0.050*** (0.013)	0.050*** (0.012)
Woman Head of Government	0.625 (0.554)	0.676 (0.553)	0.645 (0.549)
Presidential	0.288 (0.301)	0.385 (0.296)	0.383 (0.290)
Democracy Score	0.888*** (0.245)	0.914*** (0.244)	0.879*** (0.239)
Unified Government	-0.054 (0.294)	-0.053 (0.303)	-0.080 (0.300)
Economic Growth	0.044** (0.022)	0.055** (0.024)	0.048** (0.023)
Inflation	-0.020 (0.104)	-0.028 (0.103)	-0.046 (0.113)
GDP per Capita	-0.374** (0.183)	-0.391** (0.181)	-0.403** (0.189)
Trade Openness	0.001 (0.003)	0.0002 (0.003)	-0.0004 (0.003)
Capital Openness	-0.098 (0.147)	-0.071 (0.142)	-0.050 (0.142)
N of Countries	150	150	150
N of Failures	55	55	55
N of Monthly Observations	53,805	53,805	53,805
AIC	467.7	455.1	420.8

Note: This table replicates Model 5 from Table 1 using alternative starting dates. Like Table 1, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the time until women’s first appointment to the finance ministry. Standard errors (clustered at the country level) in parentheses. \*p<0.10, \*\*p<0.05, \*\*\* p<0.01.

Table B2 shows that our results are robust to alternative starting dates. Column (1) reproduces Model 5 in Table 1 as the benchmark, whereas columns (2) and (3) show results from two alternative dates. Recall that we assume that countries enter into the process (= have been “at risk”) of appointing a woman finance minister in January 1972 or upon gaining independence. As discussed in the manuscript, we choose this date for three major reasons (realistic chance of appointing a woman, major restructuring of the global political economy, and data availability). Our results remain qualitatively similar when we use alternative starting dates, including 1946 (the beginning of the post-World War II period) and 1966 (the first year for which we have reliable and systematic information on cabinet ministers worldwide [Nyrup and Bramwell 2020]).

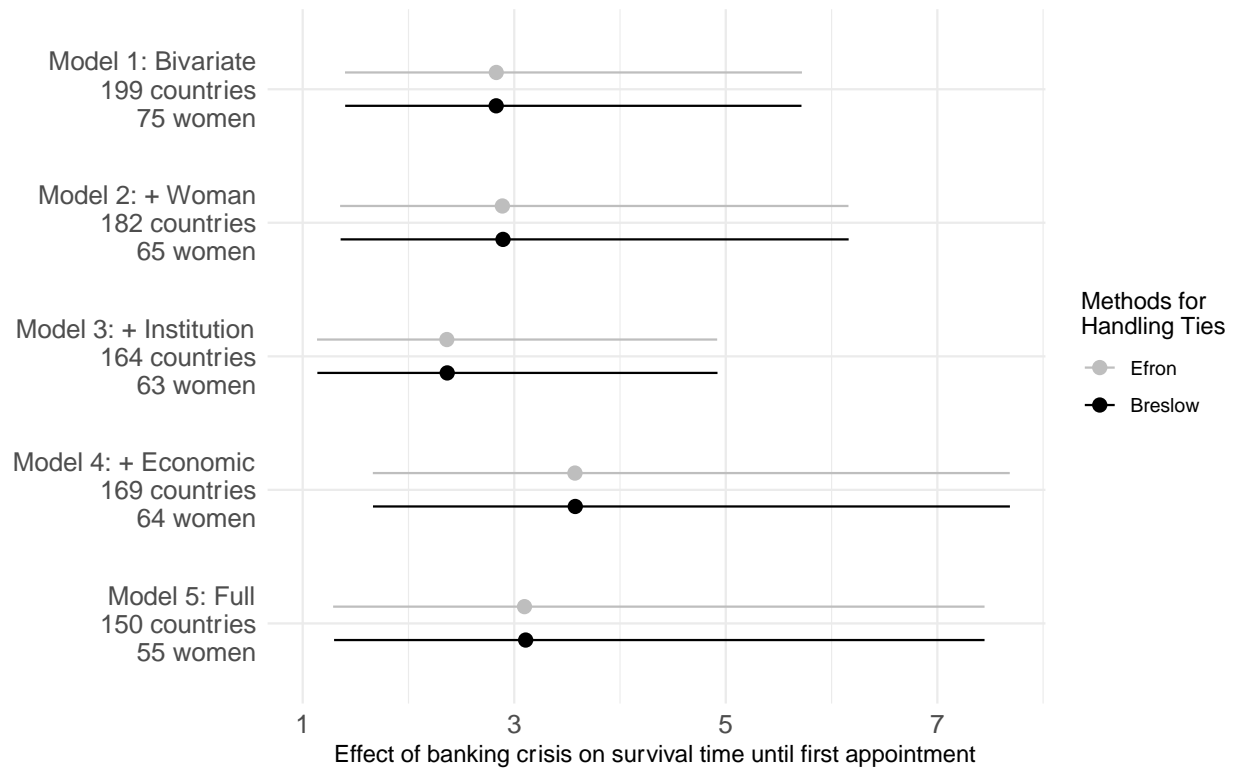
**Table B3: Women's Initial Access to FM, 1972-2017: Breslow's Method**

	Hazard Rate (> 0 means shorter duration)				
	(1)	(2)	(3)	(4)	(5)
Banking Crisis	1.040 <sup>***</sup>	1.062 <sup>***</sup>	0.862 <sup>**</sup>	1.274 <sup>***</sup>	1.134 <sup>**</sup>
	(0.359)	(0.386)	(0.374)	(0.390)	(0.446)
Women in Parliament		0.055 <sup>***</sup>			0.051 <sup>***</sup>
		(0.010)			(0.013)
Woman Head of Government		0.776 <sup>*</sup>			0.622
		(0.464)			(0.551)
Presidential			0.608 <sup>**</sup>		0.286
			(0.265)		(0.301)
Democracy Score			0.543 <sup>***</sup>		0.887 <sup>***</sup>
			(0.129)		(0.245)
Unified Government			-0.118		-0.054
			(0.266)		(0.294)
Economic Growth				0.020	0.044 <sup>**</sup>
				(0.023)	(0.022)
Inflation				-0.005	-0.020
				(0.034)	(0.104)
GDP per Capita				0.036	-0.374 <sup>**</sup>
				(0.117)	(0.182)
Trade Openness				-0.0002	0.001
				(0.002)	(0.003)
Capital Openness				0.021	-0.100
				(0.115)	(0.146)
N of Countries	199	182	164	169	150
N of Failures	75	65	63	64	55
N of Monthly Observations	85,092	68,792	67,641	72,380	53,805
AIC	740.5	590.7	583.9	618.4	467.8

Note: This table replicates Table 1 using an alternative method (Breslow) of handling ties. Like Table 1, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the time until women's first appointment to the finance ministry. Standard errors (clustered at the country level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table B3 shows our results are robust when using Breslow's method to handle ties. See Figure B1 for additional interpretation.





**Figure B1: Marginal Effects using an Alternative Method to Handle Ties, 1972-2017**

Note: Figure based on results presented in Table B3. Estimates shown in gray are obtained with the Efron approximation to the exact marginal likelihood (as presented in Figure 2 of the main text), whereas estimates shown in black are obtained with the Breslow approximation.

Following Table B3 above, this figure shows that our results are robust to alternative methods to handle ties. We can see that the results are nearly identical, suggesting that ties do not pose significant problems in our data.

**Table B4: Women's Initial Access: Various Indicators of Crisis, 1972-2017**

	Hazard Rate (> 0 means shorter duration)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Currency Models		Inflation Models		Unemployment Models	
	Baseline	Crisis	Baseline	Crisis	Baseline	Crisis
Banking Crisis	1.130*** (0.448)		1.125** (0.450)		1.257** (0.500)	
Currency Crisis (calendar year)		1.416** (0.581)				
Inflation Crisis (> 20%)				0.721* (0.402)		
Unemployment Crisis (> 1 s.d.)						0.596 (0.499)
Women in Parliament	0.051*** (0.013)	0.052*** (0.012)	0.051*** (0.013)	0.052*** (0.012)	0.054*** (0.015)	0.055*** (0.015)
Woman Head of Government	0.625 (0.554)	0.819* (0.476)	0.614 (0.543)	0.835* (0.470)	0.858 (0.653)	1.014* (0.542)
Presidential	0.288 (0.301)	0.333 (0.291)	0.286 (0.301)	0.335 (0.292)	0.482 (0.344)	0.563* (0.330)
Democracy Score	0.888*** (0.245)	0.910*** (0.240)	0.888*** (0.245)	0.950*** (0.239)	1.055*** (0.386)	1.153*** (0.379)
Unified Government	-0.054 (0.294)	-0.075 (0.284)	-0.057 (0.293)	-0.065 (0.287)	0.311 (0.330)	0.274 (0.332)
Economic Growth	0.044** (0.022)	0.034 (0.027)	0.044** (0.022)	0.035 (0.026)	0.053** (0.022)	0.037 (0.031)
Inflation	-0.020 (0.104)	0.015 (0.091)				
GDP per Capita	-0.374** (0.183)	-0.331* (0.177)	-0.373** (0.183)	-0.332* (0.174)	-0.456* (0.247)	-0.404* (0.244)
Trade Openness	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	-0.001 (0.003)	-0.0004 (0.003)
Capital Openness	-0.098 (0.147)	-0.109 (0.143)	-0.098 (0.147)	-0.092 (0.149)	-0.077 (0.164)	-0.135 (0.154)
N of Countries	150	150	150	150	138	138
N of Failures	55	55	55	55	39	39
N of Monthly Observations	53,805	53,805	53,817	53,817	27,857	27,857
AIC	467.7	469.5	465.7	469.1	303.6	307.7

Note: This table replicates and extends Model 5 from Table 1 using alternative measures of crisis. Like Table 1, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the time until women's first appointment to the finance ministry. Standard errors (clustered at the country level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table B4 shows that our results hold for currency and inflation crises, but not for unemployment crises. We use the same control variables as we used in the banking crisis models, as we expect that these factors might also affect the relationship between women's access to finance ministry and the onset of other financial crisis types. Column (1) reproduces Model 5 in Table 1 as the benchmark. Column (2) reports the results of a model that uses currency crisis. Column (3) shows that the results are unchanged when we drop inflation. This is to be compared with the column (4) results,

which show that inflation crises also accelerate the time until women first access the finance ministry. Models in columns (5) and (6) are estimated only for the 1995-2015 period due to the availability of unemployment data. These models show there is no correlation between unemployment crises and women's access.

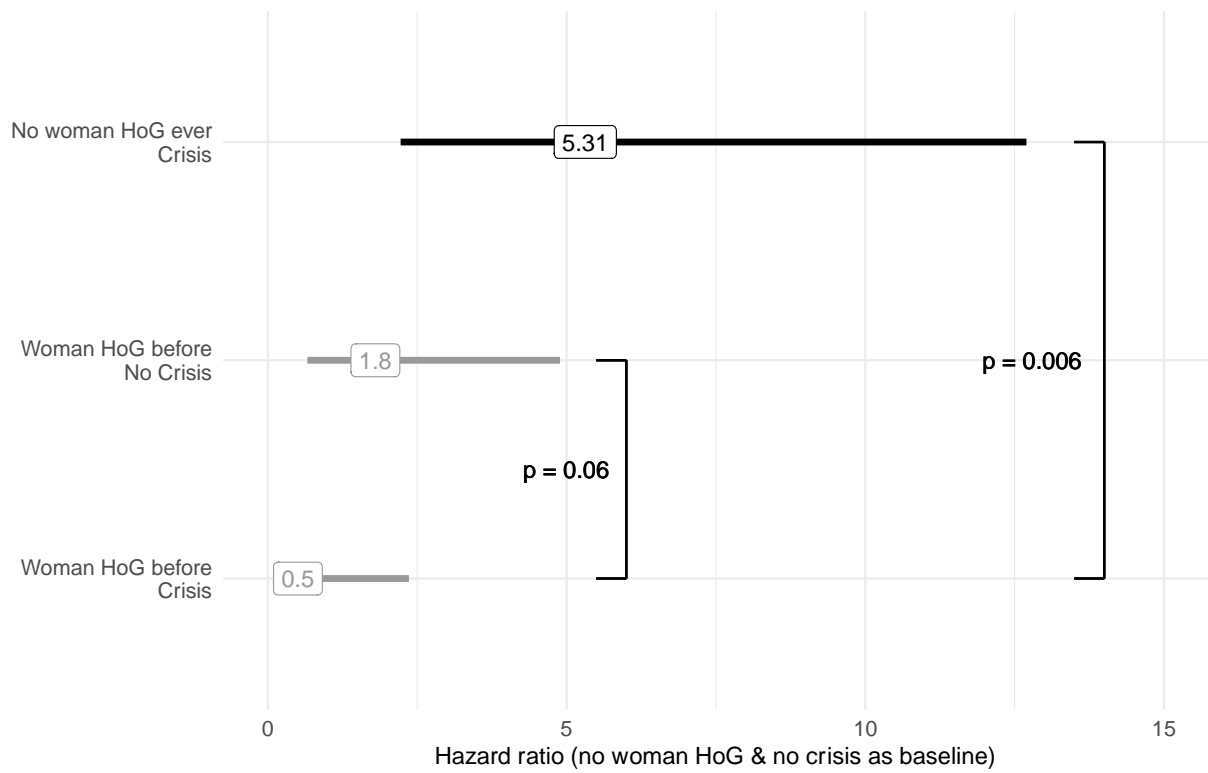
We use Laeven and Valencia's (2020) measure of currency crises to account for the onset of currency crises. We define inflation crises as an inflation rate greater than 20% (as defined by Reinhart and Rogoff 2009). We define unemployment crises as years in which the unemployment rate is more than one standard deviation above the 5-year-rolling average. All observations are coded 1 during the year of crisis onset and zero otherwise.

**Table B5: Conditional Effect of Banking Crisis: Woman HoG (Historical), 1972-2017**

	Hazard Rate (> 0 means shorter duration)		
	(1)	(2)	(3)
Banking Crisis	1.130**	1.120**	
	(0.448)	(0.456)	
Had Woman HoG Ever		0.167	
		(0.478)	
WHoGE = 0, Crisis = 1			1.670***
			(0.444)
WHoGE = 1, Crisis = 0			0.588
			(0.510)
WHoGE = 1, Crisis = 1			-0.686
			(0.788)
Women in Parliament	0.051***	0.051***	0.055***
	(0.013)	(0.013)	(0.013)
Woman Head of Government	0.625	0.476	0.688
	(0.554)	(0.693)	(0.648)
Presidential	0.288	0.290	0.457
	(0.301)	(0.301)	(0.297)
Democracy Score	0.888***	0.890***	0.981***
	(0.245)	(0.246)	(0.265)
Unified Government	-0.054	-0.063	-0.103
	(0.294)	(0.300)	(0.309)
Economic Growth	0.044**	0.044**	0.042*
	(0.022)	(0.022)	(0.025)
Inflation	-0.020	-0.022	0.059
	(0.104)	(0.103)	(0.060)
GDP per Capita	-0.374**	-0.379**	-0.353*
	(0.183)	(0.184)	(0.191)
Trade Openness	0.001	0.001	0.001
	(0.003)	(0.003)	(0.003)
Capital Openness	-0.098	-0.104	-0.214
	(0.147)	(0.147)	(0.152)
N of Countries	150	150	150
N of Failures	55	55	55
N of Monthly Observations	53,805	53,805	53,805
AIC	467.7	469.6	463.5

Note: This table replicates and extends Model 5 from Table 1 by controlling for whether a country has ever had a woman head of government. Like Table 1, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the time until women's first appointment to the finance ministry. Standard errors (clustered at the country level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Models in Table B5 introduce a dummy variable that takes 1 for country-year observations that have had a woman head of government in the past, and 0 otherwise. Column (1) reproduces Model 5 from Table 1 as the benchmark. Column (2) controls for woman head of government as a control variable, and Column (3) includes interaction terms between crisis and woman head of government. This table shows that our results do not hold for countries that have ever had a woman head of government. That is, countries that have ever had a woman head of government are not more likely to appoint a woman finance minister during crisis. See Figure B2 below for additional interpretation.



**Figure B2: Marginal Effect Estimates:**

**Conditional Effects Woman HoG (Historical), 1972-2017**

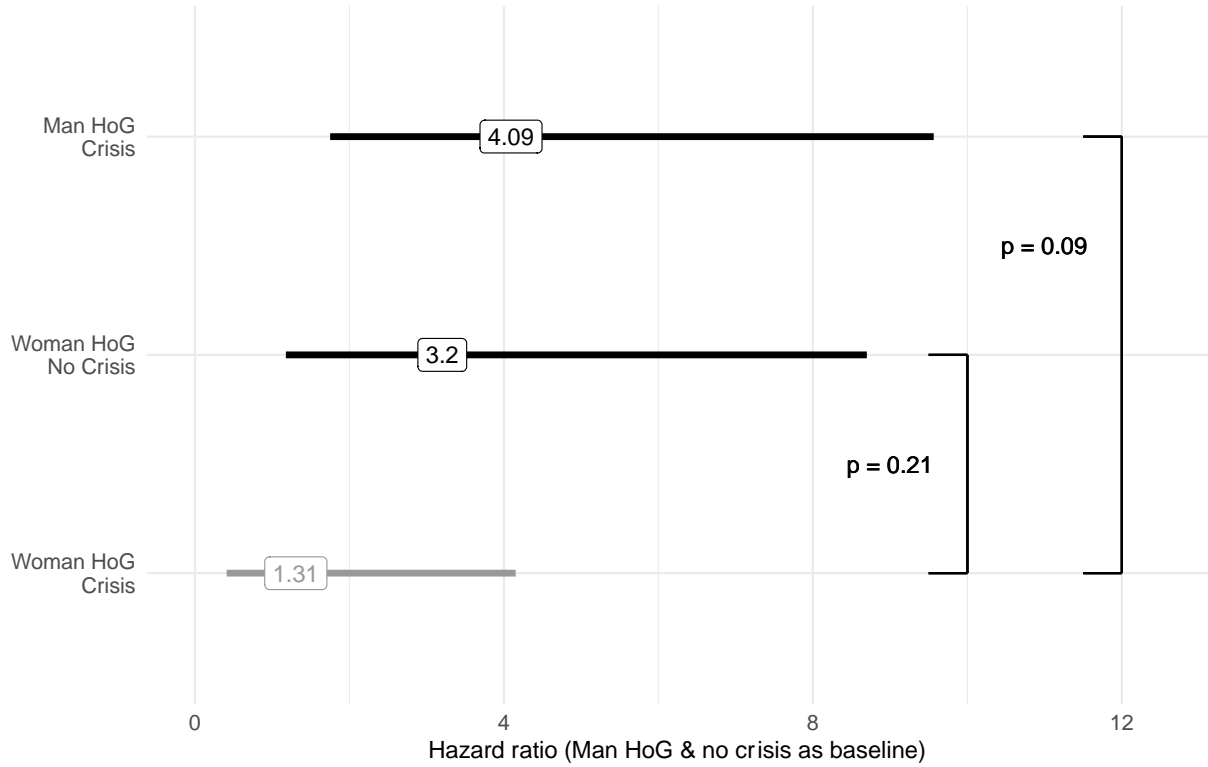
Note: This figure presents marginal effect estimates from models that explore the effect of banking crisis on women's initial access to the finance ministry conditional upon whether a woman has served as the head of government in the country (estimated coefficients are presented in Table B5 above).

**Table B6: Conditional Effect of Banking Crisis: Woman HoG (Current), 1972-2017**

	Hazard Rate (> 0 means shorter duration)	
	(1)	(2)
Banking Crisis	1.130** (0.448)	
Man HoG, Crisis = 1		1.409*** (0.433)
Woman HoG, Crisis = 0		1.164** (0.510)
Woman HoG, Crisis = 1		0.268 (0.590)
Women in Parliament	0.051*** (0.013)	0.055*** (0.013)
Woman Head of Government	0.625 (0.554)	
Presidential	0.288 (0.301)	0.410 (0.292)
Democracy Score	0.888*** (0.245)	0.959*** (0.256)
Unified Government	-0.054 (0.294)	-0.059 (0.289)
Economic Growth	0.044** (0.022)	0.041* (0.024)
Inflation	-0.020 (0.104)	0.039 (0.068)
GDP per Capita	-0.374** (0.183)	-0.349* (0.186)
Trade Openness	0.001 (0.003)	0.002 (0.003)
Capital Openness	-0.098 (0.147)	-0.177 (0.150)
N of Countries	150	150
N of Failures	55	55
N of Monthly Observations	53,805	53,805
AIC	467.7	465.7

Note: This table replicates and extends Model 5 from Table 1 by interacting woman head of government and crisis. Like Table 1, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the time until women's first appointment to the finance ministry. Standard errors (clustered at the country level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table B6 shows that our results do not hold for women heads of government. That is, women heads of government, unlike men, are not more likely to appoint a woman finance minister during crisis. See Figure B3 below for additional interpretation.



**Figure B3: Marginal Effect Estimates:  
Conditional Effects Woman HoG (Current), 1972-2017**

Note: This figure presents marginal effect estimates from models that explore the effect of banking crisis on women's initial access to the finance ministry conditional upon whether a woman is serving as the head of government in the country (estimated coefficients are presented in Table B6 above).

**Table B7: Tenure Model Robustness Check – Dropping Outliers, 1972-2017**

	Hazard Rate (> 0 means shorter duration)		
	(1) Baseline	(2) Drop FM	(3) Drop NAM
Banking Crisis	0.346*** (0.082)	0.347*** (0.082)	0.346*** (0.082)
Woman Minister	0.129 (0.124)	0.186 (0.115)	0.185 (0.115)
Crisis × Woman	-0.480* (0.252)	-0.537** (0.247)	-0.536** (0.247)
Women in Parliament	-0.015*** (0.002)	-0.015*** (0.002)	-0.015*** (0.002)
Woman Head of Government	-0.056 (0.138)	-0.063 (0.138)	-0.063 (0.138)
Presidential	0.115** (0.049)	0.118** (0.049)	0.118** (0.049)
Democracy Score	0.212*** (0.037)	0.213*** (0.037)	0.213*** (0.037)
Unified Government	-0.045 (0.046)	-0.040 (0.046)	-0.040 (0.046)
Economic Growth	-0.021*** (0.005)	-0.021*** (0.005)	-0.021*** (0.005)
Inflation	0.011 (0.018)	0.011 (0.018)	0.011 (0.018)
GDP per Capita	-0.039 (0.027)	-0.038 (0.027)	-0.038 (0.027)
Trade Openness	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.003*** (0.0005)
Capital Openness	-0.017 (0.019)	-0.019 (0.019)	-0.019 (0.019)
N of Minister-tenures	2,287	2,286	2,282
N of Failures	2,078	2,078	2,075
N of Monthly Observations	64,057	63,918	63,805
AIC	27,520.6	27,512.7	27,468.9

Note: This table replicates Model 6 from Table 2 by omitting potential outlier observations. Like Table 2, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the finance ministers' tenure in office (1972-2017). Standard errors (clustered at the minister-tenure level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

The longest-serving woman finance minister (Ki-chong Yun from North Korea, 18 years) and the second longest-serving woman finance minister (Mary Eugenia Charles from Dominica, 15 years) are both not in the data for Model 6 of Table 2 due to missing values in covariates. However, the third longest-serving woman minister (Saara Kuugongelwa-Amadhila from Namibia, 12 years) is in the Model 6 data. To test if our results are sensitive to this outlier, Model (2) in Table B7 omits Kuugongelwa-Amadhila from the data, and Model (3) omits all the observations from Namibia. Our results are robust to omitting these observations.



**Table B8: Tenure Model Robustness Checks - Additional Controls, 1972-2017**

	Hazard Rate (> 0 means shorter duration)			
	(1)	(2)	(3)	(4)
	Baseline	Election	Crisis App	Decade FE
Banking Crisis	0.346*** (0.082)	0.334*** (0.081)	0.374*** (0.096)	0.322*** (0.083)
Woman Minister	0.129 (0.124)	0.125 (0.121)	0.142 (0.125)	0.105 (0.126)
Crisis × Woman	-0.480* (0.252)	-0.461* (0.248)	-0.484* (0.254)	-0.481* (0.251)
Legislative Election		1.270*** (0.104)		
Executive Election		0.170 (0.191)		
Crisis Appointment			-0.035 (0.083)	
Women in Parliament	-0.015*** (0.002)	-0.015*** (0.002)	-0.017*** (0.002)	-0.017*** (0.003)
Woman Head of Government	-0.056 (0.138)	-0.053 (0.136)	-0.074 (0.140)	-0.057 (0.140)
Presidential	0.115** (0.049)	0.110** (0.049)	0.109** (0.051)	0.098** (0.050)
Democracy Score	0.212*** (0.037)	0.199*** (0.037)	0.196*** (0.038)	0.206*** (0.038)
Unified Government	-0.045 (0.046)	-0.050 (0.046)	-0.047 (0.047)	-0.018 (0.047)
Economic Growth	-0.021*** (0.005)	-0.021*** (0.005)	-0.022*** (0.005)	-0.022*** (0.005)
Inflation	0.011 (0.018)	0.012 (0.018)	0.010 (0.018)	0.011 (0.019)
GDP per Capita	-0.039 (0.027)	-0.041 (0.026)	-0.029 (0.027)	-0.027 (0.027)
Trade Openness	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.003*** (0.001)	-0.003*** (0.0005)
Capital Openness	-0.017 (0.019)	-0.017 (0.018)	-0.014 (0.019)	-0.027 (0.019)
1990s				0.213*** (0.061)
2000s				0.182*** (0.065)
2010s				0.184** (0.073)
N of Minister-tenures	2,287	2,287	2,250	2,287
N of Failures	2,078	2,078	2,044	2,078
N of Monthly Observations	64,057	64,057	61,544	64,057
AIC	27,520.6	27,378.9	27,147.1	27,513.2

Note: This table replicates and extends Model 6 from Table 2 by including additional control variables such as elections (column 2), crisis appointment (column 3), and decade fixed-effects (column 4). Like Table 2, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the finance ministers' tenure in office (1972-2017). Standard errors (clustered at the minister-tenure level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table B8 shows the main results (Model 6) reported in Table 2 (Risk of Finance Minister Leaving Office) in the main text are robust to additional control variables. Column (1) reproduces Model 6 in Table 2 as the benchmark. Column (2) reports the results that include dummy variables that are

coded 1 for months where a presidential or legislative election was held and 0 otherwise. Column (3) reports the results that include a dummy variable that is coded 1 for minister-spells that began during a crisis. As this variable can be defined only for non-truncated spells, the number of observations is smaller for (3). Column (4) shows the results are robust to decade fixed-effects.

**Table B9: Tenure Model Robustness Checks: Currency, Inflation, and Unemployment Crises**

	Hazard Rate (> 0 means shorter duration)					
	(1)	(2)	(3)	(4)	(5)	(6)
Woman Minister	0.129 (0.124)	0.110 (0.112)	0.130 (0.124)	0.062 (0.118)	0.198 (0.138)	0.140 (0.130)
Banking Crisis	0.346*** (0.082)		0.350*** (0.082)		0.410*** (0.111)	
Crisis × Woman	-0.480* (0.252)		-0.482* (0.253)		-0.699* (0.359)	
Currency Crisis		0.300** (0.117)				
Crisis × Woman		-1.087 (0.998)				
Inflation Crisis				0.134** (0.061)		
Crisis × Woman				0.238 (0.326)		
Unemployment Crisis						0.077 (0.111)
Crisis × Woman						0.006 (0.452)
Women in Parliament	-0.015*** (0.002)	-0.015*** (0.002)	-0.015*** (0.002)	-0.015*** (0.002)	-0.017*** (0.003)	-0.017*** (0.003)
Woman Head of Government	-0.056 (0.138)	-0.054 (0.136)	-0.053 (0.137)	-0.045 (0.136)	-0.092 (0.172)	-0.106 (0.171)
Presidential	0.115** (0.049)	0.116** (0.049)	0.115** (0.049)	0.112** (0.049)	-0.004 (0.070)	0.008 (0.070)
Democracy Score	0.212*** (0.037)	0.214*** (0.037)	0.211*** (0.037)	0.219*** (0.037)	0.147*** (0.054)	0.162*** (0.054)
Unified Government	-0.045 (0.046)	-0.048 (0.046)	-0.047 (0.046)	-0.049 (0.046)	-0.043 (0.062)	-0.039 (0.062)
Economic Growth	-0.021*** (0.005)	-0.023*** (0.005)	-0.021*** (0.005)	-0.022*** (0.005)	-0.025*** (0.008)	-0.029*** (0.008)
Inflation	0.011 (0.018)	0.018 (0.018)				
GDP per Capita	-0.039 (0.027)	-0.037 (0.027)	-0.037 (0.027)	-0.040 (0.027)	-0.030 (0.036)	-0.023 (0.036)
Trade Openness	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.002*** (0.001)	-0.002*** (0.001)
Capital Openness	-0.017 (0.019)	-0.014 (0.019)	-0.018 (0.019)	-0.008 (0.019)	0.003 (0.027)	0.002 (0.027)
N of Minister-tenures	2,287	2,287	2,287	2,287	1,331	1,331
N of Failures	2,078	2,078	2,078	2,078	1,163	1,163
N of Monthly Observations	64,057	64,057	64,093	64,069	36,365	36,365
AIC	27,520.6	27,530.9	27,522.5	27,532.2	14,147.4	14,160.6

Note: This table replicates Model 6 from Table 2 by using alternative measures of crisis. Like Table 2, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the finance ministers' tenure in office. Standard errors (clustered at the minister-tenure level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table B9 shows that our tenure results hold for currency and inflation crises, but not for unemployment crises. We use the same control variables as we used in the banking crisis models, as we expect that these factors might also affect the relationship between tenure in the finance ministry

and the onset of other financial crisis types. Column (1) reproduces Model 6 in Table 2 as the benchmark. Column (2) reports the results of a model that uses currency crisis, which shorten ministers' time in office. Column (3) shows that the results are unchanged when we drop inflation. This is to be compared with the Column (4) results, which show that inflation crises shorten a ministers' time in office. Models in Columns (5) and (6) are estimated only for the 1995-2015 period due to the availability of unemployment data. These models show there is no correlation between time in office and unemployment crisis.

**Table B10: Women’s Initial Access to FM, 1972-2017: Testing PH Assumption**

	Model 1		Model 2		Model 3		Model 4		Model 5	
	KM	Rank	KM	Rank	KM	Rank	KM	Rank	KM	Rank
Banking Crisis	0.80	0.50	0.19	0.08	0.69	0.48	0.58	0.24	0.21	0.07
Women in Parliament			0.20	0.21					0.13	0.08
Woman Head of Government			0.82	0.82					0.68	0.68
Presidential					0.42	0.35			0.65	0.58
Democracy Score					0.12	0.11			0.44	0.42
Unified Government					0.22	0.43			0.42	0.74
Economic Growth							0.32	0.16	0.44	0.63
Inflation							0.38	0.26	<b>0.02</b>	0.12
GDP per Capita							0.15	0.19	0.97	0.91
Trade Openness							<b>0.03</b>	<b>0.02</b>	0.44	0.37
Capital Openness							0.09	0.08	0.88	0.68
Global	0.80	0.50	0.33	0.20	0.24	0.17	0.27	0.11	0.22	0.26

Note: This table presents the results of the test of the proportional hazard (PH) assumptions for all models presented in Table 1 (analysis of time until women’s initial access to finance ministry). Cell entries are p values for the test of the PH assumptions. Values smaller than 0.05 (in bold) indicate that the hazard may not be proportional.

Table B10 shows the results of Schoenfeld Residual tests of proportional hazards for all models presented in Table 1. Following Park and Hendry (2015), we use Kaplan-Meier and rank transformations of time to accommodate outliers and right censoring. For each model, the column titled KM shows the p-values for tests using Kaplan-Meier transformation of time, and the column titled Rank shows the p-values for tests using rank transformation of time. A p-value smaller than 0.05 would suggest a potential violation of the PH assumption associated with a given covariate at the 95% confidence level. To account for the fact that we carry out multiple tests, the Global row at the bottom tests the null hypothesis that all the covariates meet the PH assumption. As none of the p-values in the Global row exceeds 0.05, we conclude that the PH assumption is sufficiently met for all variables.

That being said, individual tests indicate that the Trade Openness variable in Model 4 (based on both KM and rank p-values) and the Inflation variable in Model 5 (based only on KM p-value) may violate the PH assumption. We thus estimate additional models that relax the PH assumption for these variables by introducing an interaction term between them and a function of time. The results are presented in Table B11.

**Table B11: Banking Crisis and Women's Initial Access to the Finance Ministry, 1972-2017:  
Relaxing the PH Assumption**

	Hazard Rate (> 0 means shorter duration)			
	Model 4 Baseline	Model 4 NPH	Model 5 Baseline	Model 5 NPH
Banking Crisis	1.274*** (0.391)	1.295*** (0.391)	1.130** (0.448)	1.186*** (0.441)
Women in Parliament			0.051*** (0.013)	0.051*** (0.013)
Woman Head of Government			0.625 (0.554)	0.667 (0.544)
Presidential			0.288 (0.301)	0.295 (0.301)
Democracy Score			0.888*** (0.245)	0.898*** (0.246)
Unified Government			-0.054 (0.294)	-0.070 (0.294)
Economic Growth	0.020 (0.023)	0.022 (0.022)	0.044** (0.022)	0.051*** (0.020)
Inflation	-0.005 (0.034)	-0.003 (0.034)	-0.020 (0.104)	1.087*** (0.387)
Inflation × f(time)				-0.400*** (0.137)
GDP per Capita	0.036 (0.117)	0.062 (0.119)	-0.374** (0.183)	-0.397** (0.185)
Trade Openness	-0.0002 (0.002)	0.007*** (0.002)	0.001 (0.003)	0.0005 (0.003)
Trade Openness × f(time)		-0.0003*** (0.0001)		
Capital Openness	0.022 (0.115)	0.008 (0.115)	-0.098 (0.147)	-0.081 (0.148)
N of Countries	169	169	150	150
N of Failures	64	64	55	55
N of Monthly Observations	72,380	72,380	53,805	53,805
AIC	618.4	615.6	467.7	467.4

Note: This table replicates and extends Models 4 and 5 from Table 1 by introducing interactions between time and some of the control variables to relax the PH assumption. Like Table 1, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the time until women's first appointment to the finance ministry (1972-2017). Standard errors (clustered at the country level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table B11 shows the estimated hazard rate coefficients from analyses that relax the PH assumption for Models 4 and 5 in Table 1. The first and third columns reproduce the original results (Models 4 and 5 from Table 1) as a baseline, and the second and fourth columns report the results that include time interaction variables to relax the PH assumption. Specifically, the offending variable in each model (Trade Openness in Model 4 and Inflation in Model 5) is interacted with a function of survival time. The functional form for f(t) is determined by comparing model fit across three possible specifications (i.e., identity f(t) = t, natural log (f) = ln(t), and square root f(t) = sqrt(t)). Model 4 uses the identity function, and Model 5 uses the log transformation.

The table demonstrates that our results are robust to relaxing the PH assumption for covariates that exhibit a potential violation of the assumption. The estimated hazard rate coefficients for Banking Crisis continue to be positive and statistically significant across all models in Table B11.



**Table B12: Tenure Models: Testing PH Assumption**

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	KM	Rank	KM	Rank	KM	Rank	KM	Rank	KM	Rank	KM	Rank
Banking Crisis	<b>0.003</b>	<b>0.004</b>			<b>0.003</b>	<b>0.004</b>	<b>0.003</b>	<b>0.004</b>	0.081	0.082	0.081	0.082
Woman Minister			0.26	0.26	0.244	0.247	0.293	0.297	0.200	0.201	0.233	0.235
Crisis x Woman							0.052	0.053			0.193	0.194
Women in Parliament									<b>0.003</b>	<b>0.002</b>	<b>0.003</b>	<b>0.003</b>
Woman Head of Government									0.746	0.781	0.755	0.790
Presidential									0.349	0.326	0.342	0.320
Democracy Score									<b>0.026</b>	<b>0.025</b>	<b>0.028</b>	<b>0.027</b>
Unified Government									0.516	0.548	0.509	0.541
Economic Growth									0.186	0.183	0.175	0.172
Inflation									0.699	0.727	0.701	0.730
GDP per Capita									0.244	0.258	0.257	0.272
Trade Openness									<b>0.038</b>	<b>0.038</b>	<b>0.037</b>	<b>0.038</b>
Capital Openness									0.247	0.254	0.244	0.250
Global	<b>0.003</b>	<b>0.004</b>	0.26	0.26	<b>0.007</b>	<b>0.008</b>	<b>0.010</b>	<b>0.011</b>	<b>0.015</b>	<b>0.013</b>	<b>0.021</b>	<b>0.018</b>

Note: This table presents the results of the test of the proportional hazard (PH) assumptions for all models presented in Table 2 (analysis of finance ministers' tenure in office). Cell entries are p values for the test of the PH assumptions. Values smaller than 0.05 (in bold) indicate that the hazard may not be proportional.

Table B12 shows the results of Schoenfeld Residual tests of proportional hazards for all the models presented in Table 2. The results suggest that the PH assumption for Banking Crisis may not hold when we omit the control variables (Models 1-4) but that this concern is ameliorated when we include them (Models 5-6). Among the control variables, Women in Parliament, Democracy Score, and Trade Openness exhibit a potential violation of the PH assumption. We thus relax the PH assumption for these variables by introducing time interactions. The results are presented in Table B13.

**Table B13: Tenure Models: Relaxing PH Assumption**

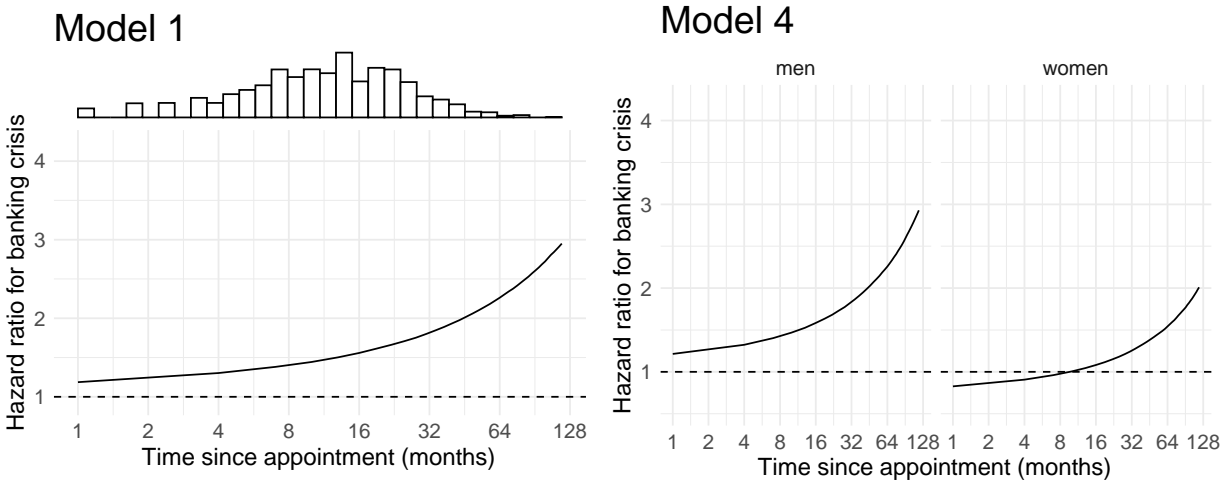
	Hazard Rate (> 0 means shorter duration)				
	(1)	(2)	(3)	(4)	(5)
Banking Crisis	0.088 (0.145)	0.090 (0.145)	0.104 (0.146)	0.325*** (0.079)	0.347*** (0.082)
Banking Crisis × f(time)	0.090*** (0.028)	0.090*** (0.028)	0.089*** (0.028)		
Woman Minister		-0.102 (0.090)	-0.074 (0.099)	0.090 (0.116)	0.146 (0.130)
Crisis x Woman			-0.300 (0.242)		-0.448* (0.253)
Women in Parliament				-0.022*** (0.004)	-0.022*** (0.004)
Women in Parliament × f(time)				0.0002*** (0.0001)	0.0002*** (0.0001)
Woman Head of Government				-0.038 (0.139)	-0.044 (0.140)
Presidential				0.113** (0.050)	0.111** (0.050)
Democracy Score				0.151*** (0.047)	0.152*** (0.047)
Democracy Score × f(time)				0.001* (0.001)	0.001* (0.001)
Unified Government				-0.045 (0.047)	-0.047 (0.047)
Economic Growth				-0.020*** (0.005)	-0.020*** (0.005)
Inflation				0.010 (0.018)	0.010 (0.018)
GDP per Capita				-0.030 (0.026)	-0.029 (0.026)
Trade Openness				-0.004*** (0.001)	-0.004*** (0.001)
Trade Openness × f(time)				0.00003*** (0.00001)	0.00003*** (0.00001)
Capital Openness				-0.015 (0.019)	-0.016 (0.019)
N of Minister-tenures	3,257	3,257	3,257	2,287	2,287
N of Failures	3,057	3,057	3,057	2,078	2,078
N of Monthly Observations	99,670	99,670	99,670	64,057	64,057
AIC	42,993.8	42,994.6	42,995.9	27,506.4	27,506.9

Note: This table replicates and extends Models 1, 3, 4, 5, and 6 from Table 2 by introducing interactions between time and some of the variables to relax the PH assumption. Like Table 2, it presents the estimated hazard rate coefficients from the Cox Proportional Hazard models of the finance ministers' tenure in office (1972-2017). Standard errors (clustered at the minister-tenure level) in parentheses. \*p<0.10, \*\* p<0.05, \*\*\* p<0.01.

Table B13 shows the estimated hazard rate coefficients from analyses that relax the PH assumption for Models 1, 3, 4, 5 and 6 in Table 2. The offending variables in each model (Banking Crisis in

Models 1, 3, and 4, and Women in Parliament, Democracy Score, and Trade Openness in Models 5 and 6) are interacted with a function of survival time. The functional form for  $f(t)$  is determined by comparing model fit across three possible specifications (i.e., identity  $f(t) = t$ , natural log  $f(t) = \ln(t)$ , and square root  $f(t) = \sqrt{t}$ ). Models 1, 3, and 4 use the square root transformation, whereas Models 5 and 6 use the identity function.

Estimated coefficients for Banking Crisis in the last two columns are almost the same as those reported in Table 2 (up to the second decimal place), demonstrating that our results are robust to relaxing the PH assumption in models that include the control variables. To interpret the models that include an interaction term between Banking Crisis and survival time, we present estimated hazard ratio for banking crisis over time for Models 1 and 4 in Figure B4.



**Figure B4: Effect of Crisis on Tenure over Time**

These figures illustrate the effect of banking crisis on minister tenure based on models that relax the PH assumption for banking crisis. The left-hand side panel shows the effect of banking crisis on minister tenure over time based on Model 1 in Table B13, whereas the right-hand side panel shows the effect of banking crisis over time by gender, based on Model 4 in Table B13. The histogram on top of the left-hand side panel shows the distribution of non-censored tenure duration measured in months (the x-axis is scaled using the log function with base 10). The solid curve in each figure shows the estimated hazard ratio over time, and the gray shade shows the 95% confidence interval for the estimate. The dashed horizontal line is drawn at 1, so that the estimated effect of banking crisis is statistically indistinguishable from 0 when the gray shade includes the dashed line.

Consistent with the findings reported in the main text, these results suggest that (1) a banking crisis increases the risk of minister tenure termination in general, but that (2) the banking crisis effect is more evident for men than for women. The left-hand side panel shows that the effect of banking crisis on tenure from Model 1 is positive (i.e., it shortens the duration of tenure) and statistically significant at 95% confidence level from the second month after the minister's appointment. The right-hand side panel shows that, while a similar relationship is observed for men ministers, the effect of crisis on women ministers is statistically distinguishable from zero only after about 5 years (64 months, to be precise) since appointment.

## Appendix C: Gender, Education, and Professional Background

Though a full analysis is beyond the scope of this paper, we use biographical data of finance ministers to assess whether the average woman finance minister has different political and educational experiences than the average man in the post. Specifically, we compiled information on whether finance ministers have an advanced education in economics and whether they are political insiders. To do this we first use existing biographical data from Alexiadou (2015), Alexiadou and Gunyadin (2018), Hallerberg and Wehner (2018), and Lee and McClean (2021). Combined, their data provided information on 495 ministers in 30 countries.

With a team of coders, we then expanded the data to include as many additional ministers as possible. We started our expansion by focusing on countries that have previously appointed a woman finance minister. To find biographical data, we used ministry websites, official government and international organization websites, obituaries, and newspapers. In all, we have information for 2,957 minister-spells in 191 states from December 1972-2017 with varying levels of completion across states.<sup>1</sup>

**Table C1: Descriptive Statistics for Background Information**

Variable	Coding Rule	Descriptive Stats
Gender	=1 if minister is a woman. =0 if minister is a man.	<i>Total minister-spells in main analysis:</i> 123=1; 3,134=0
<i>Advanced Economics Education</i>	=1 if the minister had economics or economics-related education (e.g., public finance, public accounting) beyond an undergraduate degree, ranging from additional certification to a doctorate. Ministers do not need an undergraduate degree in economics/economics-related field, as long as their certification, Master's degree, or doctorate was in one of the relevant fields. <sup>2</sup> =0 other education. =missing if we did not find information on prior education.	<i>Women:</i> 67=1; 48=0; 8=missing edu., of 123 ministers-spells <i>Men:</i> 918=1; 1,492=0; 731=missing edu., of 3,141 ministers-spells
<i>Economics PhD</i>	=1 if the minister received a doctorate in economics or economics-related education	<i>Women:</i> 36=1; 79=0; 8=missing edu., of 123 ministers-spells

<sup>1</sup> We do not have biographical data for Afghanistan (pre-1980), Burundi (pre-2005), Chad, Comoros, Jordan, Laos, Lebanon, Niger, Somalia, Sudan, The Gambia, The Maldives, or Tuvalu, thus the total number of minister-spells reported here are fewer than the number of spells reported in previous analyses. The total number of ministers covered in the biographical data is slightly different than that covered when we account for minister tenure in the main analysis as three co-ministers served in Serbia from November 2000-January 2001. We coded each of the ministers separately for biographical information, but they served a united spell in the tenure analysis. Additionally, updated information has allowed us to include four additional ministers in the biographical data (Vladimir Viktorovich Amarin of Belarus, Dimitri Gvindadze of Georgia, Naoto Kan of Japan, and Vladimir Yefimovich of Russia).

<sup>2</sup> The economics-related education follows coding rules set by Hallerberg and Wehner (2018).

	(e.g., public finance, public accounting). Ministers do not need an undergraduate or Master's degree in economics, as long as their doctorate was in one of the appropriate fields. =0 no doctorate in economics or economics-related fields =missing if we did not find information on the minister's complete education history	<i>Men:</i> 465=1; 1,945=0; 731=missing edu., of 3,141 ministers-spells
<i>Technocrat</i>	=1 if the minister never held elective office, prior to their appointment, at either the national, regional, or local levels <i>and</i> have policy expertise (i.e., a background in economics or finance in the public or private sector) =0 if the minister was ever elected at any level prior to the appointment (including for example, party leaders, internal party elections, and members of the inner circle in autocracies such as membership of the royal family; communist leadership; member of a coup council) <i>or</i> they have no policy expertise =missing if we did not have sufficient information on their professional career and qualifications to code their elected experience and/or policy expertise.	<i>Women:</i> 74=1; 44=0; 5=missing, of 123 ministers-spells <i>Men:</i> 981=1; 1,608=0; 552=missing, of 3,141 ministers-spells

A simple difference in means test shows that women are more likely to be technocrats and to have advanced degrees in economics.

Table C2 shows that 63% of women and 38% of men are technocrats. The difference in means is 25 percentage points ( $p < .001$ ). As women are more likely to be technocrats, they are also less likely to have political experience than men.

**Table C2: Difference in Means Test: Technocrats**

	<b>N. Observations</b>	<b>Mean</b>	<b>Standard Error</b>
<b>Men</b>	2,589	.3789	.0095
<b>Women</b>	118	.6271	.0447
<b>Combined</b>	2,707	.3897	.0093
<b>Difference</b>		<b>-.2482*</b>	<b>.0457</b>

\* $p < 0.001$

Table C3 shows that 58% of women and 38% of men have advanced degrees in economics. The difference in means is 20 percentage points ( $p < .001$ ).

**Table C3: Difference in Means Test: Advanced Economic Degree**

	<b>N. Observations</b>	<b>Mean</b>	<b>Standard Error</b>
<b>Men</b>	2,410	.3809	.0099
<b>Women</b>	115	.5826	.0461
<b>Combined</b>	2,525	.3900	.0097
<b>Difference</b>		<b>-.2017*</b>	<b>.0464</b>

\* $p < 0.001$

Finally, Table C4 shows 31% of women and 19% of men have an advanced economics-related degree, a 12 percentage-point difference ( $p < .001$ ).

**Table C4: Difference in Means Test: PhD in Economic**

	<b>N. Observations</b>	<b>Mean</b>	<b>Standard Error</b>
<b>Men</b>	2,410	.1929	.0080
<b>Women</b>	115	.3130	.0434
<b>Combined</b>	2,525	.1984	.0079
<b>Difference</b>		<b>-.1201*</b>	<b>.0380</b>

\* $p < 0.01$