The impact of financial crises on industrial growth: lessons from the last 40 years

Appendix A: Adding controls for real GDP growth, inflation, monetary policy rates and its lags

This appendix shows results that add the real GDP growth, inflation and monetary policy rates and its lags as additional controls. It also adds the duration, fiscal costs and peak liquidity delivered to the financial system during the crises as additional controls.

Furthermore, the emerging markets and developing economies (EMDEs) country category is separated into 2 groups with a similar number of countries: emerging markets (EMs) and low income countries (LICs). Therefore the study comprises 102 countries: 35 advanced economies, 34 emerging markets and 33 low-income countries. Low income countries are defined as countries that have an average GDP per capita for the period 2011-2021 that is lower than 11,000 USD (in constant 2017 prices). Some exceptions are made for large economies that are traditionally classified as emerging markets instead.

The results show that the current year's GDP growth effect on industrial growth is positive and statistically significant, whatever the country sample. The effect of GDP growth on industrial growth is slightly larger than one in AEs and EMs, while being a bit lower than one for LICs. This shows that the manufacturing sector has a higher business cycle component than the average firm of the economy in AEs and EMs, while being less cyclical in LICs.

Table A.1: Industries and countries available in the joint industrial and macroprudential policy dataset

Industries (ISIC 2-digit revision 3) with External Finance Dependence (EFD_i) in parentheses:
15 Food and beverages (0.112), 16 Tobacco products (-0.451), 17 Textiles (0.277), 18 Wearing apparel, fur (0.029), 19 Leather, leather products and footwear (-0.113), 20 Wood products (excl. furniture) (0.283), 21 Paper and paper products (0.161), 22 Printing and publishing (0.203), 23 Coke, refined petroleum products, nuclear fuel (0.170), 24 Chemicals and chemical products (0.458), 25 Rubber and plastics products (0.634), 26 Non-metallic mineral products (0.193), 27 Basic metals (0.040), 28 Fabricated metal products (0.213), 29 Machinery and equipment n.e.c. (0.633), 30 Office, accounting and computing machinery (0.948), 31 Electrical machinery and apparatus (0.821), 32 Radio, television and communication equipment (0.975), 33 Scientific instruments, medical, precision and optical instruments (0.961), 34 Motor vehicles, trailers, semi-trailers (0.360), 35 Other transport equipment (0.328), 36 Furniture; manufacturing n.e.c. (0.235), 37 Other manufactured products and recycling (0.339).

Countries covered (102). Advanced Economies (35): Australia, Austria, Belgium, Canada, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Israel, Italy, Japan, South Korea, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, UK, USA.
Emerging markets (34): Algeria, Argentina, Barbados, Belarus, Bosnia, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Croatia, Dominican Republic, Hungary, Iraq, Kuwait, Lebanon, Macao, Malaysia, North Macedonia, Mauritius, Mexico, Oman, Panama, Peru, Poland, Romania, Russian Federation, Serbia, South Africa, Thailand, Trinidad and Tobago, Turkey, Uruguay.
Low income countries (33): Albania, Armenia, Bangladesh, Burundi, Cameroon, Ecuador, Egypt, Fiji, Honduras, India, Indonesia, Jamaica, Jordan, Kyrgyzstan, Lao, Lesotho, Madagascar, Moldova, Mongolia, Morocco, Myanmar, Nepal, Pakistan, Paraguay, Philippines, Rwanda, Senegal, Sri Lanka, Tunisia, Vietnam, Ukraine, Uzbekistan, Zambia.

Distribution of the share of manufacturing value-added in GDP across countries in 2019 (in %):

$Share_{i,c,t}$	min	p10	p25	p50	p75	p90	max	min	p10	p25	p50	p75	p90	max
	Total manufacturing over GDP							Largest national industry over GDP						
All countries	0.6	6.3	9.5	12.7	17.6	21.4	47.6	0.3	1.4	2.0	2.8	3.9	5.1	18.0
AEs	1.2	5.8	9.6	12.4	18.7	22.6	31.5	0.4	1.2	1.8	2.1	3.2	5.1	14.6
EMs	0.6	5.0	10.4	12.7	18.0	23.9	47.6	0.3	1.3	2.1	2.9	3.9	4.6	18.0
LICs	5.9	7.6	8.7	13.0	15.6	18.5	26.1	1.0	1.9	2.8	3.1	4.4	6.0	14.9

Individual industries value-added as a share of GDP in 2019 and correlation of the individual industries' real growth with real GDP growth during 1980-2019 (in %):

$Share_{i,c,t}$	p10	p25	p50	p75	p90	p95	p99	min	p10	p25	p50	p75	p90	p95
	Individual manufactures over GDP							Correlation with GDP growth						
All countries	0.03	0.1	0.3	0.7	1.5	2.4	4.6	-95.7	-11.4	15.4	41.9	63.8	77.6	82.9
AEs	0.04	0.1	0.4	0.8	1.5	2.1	3.9	-65.2	10.1	32.4	49.8	67.3	78.7	83.3
EMs	0.03	0.1	0.3	0.7	1.6	2.4	4.6	-85.9	-5.4	21.0	49.2	66.7	79.1	83.8
LICs	0.03	0.1	0.2	0.6	1.4	2.8	4.9	-95.7	-49.2	-8.7	18.2	42.1	67.6	81.4

Table A.2: Extra variables used in the appendix and their sources

Variable	Description	Source
$g_{c,t}^{GDP}$	Real GDP growth rate of country c in year t	World Bank
$MPR_{c,t}$	Monetary policy rate of country c in year t (mean yearly value)	IMF & BIS
$inflation_{c,t}$	Consumer Price Index inflation of country c in year t	World Bank
$Crisis$	Output loss given by the cumulative sum of the difference between	Laeven &
$OutputLoss_{c,t}$	actual and trend real GDP over the period [T, T+3], in % of GDP	Valencia
$Crisis$	Duration (in years) of the financial crisis.	Laeven &
$Duration_{c,t}$		Valencia
$Crisis$	Fiscal costs refer to outlays directly related to the restructuring	Laeven &
$FiscalCosts_{c,t}$	of the financial sector, in % of GDP	Valencia
$Crisis$	Liquidity is the ratio (in %) of central bank claims on deposit banks	Laeven &
$PeakLiquidity_{c,t}$	and Treasury liquidity support to total deposits and foreign liabilities	Valencia

Table A.3: Effects of banking crises on industrial growth across country groups (all countries, AEs, EMs, LICs)

Controls	With macroeconomic controls				With country-year fixed effects			
	All countries	Advanced economies	Emerging markets	Low income	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times$	-3.420***	-0.908	-8.138***	-4.802	-3.562***	-1.153	-7.943***	-5.487*
$BankCrisis_{c,t}$	(1.006)	(1.258)	(1.702)	(3.234)	(0.963)	(1.224)	(1.620)	(3.042)
$ShareManVA_{i,c,t-1}$	-0.161***	-0.144***	-0.171***	-0.168**	-0.154***	-0.136***	-0.150***	-0.185**
	(0.0340)	(0.0431)	(0.0554)	(0.0798)	(0.0331)	(0.0409)	(0.0551)	(0.0781)
$\ln(GDP_{c,t-1}^{PPP,pc})$	-2.207***	-2.599***	-3.491***	0.573				
	(0.611)	(0.862)	(1.259)	(1.960)				
$inflation_{c,t}$	-0.000755*	-0.0423	-0.000367	-0.0844**				
	(0.000389)	(0.0677)	(0.000423)	(0.0397)				
$g_{c,t}^{GDP}$	1.197***	1.107***	1.346***	0.888***				
	(0.0479)	(0.0625)	(0.0821)	(0.109)				
$inflation_{c,t-1}$	0.000122	-0.0130	0.000434	0.00933				
	(0.000467)	(0.0106)	(0.000482)	(0.0273)				
$g_{c,t-1}^{GDP}$	-0.0363	-0.203***	0.0138	-0.0198				
	(0.0356)	(0.0497)	(0.0632)	(0.0839)				
$BankCrisis_{c,t}$	0.959**	-0.165	2.554***	1.591				
	(0.378)	(0.493)	(0.663)	(1.327)				
N	41,545	20,228	13,286	8,031	41,980	20,472	13,496	8,012
R^2 (overall)	0.188	0.279	0.209	0.102	0.315	0.369	0.358	0.215

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table A.4: Effects of banking crises on industrial growth, with controls for monetary policy

Controls	With monetary policy in levels: $MonPol_{c,t} = MPR_{c,t}$				With monetary policy increase: $MonPol_{c,t} = \Delta MPR_{c,t}$			
	All countries	Advanced economies	Emerging markets	Low income	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times$	-2.553**	0.360	-9.638***	-10.27***	-2.695**	0.238	-10.18***	-9.414**
$BankCrisis_{c,t}$	(1.129)	(1.266)	(2.136)	(3.817)	(1.162)	(1.306)	(2.178)	(3.762)
$ShareManVA_{i,c,t-1}$	-0.260***	-0.214***	-0.248**	-0.355**	-0.283***	-0.240***	-0.231*	-0.420***
	(0.0513)	(0.0555)	(0.114)	(0.143)	(0.0546)	(0.0594)	(0.119)	(0.157)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-5.858***	-8.002***	-6.476***	-5.214	-5.111***	-8.646***	-4.525***	-5.122
	(0.919)	(1.611)	(1.342)	(4.625)	(0.922)	(1.760)	(1.499)	(4.287)
$inflation_{c,t}$	0.00737*	0.345***	0.00144	0.190	0.0336**	0.369***	0.0372***	0.184
	(0.00413)	(0.126)	(0.00585)	(0.201)	(0.0147)	(0.127)	(0.0132)	(0.206)
$g^{GDP}_{c,t}$	1.155***	0.926***	1.301***	1.067***	1.175***	0.918***	1.297***	1.069***
	(0.0597)	(0.0785)	(0.0880)	(0.208)	(0.0603)	(0.0806)	(0.0830)	(0.212)
$inflation_{c,t-1}$	-0.0378***	-0.353***	-0.0301***	-0.0286	-0.0279**	-0.408***	-0.0283***	-0.102
	(0.00485)	(0.110)	(0.00611)	(0.189)	(0.0119)	(0.114)	(0.0108)	(0.170)
$g^{GDP}_{c,t-1}$	-0.216***	-0.206***	-0.271***	-0.322**	-0.194***	-0.202***	-0.212***	-0.310**
	(0.0459)	(0.0769)	(0.0678)	(0.140)	(0.0462)	(0.0772)	(0.0689)	(0.149)
$BankCrisis_{c,t}$	-0.371	-0.906*	0.646	5.387**	-0.236	-1.055*	1.253	5.756**
	(0.430)	(0.529)	(0.754)	(2.476)	(0.442)	(0.546)	(0.774)	(2.425)
$MonPol_{c,t}$	0.00136	0.124	0.00277	0.207	-0.00911**	0.0678	-0.00959***	0.184
	(0.00164)	(0.114)	(0.00221)	(0.255)	(0.00396)	(0.109)	(0.00357)	(0.221)
$MonPol_{c,t-1}$	0.0127***	-0.477***	0.0105***	-0.364	-0.000378	-0.372***	-0.000558	-0.107
	(0.00175)	(0.124)	(0.00220)	(0.249)	(0.000270)	(0.0984)	(0.000431)	(0.151)
$MonPol_{c,t-2}$	0.000365	0.330***	0.000421	0.169	0.000360	-0.207**	0.000610***	0.0396
	(0.000386)	(0.0965)	(0.000430)	(0.117)	(0.000235)	(0.0817)	(0.000227)	(0.102)
N	28,012	15,765	8,507	3,740	26,906	15,238	8,135	3,533
R^2 (overall)	0.238	0.290	0.264	0.157	0.239	0.298	0.266	0.146

Robust standard errors in (). Clusters by industry-country.

***,**,* denote 1%, 5%, 10% statistical significance.

All regressions include fixed effects by industry-country and year (omitted).

Table A.5: Effects of banking crises on industrial growth, with controls for monetary, fiscal and liquidity policies

Controls	Without accounting for monetary policy				With monetary policy increase: $MonPol_{c,t} = \Delta MPR_{c,t}$			
	All countries	Advanced economies	Emerging markets	Low income	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times$	-6.620***	-0.915	-11.99**	-8.787	-6.165***	0.201	-21.64***	-7.188
$BankCrisis_{c,t}$	(1.920)	(1.719)	(5.625)	(16.12)	(2.016)	(1.794)	(5.398)	(14.43)
$EFD_i \times Crisis$	-0.0358	-0.157***	-0.0272	0.161	-0.0568	-0.202***	0.119	-0.0751
$OutputLoss_{c,t}$	(0.0395)	(0.0564)	(0.0662)	(0.0977)	(0.0452)	(0.0556)	(0.0799)	(0.220)
$EFD_i \times Crisis$	1.778***	1.761***	1.262	-0.416	2.005***	1.722***	2.395*	
$Duration_{c,t}$	(0.611)	(0.539)	(1.417)	(5.423)	(0.622)	(0.517)	(1.392)	
$EFD_i \times Crisis$	0.00838	0.380**	0.0882	-0.356	0.123	0.426***	0.0904	
$FiscalCosts_{c,t}$	(0.0983)	(0.148)	(0.209)	(0.218)	(0.124)	(0.164)	(0.232)	
$EFD_i \times Crisis$	-0.0558	-0.211***	-0.0433	0.282**	-0.142***	-0.183***	-0.00797	
$PeakLiquidity_{c,t}$	(0.0341)	(0.0518)	(0.0518)	(0.119)	(0.0337)	(0.0542)	(0.0504)	
$ShareManVA_{i,c,t-1}$	-0.134***	-0.130***	-0.111	-0.181**	-0.286***	-0.237***	-0.230*	-0.432**
	(0.0448)	(0.0462)	(0.0795)	(0.0866)	(0.0589)	(0.0652)	(0.125)	(0.169)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-2.633***	-2.332**	-4.260***	-1.327	-6.308***	-9.558***	-4.852***	-8.360
	(0.669)	(0.946)	(1.476)	(2.081)	(1.042)	(2.048)	(1.808)	(5.368)
$inflation_{c,t}$	-0.000684*	-0.0578	-0.000202	-0.0850**	0.0274*	0.379***	0.0290**	0.276
	(0.000387)	(0.0551)	(0.000420)	(0.0402)	(0.0153)	(0.126)	(0.0140)	(0.246)
$g^{GDP}_{c,t}$	1.206***	1.107***	1.374***	0.866***	1.181***	0.901***	1.326***	1.014***
	(0.0485)	(0.0653)	(0.0805)	(0.114)	(0.0616)	(0.0827)	(0.0846)	(0.222)
$inflation_{c,t-1}$	8.34e-05	-0.0149	0.000433	0.0131	-0.0228*	-0.446***	-0.0225**	-0.0567
	(0.000474)	(0.0105)	(0.000485)	(0.0266)	(0.0123)	(0.117)	(0.0112)	(0.208)
$g^{GDP}_{c,t-1}$	-0.0430	-0.225***	0.00682	-0.0202	-0.216***	-0.264***	-0.200***	-0.322**
	(0.0371)	(0.0515)	(0.0650)	(0.0868)	(0.0480)	(0.0784)	(0.0739)	(0.161)
$BankCrisis_{c,t}$	0.753*	-0.437	2.596***	1.013	-0.361	-0.894	1.622**	2.920
	(0.412)	(0.500)	(0.750)	(1.654)	(0.458)	(0.555)	(0.813)	(4.434)
$MonPol_{c,t}$					-0.00729*	0.156	-0.00763**	0.114
					(0.00408)	(0.104)	(0.00372)	(0.316)
$MonPol_{c,t-1}$					-0.000298	-0.350***	-0.000571	-0.243
					(0.000307)	(0.0866)	(0.000438)	(0.210)
$MonPol_{c,t-2}$					0.000276	-0.221***	0.000503**	0.0885
					(0.000245)	(0.0763)	(0.000236)	(0.127)
N	37,988	18,758	12,107	7,123	24,147	13,969	7,259	2,919
R^2 (overall)	0.200	0.308	0.220	0.107	0.262	0.333	0.280	0.163

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table A.6: Effects of banking crises on industrial growth, with interactions for different periods (Great Moderation, 1988-2006; Great Financial Crisis, 2007-2009)

Controls	Without accounting for monetary policy				With monetary policy increase: $MonPol_{c,t} = \Delta MPR_{c,t}$			
	All countries	Advanced economies	Emerging markets	Low income	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times BankCrisis_{c,t}$	-0.469	0.306	-9.621*	-1.654	-0.356	0.397	-12.71**	-6.975
	(1.650)	(1.870)	(5.841)	(4.724)	(1.788)	(1.922)	(5.953)	(5.572)
$EFD_i \times BankCrisis_{c,t}$	-3.062*	-0.192	2.603	-4.028	-3.276	3.656	4.028	-4.551
$\times GreatModeration_t$	(1.831)	(2.467)	(5.896)	(5.181)	(2.172)	(2.710)	(6.091)	(7.059)
$EFD_i \times BankCrisis_{c,t}$	-5.808***	-2.899	-6.545	-44.57	-3.750**	-1.589	-2.678	
$\times GFC_t$	(1.683)	(1.801)	(5.502)	(43.87)	(1.702)	(1.824)	(5.548)	
$ShareManVA_{i,c,t-1}$	-0.162***	-0.144***	-0.171***	-0.170**	-0.286***	-0.238***	-0.229**	-0.421***
	(0.0340)	(0.0430)	(0.0551)	(0.0790)	(0.0549)	(0.0590)	(0.116)	(0.157)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-2.176***	-2.556***	-3.451***	0.377	-5.072***	-8.382***	-4.386***	-4.931
	(0.611)	(0.862)	(1.258)	(1.996)	(0.922)	(1.759)	(1.511)	(4.320)
$inflation_{c,t}$	-0.000744*	-0.0442	-0.000373	-0.0850**	0.0337**	0.357***	0.0374***	0.198
	(0.000390)	(0.0661)	(0.000422)	(0.0397)	(0.0147)	(0.129)	(0.0132)	(0.203)
$g^{GDP}_{c,t}$	1.198***	1.114***	1.346***	0.883***	1.176***	0.917***	1.296***	1.067***
	(0.0478)	(0.0625)	(0.0821)	(0.108)	(0.0603)	(0.0806)	(0.0833)	(0.212)
$inflation_{c,t-1}$	0.000125	-0.0128	0.000449	0.00855	-0.0278**	-0.424***	-0.0286***	-0.0900
	(0.000466)	(0.0106)	(0.000480)	(0.0276)	(0.0119)	(0.115)	(0.0107)	(0.173)
$g^{GDP}_{c,t-1}$	-0.0334	-0.199***	0.0171	-0.0121	-0.192***	-0.199**	-0.209***	-0.314**
	(0.0356)	(0.0500)	(0.0631)	(0.0837)	(0.0463)	(0.0775)	(0.0691)	(0.149)
$BankCrisis_{c,t}$	0.929**	-0.264	2.553***	2.014	-0.255	-1.272**	1.380*	5.288**
	(0.382)	(0.511)	(0.660)	(1.350)	(0.445)	(0.556)	(0.746)	(2.552)
$MonPol_{c,t}$					-0.00914**	0.0745	-0.00961***	0.181
					(0.00396)	(0.110)	(0.00356)	(0.221)
$MonPol_{c,t-1}$					-0.000426	-0.359***	-0.000482	-0.120
					(0.000271)	(0.0986)	(0.000450)	(0.154)
$MonPol_{c,t-2}$					0.000358	-0.197**	0.000618***	0.0395
					(0.000235)	(0.0819)	(0.000228)	(0.102)
N	41,545	20,228	13,286	8,031	26,906	15,238	8,135	3,533
R^2 (overall)	0.188	0.279	0.209	0.103	0.240	0.298	0.266	0.146

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table A.7: Effects of different types of financial crises (banking, currency, sovereign debt, any financial crisis), across the entire country sample

Controls	With macroeconomics controls				With country-year fixed effects			
$EFD_i \times Banking$				-2.869***				-2.993***
$Crisis_{c,t}$				(1.036)				(0.990)
$EFD_i \times Currency$	-4.894***			-3.835**	-5.048***			-4.034**
$Crisis_{c,t}$	(1.745)			(1.812)	(1.794)			(1.871)
$EFD_i \times Sovereign$		-2.471**		-1.468		-2.135*		-1.076
$DebtCrisis_{c,t}$		(1.249)		(1.271)		(1.126)		(1.155)
$EFD_i \times Any$			-2.739***				-2.832***	
$Crisis_{c,t}$			(0.851)				(0.821)	
$ShareManVA_{i,c,t-1}$	-0.160***	-0.160***	-0.162***	-0.161***	-0.152***	-0.153***	-0.154***	-0.154***
	(0.0339)	(0.0338)	(0.0340)	(0.0341)	(0.0330)	(0.0329)	(0.0331)	(0.0332)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-2.161***	-2.172***	-2.274***	-2.175***				
	(0.607)	(0.612)	(0.616)	(0.614)				
$inflation_{c,t}$	-0.000456	-0.000750*	-0.000744*	-0.000466				
	(0.000393)	(0.000394)	(0.000389)	(0.000398)				
$g^{GDP}_{c,t}$	1.172***	1.200***	1.189***	1.171***				
	(0.0481)	(0.0473)	(0.0482)	(0.0488)				
$inflation_{c,t-1}$	3.64e-05	0.000132	0.000167	1.53e-05				
	(0.000469)	(0.000464)	(0.000464)	(0.000468)				
$g^{GDP}_{c,t-1}$	-0.0305	-0.0349	-0.0401	-0.0298				
	(0.0352)	(0.0355)	(0.0357)	(0.0356)				
$BankCrisis_{c,t}$				0.906**				
				(0.386)				
$CurrencyCrisis_{c,t}$	-0.248			-0.588				
	(0.790)			(0.812)				
$DebtCrisis_{c,t}$		0.724		0.581				
		(0.450)		(0.464)				
$AnyCrisis_{c,t}$			0.430					
			(0.359)					
N	41,545	41,545	41,545	41,545	41,980	41,980	41,980	41,980
R^2 (overall)	0.188	0.187	0.188	0.188	0.315	0.315	0.315	0.316

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table A.8: Effects of different types of financial crises across country groups (AEs, EMs, LICs)

Controls	With macro controls			With country-year fixed effects		
	Advanced economies	Emerging markets	Low income	Advanced economies	Emerging markets	Low income
$EFD_i \times Banking$	-1.126	-7.574***	-2.541	-1.137	-7.411***	-3.315
$Crisis_{c,t}$	(1.242)	(1.830)	(3.345)	(1.217)	(1.678)	(3.234)
$EFD_i \times Currency$	5.207	-2.617*	-9.236	1.075	-2.377	-9.249
$Crisis_{c,t}$	(3.639)	(1.493)	(6.155)	(4.709)	(1.504)	(6.601)
$EFD_i \times Sovereign$	-4.179	0.187	-1.307	-4.035	0.130	-0.951
$DebtCrisis_{c,t}$	(5.066)	(1.404)	(2.173)	(4.276)	(1.227)	(2.169)
$ShareManVA_{i,c,t-1}$	-0.144***	-0.170***	-0.170**	-0.137***	-0.150***	-0.186**
	(0.0432)	(0.0554)	(0.0798)	(0.0410)	(0.0552)	(0.0783)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-2.653***	-4.044***	0.203			
	(0.865)	(1.292)	(1.962)			
$inflation_{c,t}$	-0.0399	-8.10e-05	-0.0727*			
	(0.0676)	(0.000427)	(0.0410)			
$g^{GDP}_{c,t}$	1.100***	1.315***	0.849***			
	(0.0621)	(0.0847)	(0.113)			
$inflation_{c,t-1}$	-0.0124	0.000509	0.00139			
	(0.0107)	(0.000471)	(0.0277)			
$g^{GDP}_{c,t-1}$	-0.205***	0.0249	-0.0193			
	(0.0498)	(0.0630)	(0.0831)			
$BankCrisis_{c,t}$	-0.0126	2.655***	1.128			
	(0.493)	(0.691)	(1.392)			
$CurrencyCrisis_{c,t}$	-3.613**	-0.441	0.284			
	(1.723)	(0.730)	(2.552)			
$DebtCrisis_{c,t}$	0.414	-1.476**	1.075			
	(1.383)	(0.621)	(0.880)			
N	20,228	13,286	8,031	20,472	13,496	8,012
R^2 (overall)	0.279	0.209	0.104	0.369	0.358	0.216

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table A.9: Quantile regressions with country-industry fixed effects for the impact of different types of financial crises (banking, currency, sovereign debt)

	All countries			Advanced economies	Emerging markets	Low income
Controls	Q25	Q50	Q75	Q50	Q50	Q50
$EFD_i \times Banking$	-3.301*	-2.923	-2.556	-1.240	-7.469*	-2.747
$Crisis_{c,t}$	(1.845)	(2.756)	(4.566)	(1.131)	(3.967)	(6.267)
$EFD_i \times Currency$	-3.347	-3.738	-4.117	5.288	-2.743	-9.478
$Crisis_{c,t}$	(2.873)	(4.290)	(7.109)	(3.817)	(3.146)	(7.508)
$EFD_i \times Sovereign$	-3.070	-1.479	0.0643	-4.055	0.238	-1.327
$DebtCrisis_{c,t}$	(2.339)	(3.493)	(5.787)	(4.408)	(2.955)	(3.809)
$ShareManVA_{i,c,t-1}$	-0.0532	-0.162*	-0.268*	-0.141***	-0.173	-0.173
	(0.0595)	(0.0888)	(0.147)	(0.0292)	(0.118)	(0.115)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-0.524	-3.014**	-5.429***	-2.559***	-3.600*	-2.876
	(0.837)	(1.248)	(2.067)	(0.464)	(2.049)	(2.549)
$inflation_{c,t}$	-0.000465	-8.03e-05	0.000293	0.133***	0.000287	-0.0673
	(0.00127)	(0.00190)	(0.00315)	(0.0417)	(0.00125)	(0.0690)
$g^{GDP}_{c,t}$	1.486***	1.357***	1.231***	1.475***	1.426***	0.924***
	(0.0601)	(0.0896)	(0.148)	(0.0393)	(0.101)	(0.156)
$inflation_{c,t-1}$	-0.000268	-0.000274	-0.000280	-0.0436***	-8.14e-06	-0.00625
	(0.000969)	(0.00145)	(0.00240)	(0.0140)	(0.000960)	(0.0589)
$g^{GDP}_{c,t-1}$	0.00235	-0.0917	-0.183	-0.291***	-0.0320	-0.0236
	(0.0549)	(0.0820)	(0.136)	(0.0352)	(0.0966)	(0.145)
$BankCrisis_{c,t}$	0.259	0.968	1.655	0.308	2.444*	1.449
	(0.740)	(1.105)	(1.831)	(0.458)	(1.481)	(2.313)
$CurrencyCrisis_{c,t}$	-0.250	0.191	0.618	-1.757	0.267	0.644
	(1.115)	(1.666)	(2.760)	(1.583)	(1.244)	(2.820)
$DebtCrisis_{c,t}$	1.727*	0.744	-0.210	0.285	-0.888	2.076
	(0.888)	(1.326)	(2.197)	(1.273)	(1.224)	(1.501)
$GreatModeration_t$	-1.740***	-1.389**	-1.049	-1.490***	-1.371	-1.069
	(0.383)	(0.572)	(0.948)	(0.192)	(0.972)	(1.538)
GFC_t	-5.222***	-3.438***	-1.709	-3.818***	-3.506***	-1.760
	(0.523)	(0.779)	(1.291)	(0.318)	(1.024)	(1.519)
N	41,545	41,545	41,545	20,228	13,286	8,031

Standard errors in ().

***,**,* denote 1%, 5%, 10% statistical significance.

All regressions include fixed effects by industry-country (omitted).

The impact of financial crises on industrial growth: lessons from the last 40 years

Appendix B: adding the inflation and monetary policy rates as additional controls

This work shows the impact of financial crises across industries and total manufacturing sector. Externally dependent industries experience lower growth during banking crises. This effect is twice as strong in emerging markets and was significantly worse during the Great Financial Crisis. Banking crises' effects on emerging markets' externally dependent industries are twice as strong as currency crises. In low-income countries, currency crises show the strongest effect, but with high statistical uncertainty. Sovereign debt crises have a low statistical significance across all country groups. Externally dependent industries in advanced economies do not suffer statistically significant growth effects during financial crises.

This appendix shows results that add the inflation and monetary policy rates and its lags as additional controls. It also adds the duration, fiscal costs and peak liquidity delivered to the financial system during the crises as additional controls.

Furthermore, the emerging markets and developing economies (EMDEs) country category is separated into 2 groups with a similar number of countries: emerging markets (EMs) and low income countries (LICs).

The results are fairly similar to the main article: i) the inflation and monetary policy rates have small coefficients; ii) LICs represent just one third of the observations for the EMDEs, therefore the group EMs has very similar results to the EMDEs.

Table B.2 shows that for AEs current inflation increases the industrial growth rate, but lagged inflation decreases it. The total effect of inflation (that is, the sum of current and lagged coefficients) is negative for industrial growth in AEs. This result makes sense in the light of New Keynesian models with price rigidities.

Accounting for the severity and duration of the crisis can be important (Laeven and Valencia 2020). The effect of the duration of the banking crisis on the growth of externally dependent industries is positive in the samples of all countries and AEs. This result could be due to financially dependent industries accumulating a buffer for investment as a crisis gets longer and therefore being gradually less impacted.

Furthermore, the policy effects analysis in Table B.3 shows that fiscal expenses are associated with a lower growth of externally dependent industries in the samples of all countries and for LICs. This effect in LICs could be due to the worse governance of its institutions and insolvency risk. Liquidity support to financial institutions during banking crises has a negative effect on the samples of all countries, AEs and EMs, for the models with monetary policy controls. Without monetary policy controls, liquidity support has a negative effect on industrial growth in the all countries and AEs samples. It is worth noting that Dell'Ariccia et al. 2008 also found a negative effect of liquidity support for their sample of 41 countries, although without statistical significance. My analysis of the effects of fiscal expenses during banking crises is new and therefore cannot be compared to results in the previous literature. The negative effects of fiscal policy and liquidity support point towards the need of improving policy governance before financial crises happen.

For the model with monetary policy controls, I find that for AEs current inflation increases the industrial growth rate, but lagged inflation decreases it. The total effect of inflation (that is, the sum of current and lagged coefficients) is negative for industrial growth in AEs. This result makes sense in the light of New Keynesian models with price rigidities. This result differs from the models that do not include monetary policy controls in Table B.3, which fail to take into account that central banks may increase monetary policy and reduce growth during periods of high inflation.

Table B.1: Effects of banking crises on industrial growth across country groups

Controls	With macroeconomic controls			
	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times$	-3.377***	-0.852	-8.467***	-4.675
$BankCrisis_{c,t}$	(1.080)	(1.321)	(1.907)	(3.384)
$ShareManVA_{i,c,t-1}$	-0.164***	-0.152***	-0.164***	-0.172**
	(0.0360)	(0.0439)	(0.0603)	(0.0786)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-6.748***	-7.665***	-8.828***	-1.230
	(0.596)	(0.820)	(1.301)	(1.944)
$inflation_{c,t}$	-0.00357***	-0.148**	-0.00341***	-0.147***
	(0.000421)	(0.0689)	(0.000434)	(0.0394)
$inflation_{c,t-1}$	0.000287	-0.00540	0.000993**	0.0317
	(0.000471)	(0.0116)	(0.000478)	(0.0280)
$BankCrisis_{c,t}$	-2.333***	-2.264***	-1.623**	0.249
	(0.397)	(0.512)	(0.722)	(1.336)
N	41,545	20,228	13,286	8,031
R^2 (overall)	0.143	0.244	0.142	0.089

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table B.2: Effects of banking crises on industrial growth, with controls for monetary policy

Controls	With monetary policy in levels: $MonPol_{c,t} = MPR_{c,t}$				With monetary policy increase: $MonPol_{c,t} = \Delta MPR_{c,t}$			
	All countries	Advanced economies	Emerging markets	Low income	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times$	-2.284*	0.477	-9.732***	-10.26***	-2.391*	0.370	-10.27***	-9.262**
$BankCrisis_{c,t}$	(1.186)	(1.324)	(2.189)	(3.839)	(1.226)	(1.356)	(2.248)	(3.802)
$ShareManVA_{i,c,t-1}$	-0.262***	-0.208***	-0.239**	-0.352**	-0.286***	-0.232***	-0.222*	-0.423***
	(0.0532)	(0.0577)	(0.119)	(0.147)	(0.0573)	(0.0619)	(0.126)	(0.163)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-11.46***	-13.34***	-15.56***	-13.44***	-10.31***	-14.18***	-13.22***	-14.54***
	(0.958)	(1.653)	(1.465)	(5.022)	(0.979)	(1.851)	(1.582)	(4.698)
$inflation_{c,t}$	-0.00500	0.480***	-0.0143**	0.127	-0.00447	0.515***	0.00245	0.114
	(0.00611)	(0.120)	(0.00636)	(0.200)	(0.0182)	(0.121)	(0.0161)	(0.201)
$inflation_{c,t-1}$	-0.0564***	-0.646***	-0.0422***	0.0800	0.00349	-0.743***	0.00425	-0.0394
	(0.00496)	(0.110)	(0.00653)	(0.187)	(0.0148)	(0.112)	(0.0132)	(0.170)
$BankCrisis_{c,t}$	-3.161***	-2.192***	-2.797***	5.115**	-3.182***	-2.347***	-2.221***	5.429**
	(0.435)	(0.539)	(0.690)	(2.462)	(0.453)	(0.556)	(0.750)	(2.419)
$MonPol_{c,t}$	0.00911***	0.303***	0.0119***	0.100	0.00103	0.266**	0.000221	0.102
	(0.00234)	(0.112)	(0.00240)	(0.259)	(0.00492)	(0.109)	(0.00445)	(0.218)
$MonPol_{c,t-1}$	0.0191***	-0.714***	0.0146***	-0.569**	-0.000605**	-0.435***	-0.00142***	-0.325**
	(0.00180)	(0.124)	(0.00231)	(0.238)	(0.000295)	(0.0973)	(0.000437)	(0.157)
$MonPol_{c,t-2}$	0.00108***	0.348***	0.00144***	0.231**	-0.000380	-0.225***	2.39e-06	-0.0642
	(0.000375)	(0.0979)	(0.000445)	(0.114)	(0.000281)	(0.0824)	(0.000258)	(0.104)
N	28,012	15,765	8,507	3,740	26,906	15,238	8,135	3,533
R^2 (overall)	0.207	0.271	0.221	0.143	0.205	0.279	0.220	0.131

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table B.3: Effects of banking crises on industrial growth, with controls for monetary, fiscal and liquidity policies

Controls	Without accounting for monetary policy				With monetary policy increase: $MonPol_{c,t} = \Delta MPR_{c,t}$			
	All countries	Advanced economies	Emerging markets	Low income	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times$	-4.972**	0.116	-10.31*	-3.841	-2.429	1.268	-9.480*	18.67
$BankCrisis_{c,t}$	(2.149)	(1.822)	(5.592)	(14.14)	(1.923)	(1.616)	(5.263)	(45.33)
$EFD_i \times Crisis$	1.802***	0.867*	1.643	0.962	1.418**	0.335	1.043	-6.423
$Duration_{c,t}$	(0.593)	(0.526)	(1.496)	(5.577)	(0.577)	(0.544)	(1.360)	(15.46)
$EFD_i \times Crisis$	-0.198**	0.0953	-0.167	-0.352**	-0.0936	0.105	-0.0899	-0.117
$FiscalCosts_{c,t}$	(0.0832)	(0.168)	(0.207)	(0.173)	(0.113)	(0.194)	(0.250)	(0.347)
$EFD_i \times Crisis$	-0.0744*	-0.280***	-0.0395	0.192*	-0.175***	-0.188***	-0.110**	
$PeakLiquidity_{c,t}$	(0.0394)	(0.0756)	(0.0536)	(0.111)	(0.0358)	(0.0629)	(0.0539)	
$ShareManVA_{i,c,t-1}$	-0.140***	-0.143***	-0.109	-0.178**	-0.285***	-0.228***	-0.230*	-0.425**
	(0.0485)	(0.0476)	(0.0895)	(0.0834)	(0.0620)	(0.0672)	(0.133)	(0.175)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-7.816***	-7.825***	-11.63***	-3.056	-12.43***	-15.24***	-17.05***	-21.66***
	(0.646)	(0.873)	(1.485)	(2.055)	(1.121)	(2.073)	(1.929)	(5.632)
$inflation_{c,t}$	-0.00352***	-0.131*	-0.00325***	-0.145***	-0.0177	0.543***	-0.0115	0.128
	(0.000412)	(0.0697)	(0.000424)	(0.0401)	(0.0191)	(0.120)	(0.0177)	(0.212)
$inflation_{c,t-1}$	0.000242	-0.00999	0.000975**	0.0335	0.0138	-0.769***	0.0149	0.0193
	(0.000478)	(0.0119)	(0.000483)	(0.0272)	(0.0155)	(0.114)	(0.0143)	(0.186)
$BankCrisis_{c,t}$	-2.488***	-2.421***	-1.643**	-0.0909	-3.197***	-2.420***	-1.694**	5.234*
	(0.422)	(0.521)	(0.788)	(1.498)	(0.464)	(0.558)	(0.772)	(2.809)
$MonPol_{c,t}$					0.00450	0.294***	0.00382	0.136
					(0.00515)	(0.101)	(0.00481)	(0.226)
$MonPol_{c,t-1}$					-0.000617**	-0.452***	-0.00141***	-0.359**
					(0.000303)	(0.0944)	(0.000429)	(0.172)
$MonPol_{c,t-2}$					-0.000560*	-0.214***	-0.000196	-0.0530
					(0.000296)	(0.0802)	(0.000280)	(0.125)
N	38,257	18,898	12,161	7,198	24,336	14,029	7,313	2,994
R^2 (overall)	0.153	0.265	0.150	0.093	0.224	0.308	0.231	0.146

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table B.4: Effects of banking crises on industrial growth, with interactions for the Great Financial Crisis (2007-2009)

Controls	Without accounting for monetary policy				With monetary policy increase: $MonPol_{c,t} = \Delta MPR_{c,t}$			
	All countries	Advanced economies	Emerging markets	Low income	All countries	Advanced economies	Emerging markets	Low income
$EFD_i \times Bank$	-2.575**	-0.900	-7.745***	-4.201	-2.086	0.673	-9.399***	-9.262**
$Crisis_{c,t}$	(1.244)	(1.682)	(1.911)	(3.236)	(1.482)	(1.744)	(2.373)	(3.802)
$EFD_i \times Bank$	-2.856*	0.118	-7.455*	-43.82	-0.850	-0.665	-5.618	
$Crisis_{c,t} \times GFC_t$	(1.469)	(1.668)	(4.032)	(43.88)	(1.523)	(1.697)	(4.169)	
$ShareManVA_{i,c,t-1}$	-0.164***	-0.152***	-0.164***	-0.173**	-0.286***	-0.233***	-0.223*	-0.423***
	(0.0359)	(0.0439)	(0.0604)	(0.0780)	(0.0572)	(0.0618)	(0.126)	(0.163)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-6.723***	-7.666***	-8.765***	-1.337	-10.27***	-14.15***	-13.01***	-14.54***
	(0.596)	(0.820)	(1.300)	(1.966)	(0.983)	(1.857)	(1.616)	(4.698)
$inflation_{c,t}$	-0.00357***	-0.148**	-0.00341***	-0.148***	-0.00449	0.513***	0.00274	0.114
	(0.000421)	(0.0687)	(0.000434)	(0.0394)	(0.0182)	(0.122)	(0.0161)	(0.201)
$inflation_{c,t-1}$	0.000291	-0.00541	0.000999**	0.0300	0.00347	-0.743***	0.00394	-0.0394
	(0.000471)	(0.0116)	(0.000477)	(0.0282)	(0.0148)	(0.112)	(0.0133)	(0.170)
$BankCrisis_{c,t}$	-2.379***	-2.259***	-1.620**	0.718	-3.198***	-2.380***	-2.160***	5.429**
	(0.401)	(0.527)	(0.719)	(1.350)	(0.457)	(0.568)	(0.741)	(2.419)
$MonPol_{c,t}$					0.00103	0.266**	0.000158	0.102
					(0.00492)	(0.109)	(0.00446)	(0.218)
$MonPol_{c,t-1}$					-0.000595**	-0.431***	-0.00137***	-0.325**
					(0.000297)	(0.0979)	(0.000442)	(0.157)
$MonPol_{c,t-2}$					-0.000380	-0.222***	1.04e-05	-0.0642
					(0.000281)	(0.0824)	(0.000260)	(0.104)
N	41,545	20,228	13,286	8,031	26,906	15,238	8,135	3,533
R^2 (overall)	0.144	0.244	0.143	0.090	0.205	0.279	0.220	0.131

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table B.5: Effects of different types of financial crises (banking, currency, sovereign debt, any financial crisis), across the entire country sample

Controls	With macroeconomics controls			
$EFD_i \times Banking$				-2.893***
$Crisis_{c,t}$				(1.097)
$EFD_i \times Currency$	-5.058***			-3.913**
$Crisis_{c,t}$	(1.760)			(1.824)
$EFD_i \times Sovereign$		-2.826**		-1.719
$DebtCrisis_{c,t}$		(1.375)		(1.341)
$EFD_i \times Any$			-2.893***	
$Crisis_{c,t}$			(0.905)	
$ShareManVA_{i,c,t-1}$	-0.163***	-0.164***	-0.168***	-0.165***
	(0.0357)	(0.0358)	(0.0361)	(0.0360)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-6.043***	-6.628***	-6.891***	-6.384***
	(0.584)	(0.595)	(0.601)	(0.600)
$inflation_{c,t}$	-0.00240***	-0.00351***	-0.00336***	-0.00234***
	(0.000409)	(0.000427)	(0.000418)	(0.000415)
$inflation_{c,t-1}$	-0.000125	0.000485	0.000647	5.70e-05
	(0.000488)	(0.000463)	(0.000457)	(0.000475)
$BankCrisis_{c,t}$				-1.777***
				(0.408)
$CurrencyCrisis_{c,t}$	-4.857***			-4.431***
	(0.795)			(0.822)
$DebtCrisis_{c,t}$		-0.997**		-0.365
		(0.481)		(0.489)
$AnyCrisis_{c,t}$			-2.279***	
			(0.365)	
N	41,545	41,545	41,545	41,545
R^2 (overall)	0.145	0.140	0.144	0.148

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table B.6: Effects of different types of financial crises across country groups

Controls	With macro controls		
	Advanced economies	Emerging markets	Low income
$EFD_i \times Banking$	-1.072	-7.862***	-2.196
$Crisis_{c,t}$	(1.298)	(2.035)	(3.415)
$EFD_i \times Currency$	4.844	-2.605*	-9.921
$Crisis_{c,t}$	(3.686)	(1.542)	(6.123)
$EFD_i \times Sovereign$	-4.158	-0.0822	-1.289
$DebtCrisis_{c,t}$	(5.177)	(1.624)	(2.164)
$ShareManVA_{i,c,t-1}$	-0.153***	-0.162***	-0.175**
	(0.0439)	(0.0598)	(0.0795)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-7.761***	-9.132***	-1.422
	(0.826)	(1.340)	(1.946)
$inflation_{c,t}$	-0.144**	-0.00232***	-0.115***
	(0.0689)	(0.000433)	(0.0414)
$inflation_{c,t-1}$	-0.00217	0.000837*	0.0116
	(0.0114)	(0.000468)	(0.0282)
$BankCrisis_{c,t}$	-1.983***	-0.695	0.0482
	(0.506)	(0.763)	(1.425)
$CurrencyCrisis_{c,t}$	-5.452***	-4.306***	-2.043
	(1.761)	(0.779)	(2.496)
$DebtCrisis_{c,t}$	-1.643	-2.284***	1.208
	(1.455)	(0.695)	(0.881)
N	20,228	13,286	8,031
R^2 (overall)	0.245	0.149	0.092

Robust standard errors in (). Clusters by industry-country.
***,**,* denote 1%, 5%, 10% statistical significance.
All regressions include fixed effects by industry-country and year (omitted).

Table B.7: Quantile regressions with country-industry fixed effects for the impact of different types of financial crises (banking, currency, sovereign debt)

	All countries			Advanced economies	Emerging markets	Low income
Controls	Q25	Q50	Q75	Q50	Q50	Q50
$EFD_i \times Banking$	-3.904	-3.003	-2.163	-1.359	-7.591	-2.297
$Crisis_{c,t}$	(3.544)	(2.076)	(1.537)	(5.070)	(14.20)	(4.548)
$EFD_i \times Currency$	-3.722	-3.745	-3.767	4.664	-2.669	-10.18*
$Crisis_{c,t}$	(5.671)	(3.323)	(2.460)	(16.17)	(11.75)	(5.445)
$EFD_i \times Sovereign$	-3.589	-1.767	-0.0667	-4.054	-0.00222	-1.393
$DebtCrisis_{c,t}$	(4.363)	(2.557)	(1.893)	(19.11)	(10.93)	(2.730)
$ShareManVA_{i,c,t-1}$	-0.0680	-0.173***	-0.270***	-0.171	-0.173	-0.180**
	(0.108)	(0.0635)	(0.0470)	(0.132)	(0.380)	(0.0827)
$\ln(GDP^{PPP,pc}_{c,t-1})$	-4.111***	-6.856***	-9.417***	-7.869***	-8.090	-4.188**
	(1.535)	(0.900)	(0.667)	(1.976)	(6.700)	(1.841)
$inflation_{c,t}$	-0.00378	-0.00195	-0.000253	0.0511	-0.00173	-0.0988**
	(0.00362)	(0.00212)	(0.00157)	(0.187)	(0.00644)	(0.0493)
$inflation_{c,t-1}$	-0.000568	-0.000469	-0.000376	-0.0503	-0.000304	-0.0131
	(0.00197)	(0.00115)	(0.000854)	(0.0839)	(0.00348)	(0.0420)
$BankCrisis_{c,t}$	-4.070***	-2.541***	-1.115*	-3.197	-1.309	-0.0661
	(1.371)	(0.804)	(0.595)	(1.975)	(5.222)	(1.675)
$CurrencyCrisis_{c,t}$	-5.865***	-4.417***	-3.066***	-3.687	-4.852	-2.357
	(2.121)	(1.243)	(0.921)	(7.246)	(4.353)	(1.984)
$DebtCrisis_{c,t}$	0.0647	-0.533	-1.090	-2.920	-2.256	1.849*
	(1.646)	(0.965)	(0.714)	(5.736)	(4.363)	(1.084)
$GreatModeration_t$	-1.216*	-1.051***	-0.896***	-1.471*	-0.857	-1.125
(1988-2006)	(0.693)	(0.406)	(0.301)	(0.830)	(3.153)	(1.106)
GFC_t	-7.031***	-4.439***	-2.020***	-5.936***	-3.864	-1.912*
(2007-2009)	(0.982)	(0.576)	(0.428)	(1.467)	(3.305)	(1.110)
N	41,545	41,545	41,545	20,228	13,286	8,031

Standard errors in ().

***,**,* denote 1%, 5%, 10% statistical significance.

All regressions include fixed effects by industry-country (omitted).

Table B.8: Effects of different types of financial crises with industry-country, country-year and industry-year fixed effects

Controls	All countries	Advanced economies	Emerging markets	Low income
All crises in the same regression model				
$EFD_i \times Banking$	-2.612***	-1.479	-8.134***	-1.605
$Crisis_{c,t}$	(1.011)	(1.618)	(1.766)	(3.603)
$EFD_i \times Currency$	-4.133**	1.381	-2.470	-8.980
$Crisis_{c,t}$	(1.964)	(4.340)	(1.798)	(6.419)
$EFD_i \times Sovereign$	-0.972	-0.693	-1.878	0.107
$DebtCrisis_{c,t}$	(1.107)	(3.720)	(1.694)	(2.126)
$ShareManVA_{i,c,t-1}$	-0.158***	-0.158***	-0.142***	-0.182**
	(0.0341)	(0.0503)	(0.0544)	(0.0784)
N	41,910	20,400	13,470	7,981
R^2 (overall)	0.343	0.426	0.414	0.292
Coefficients obtained with different types of crises in separate regressions				
$EFD_i \times Banking$	-3.183***	-1.425	-8.758***	-2.671
$Crisis_{c,t}$	(0.986)	(1.579)	(1.814)	(3.574)
$EFD_i \times Currency$	-4.944***	0.597	-4.130**	-9.171
$Crisis_{c,t}$	(1.894)	(4.244)	(1.850)	(6.268)
$EFD_i \times Sovereign$	-1.907*	-1.012	-2.976*	-0.555
$DebtCrisis_{c,t}$	(1.094)	(3.679)	(1.718)	(2.110)
$EFD_i \times Any$	-2.533***	-1.592	-5.503***	-1.569
$Crisis_{c,t}$	(0.867)	(1.439)	(1.537)	(3.108)
N	41,910	20,400	13,470	7,981
All regressions include $ShareManVA_{i,c,t-1}$ as a control, but its coefficient is omitted in the regressions with each type of crisis separately.				

Clusters by industry-country and industry-year.
Robust standard errors in ().
***,**,* denote 1%, 5%, 10% statistical significance.
Fixed effects in the regressions are omitted.

Table B.9: Effect on total manufacturing growth (in %) of different types of financial crises (average across countries in 2019): estimates from all the models

All crises in the same regression model									
Coefficient average across countries	Tripe FE (i,c+i,t+c,t) $\gamma \sum_i \varpi_{i,c,t} EFD_i$			Double FE (i,c+c,t) $\gamma \sum_i \varpi_{i,c,t} EFD_i$			FE (i,c+t) plus controls $\delta_{Crisis} + \gamma \sum_i \varpi_{i,c,t} EFD_i$		
Crisis type	Bank	Currency	Debt	Bank	Currency	Debt	Bank	Currency	Debt
All countries	-0.8	-1.3	-0.3	-1.0	-1.3	-0.3	-2.7	-5.7	-0.9
AEs	-0.5	0.5	-0.2	-0.4	0.4	-1.3	-2.3	-3.9	-3.0
EMs	-2.8	-0.9	-0.7	-2.6	-0.8	0.0	-3.4	-5.2	-2.3
LICs	-0.5	-2.6	0.0	-0.9	-2.6	-0.3	-0.6	-4.9	0.8
Separate models for each crises' type									
Coefficient average across countries	Tripe FE (i,c i,t c,t) $\gamma \sum_i \varpi_{i,c,t} EFD_i$			Double FE (i,c+c,t) $\gamma \sum_i \varpi_{i,c,t} EFD_i$			FE (i,c+t) plus controls $\delta_{Crisis} + \gamma \sum_i \varpi_{i,c,t} EFD_i$		
Crisis type	Bank	Currency	Debt	Bank	Currency	Debt	Bank	Currency	Debt
All countries	-1.0	-1.6	-0.6	-1.1	-1.6	-0.7	-3.4	-6.5	-1.9
AEs	-0.5	0.2	-0.3	-0.4			-2.5		
EMs	-3.1	-1.4	-1.0	-2.8			-4.6		
LICs	-0.8	-2.6	-0.2	-1.6			-1.1		

Table B.9 focuses on the estimates obtained from the triple fixed effect regressions (Table B.8), the double fixed effect regressions (Tables B.1, B.5 and B.6) and the fixed effects model with macroeconomic controls (Tables 3, 7 and 8). For simplicity, I show only the effects for the last year of the sample, which corresponds to the last pre-pandemic year, 2019. The results for the triple and the double fixed effect models are almost the same, both qualitatively and in size. Therefore, I will comment only the triple fixed effect results and then the total effect from the model with macroeconomic controls. The results are also similar, whether qualitative or in size, if one considers the simultaneous regression with all crises or the separate regressions. Therefore, I will comment only the results from the simultaneous regressions.

The estimates from the coefficients on total manufacturing due to the external finance dependence of industries ($\gamma \sum_i \varpi_{i,c,t} EFD_i$) show that EMs are much more affected by banking crises, while LICs are more affected by currency crises. From the models with all crises in the same regression,

the triple FE estimates show that the average country experiences a manufacturing growth loss of 0.8%, 1.3% and 0.3% during banking, currency and sovereign debt crises. For AEs, there is a reduction in manufacturing growth of 0.5% and 0.2% during banking and sovereign debt crises. For LICs there is a reduction in growth of 0.5% and 2.6% during banking and currency crises.

Finally, considering the total effect from the model with fixed effects and macroeconomic controls, it is shown that currency crises have the strongest impact. There is a loss in industrial growth of 2.7%, 5.7% and 0.9% during banking, currency and sovereign debt crises, in the all countries sample. Across country groups, it is shown that EMs experience the strongest effects from both banking and currency crises, while AEs experience the strongest effect of sovereign debt crises. Perhaps the stronger effect of sovereign debt crises in AEs is due to their larger sovereign debt markets and due to these crises being more unexpected in such countries. EMs and LICs may be less affected by sovereign debt crises, because their use of sovereign debt is smaller. In AEs there is a reduction in industrial growth of 2.3%, 3.9% and 3% during banking, currency and debt crises. In EMs there is a loss of industrial growth of 3.4%, 5.2% and 2.3% during banking, currency and sovereign debt crises. Finally, LICs experience an industrial growth loss of 0.6% and 4.9% during banking and currency crises. LICs are the countries least affected by banking crises, which could be due to the low development of their banking sector (Rajan and Zingales 1998, Raddatz 2006).