Financial Crises and Social Spending

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Outline

- Motivation
- Literature
- Contributions
- Data
- Model
- Analysis
- Conclusions

Motivation

- Financial crises → immediate impact on economic activity

  → deep / long-lasting effect on people's lives

  - Economy recovers relatively quickly
  - Social consequences may remain for a long time

- *Episodic* financial crises can have *permanent* consequences!
  - E.g.: during periods of financial crises, a modest reduction in food consumption for children in their early ages could *permanently* influence their cognitive and physical development (Lewis and Verhoeven, 2010).

Financial Crises

Immediate impact

Economic & Social

- Bank runs
- Bankruptcies
- Erosion of savings
- Restrictions to credit
- Inflation
- Less fiscal room
- Sovereign defaults
- Lower investment
- Recession
- …

- Job losses
- Lower income
- Income inequality
- Increase in poverty
- Unemployment
- Poor nutrition
- …

Long-term impact

Mainly Social

- Poverty trap
- Social exclusion
- Long-term unemployment
- Loss of human capital
- Lower development
- Poor health care
- Health problems
- Education losses
- …

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Immediate impact

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Latin America
1980s
1990s

Asia
1990s

GFC
2007-08

Poverty trap
Social exclusion
Long-term unemployment
Loss of human capital
Lower development
Poor health care
Health problems
Education losses
…

- Examples:
  - Unemployment & wages hit in the aftermath of 1994-95 and 2001-02 in Mexico and Argentina.
  - Freezing deposits / forcing conversion at unfavourable rates (Argentina in 2001; Ecuador in 1998).
  - Government spending on education cut by 15% during 1994 Mexican peso crisis.
  - Significant cuts in infrastructure investment in Latin American countries (1980s and 1990s).
  - Daily protein intake dropped during the Argentina (1995) and Venezuela (1994) crises.
  - During the Asian crisis poverty rose / health expenditure fell (Indonesia, Korea, Malaysia, Thailand).
  - Infant mortality increased after crises in Mexico (1994-95), Peru (1988-92), and Indonesia (1997-98).
  - Life expectancy declined in Russia & former Soviet countries after 1992 break up & 1998 crisis.
  - 2007-2008 crises also lead to deterioration in economic and social well-being indicators.

Otker-Robe and Podpiera (2013); Nguyen (2021, 2022).

Motivation

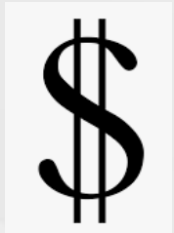
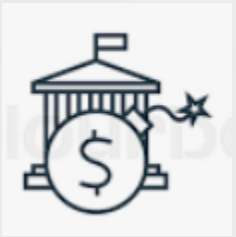
- Government policies can mitigate or inflate consequences
  - Conflicting objectives: ↓ debt/deficit vs protecting citizens
- Reducing (social) spending for financial solvency → detrimental effects on welfare → harmful for vulnerable citizens
- External aid (IMF fiscal reforms)… may add to this

Motivation

- Social spending important to prevent irreversible negative impact of financial crises
- *Is this what happens when financial crises strike?*

- Social impact received less attention than economic impact…
- Little attention to the effects of different *types* of financial crises on social spending and its *components*

Literature

- Types of crises:
  - *Banking* → financial distress in the banking system (bank runs, losses, liquidations); government interventions in response to losses in the banking sector
  - *Currency* → substantial depreciation of domestic currency against USD (30%/year)
  - *Debt* → country fails to pay its interest / principal obligations / postpones its obligations by rescheduling or restructuring debts
  - *Twin/Triple* → one type of crisis is followed by another of ≠ type

Laeven and Valencia (2020); Nguyen et al. (2022)

Literature

- *How is social spending expected to react to financial crises?*
- *Banking crises* (+ / -)

  - may deteriorate wellbeing through an income effect:
    - ↓ economic activity; credit crunch; ↓ real wages; job losses / unemployment
  - government programmes to protect citizens against crisis…

    but low-income indebted countries → austerity programmes

(Prasad & Gerecke, 2010; Conceicao et al., 2011; Nikoloski, 2011; Mohseni-Cheraghlou, 2016; Kiendrebeogo et al., 2017)

Literature

- *How is social spending expected to react to financial crises?*
- *Currency crises* (?)
  - Depreciation → ↑ prices of imported goods; ↑ interest rates
    ↑ financial burden of low-income households
    - harmful to the poor
    - mainly LIC → limited budgetary margin
    - benefit exporters / demand and employment in tradables

(Fallon and Lucas, 2002; Lewis and Verhoeven, 2010; Nikoloski, 2010; Mohseni-Cheraghlou, 2016; Kiendrebeogo et al., 2017; Nguyen et al., 2020, 2021, 2022)

Literature

- *How is social spending expected to react to financial crises?*
- *Debt crises (-)*

  - mainly LIC → limited budgetary margin (Nguyen et al., 2020, 2022)
  - Spending cuts due to debt repayment pressure (Kiendrebeogo et al., 2017; Rewilak, 2018)
  - Lower social spending due to fiscal pressure (even more so if IMF aid/reforms)

Literature

- Previous studies: Δ social spending around 2007-08 crisis

  (Lewis and Verhoeven, 2010; Prasad and Gerecke, 2010;
  Otker-Robe and Podpiera, 2013; Kiendrebeogo et al., 2017; McManus, 2019)

- Mohseni-Cheraghlou (2016): effect of financial crises on human wellbeing

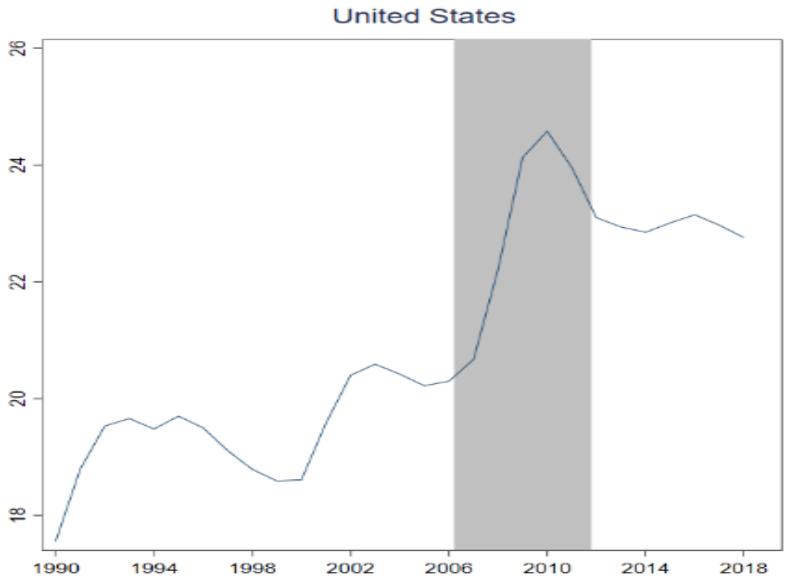
- *but* does not distinguish effects of banking, currency or debt crises

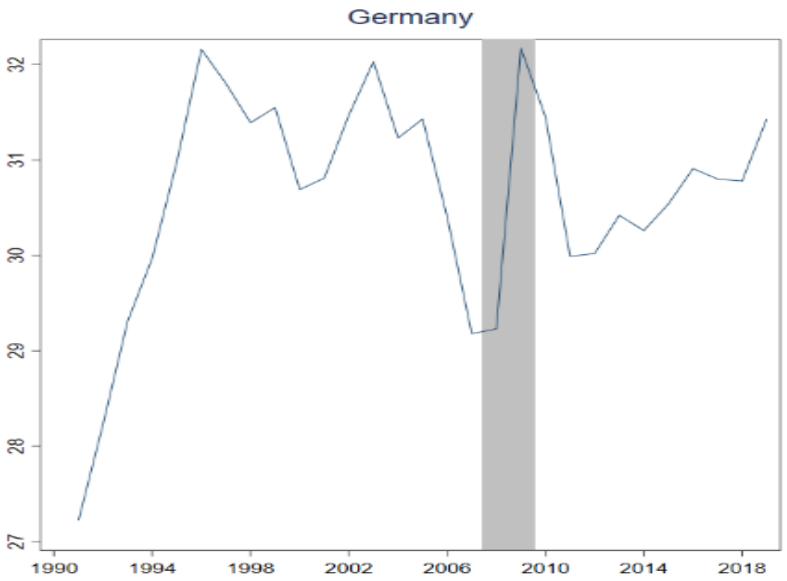
Contributions

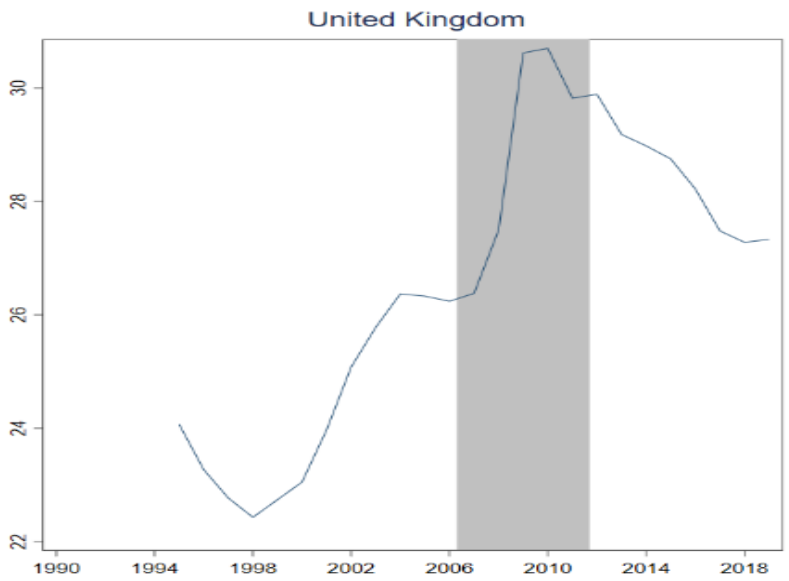
- This paper: relationship between financial crises, social spending, and government policies
  - Distinct effects of Banking, Currency, Debt, Twin/Triple crises
  - Components: Healthcare, Education, and Social Protection expenditures
  - Heterogeneity between Developed and Developing countries
  - Use of new comprehensive database of financial crises (Nguyen et al., 2022)

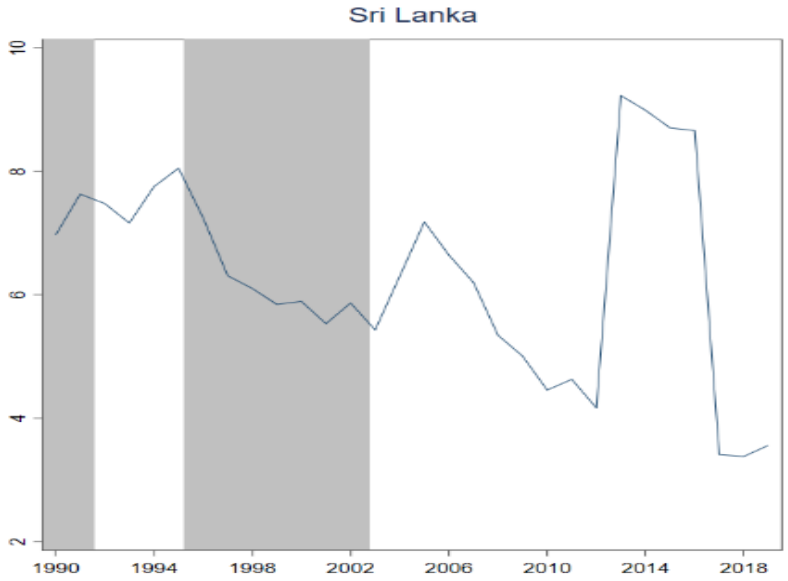
Data

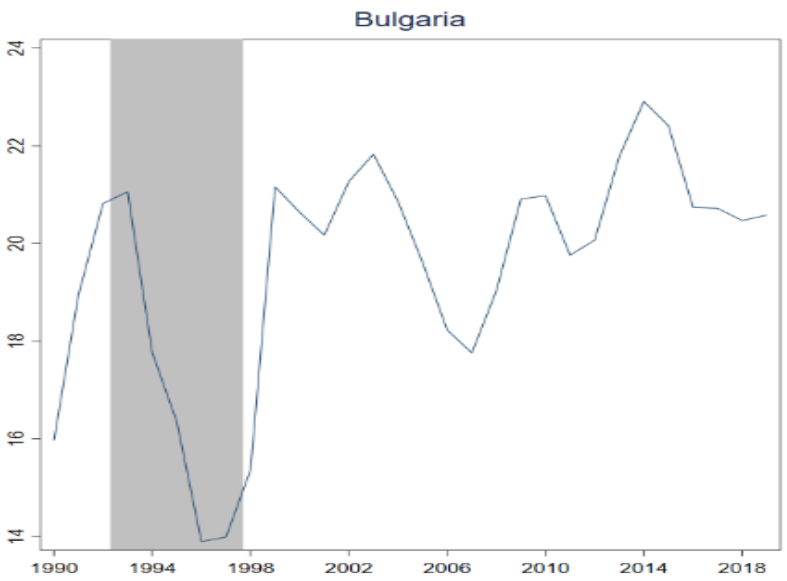
- Annual data, 108 countries, 1991-2019
- Social spending and its components (as % GDP):
  - Healthcare; Education; Social Protection (*Source*: IMF Gov't Finance Statistics)
- Crises variables:
  - Banking, Currency, Debt, Twin/Triple, and All Crises (Nguyen et al., 2022)
- Control variables:
  - Unemployment rate; FDI; Trade openness; Ln real GDP per capita; Age 65 or above; Democracy; Right-wing gov't; Election (*Sources*: World Development Indicators; Polity IV Database; Database of Political Institutions)

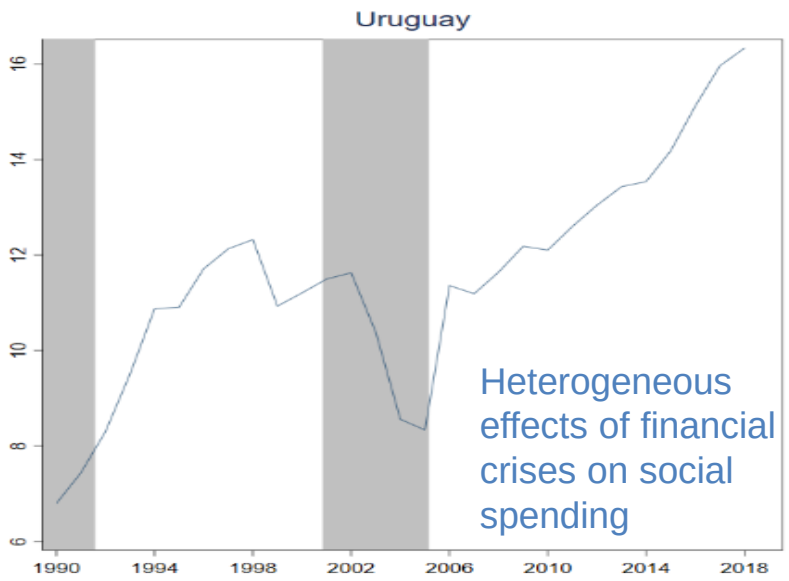












Heterogeneous effects of financial crises on social spending

Methodology – *system-gmm dynamic panel*

$$SocSpend_{it} = \rho SocSpend_{it-1} + \beta FinCrises_{it-1} + \boldsymbol{\gamma SocEco}_{it-1} + \boldsymbol{\delta Pol}_{it} + \alpha_i + \tau_t + \varepsilon_{it}$$

where *i* = 1, …, 108 and *t* = 1991, …, 2019

The coefficient on the lag of the dependent variable (ρ) measures its persistence

The coefficient β captures the effect of financial crises on social spending

The vectors *γ* and *δ* assess the effect of the socio-economic and political factors

α_i represents unobserved country-specific effects

τ_t captures time-effects like global shocks, institutional and socio-economic changes or technological progress not accounted for in our set of variables

ε_{it} is the usual error term

Lag of the dependent variable and financial crises treated as endogenous

Empirical Analysis

Financial crises and social spending

	(1)	(2)	(3)	(4)	(5)
L.Social spending	0.801***	0.766***	0.816***	0.787***	0.799***
	(0.044)	(0.047)	(0.053)	(0.045)	(0.049)
All crises	0.862***				
	(0.210)				
Banking crisis		0.669**			
		(0.305)			
Currency crisis			0.559		
			(0.499)		
Debt crisis				-0.661**	
				(0.327)	
Twin and triple crises					-0.685
					(0.852)
Time effects	Yes	Yes	Yes	Yes	Yes
Observations	1632	1632	1615	1659	1632
Countries	108	108	108	108	108
Instruments	106	81	106	99	86
AR(2)	0.249	0.246	0.243	0.249	0.245
Hansen J	0.404	0.657	0.424	0.520	0.410
Diff-Hansen 1	0.349	0.647	0.427	0.566	0.423
Diff-Hansen 2	0.387	0.545	0.471	0.611	0.340

Unemployment	-0.0079	0.0014	-0.0060	0.0310*	-0.0085
	(0.0168)	(0.0185)	(0.0163)	(0.0172)	(0.0215)
Trade openness	-0.0010	-0.0015	-0.0014*	-0.0013*	-0.0013
	(0.0006)	(0.0010)	(0.0008)	(0.0008)	(0.0008)
FDI	-0.0011	-0.0035	-0.0010	-0.0013	-0.0010
	(0.0031)	(0.0032)	(0.0028)	(0.0033)	(0.0034)
LnGDPpc	0.589***	0.533***	0.446***	0.452**	0.460***
	(0.159)	(0.152)	(0.149)	(0.184)	(0.151)
Age 65 above	0.222***	0.266***	0.208***	0.242***	0.222***
	(0.056)	(0.058)	(0.065)	(0.058)	(0.061)
Democracy	0.062**	0.062**	0.050**	0.050*	0.056**
	(0.031)	(0.025)	(0.020)	(0.027)	(0.023)
Right	-0.432***	-0.574***	-0.438***	-0.419***	-0.440***
	(0.137)	(0.145)	(0.135)	(0.154)	(0.156)
Centre	-0.182	-0.228	-0.185	-0.278	-0.156
	(0.213)	(0.225)	(0.192)	(0.232)	(0.260)
Election	0.130*	0.137**	0.148*	0.121*	0.152*
	(0.072)	(0.0670)	(0.078)	(0.066)	(0.081)

Financial crises and healthcare spending

	(1)	(2)	(3)	(4)	(5)
L.Healthcare spending	0.630***	0.639***	0.694***	0.692***	0.687***
	(0.104)	(0.111)	(0.092)	(0.100)	(0.103)
All crises	0.230***				
	(0.062)				
Banking crisis		0.185**			
		(0.087)			
Currency crisis			0.262**		
			(0.126)		
Debt crisis				-0.0172	
				(0.112)	
Twin and triple crises					-0.146
					(0.264)
Time effects	Yes	Yes	Yes	Yes	Yes
Observations	1630	1630	1613	1630	1630
Countries	108	108	108	108	108
Instruments	106	81	106	98	86
AR(2)	0.923	0.890	0.920	0.923	0.917
Hansen J	0.524	0.540	0.435	0.542	0.525
Diff-Hansen 1	0.494	0.520	0.422	0.537	0.480
Diff-Hansen 2	0.496	0.500	0.420	0.409	0.468

Financial crises and education spending

	(1)	(2)	(3)	(4)	(5)
L.Education spending	0.734***	0.768***	0.713***	0.734***	0.784***
	(0.076)	(0.079)	(0.068)	(0.090)	(0.080)
All crises	0.127*				
	(0.076)				
Banking crisis		0.002			
		(0.115)			
Currency crisis			0.397*		
			(0.208)		
Debt crisis				0.094	
				(0.129)	
Twin and triple crises					-0.038
					(0.312)
Time effects	Yes	Yes	Yes	Yes	Yes
Observations	1630	1633	1613	1630	1600
Countries	108	108	108	108	108
Instruments	106	81	106	98	85
AR(2)	0.314	0.330	0.362	0.347	0.329
Hansen J	0.352	0.228	0.546	0.461	0.498
Diff-Hansen 1	0.302	0.271	0.516	0.441	0.449
Diff-Hansen 2	0.335	0.325	0.508	0.329	0.262

Financial crises and social protection spending

	(1)	(2)	(3)	(4)	(5)
L.Social protection spending	0.822***	0.809***	0.835***	0.815***	0.821***
	(0.088)	(0.080)	(0.097)	(0.095)	(0.111)
All crises	0.599***				
	(0.164)				
Banking crisis		0.461***			
		(0.175)			
Currency crisis			-0.508		
			(0.351)		
Debt crisis				-0.575**	
				(0.238)	
Twin and triple crises					-0.530
					(0.486)
Time effects	Yes	Yes	Yes	Yes	Yes
Observations	1578	1581	1564	1549	1578
Countries	106	106	106	106	106
Instruments	107	81	107	98	86
AR(2)	0.430	0.444	0.451	0.442	0.443
Hansen J	0.483	0.546	0.629	0.817	0.386
Diff-Hansen 1	0.373	0.487	0.701	0.774	0.397
Diff-Hansen 2	0.357	0.365	0.558	0.666	0.407

Financial crises and social spending: Developed versus developing countries

	Developed		Developing				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
L.Social spending	0.831***	0.834***	0.809***	0.835***	0.770***	0.814***	0.803***
	(0.028)	(0.028)	(0.054)	(0.056)	(0.059)	(0.054)	(0.057)
All crises	0.912***		-0.322**				
	(0.171)		(0.156)				
Banking crisis		0.883***		-0.381**			
		(0.172)		(0.151)			
Currency crisis					0.134		
					(0.181)		
Debt crisis						-0.544***	
						(0.201)	
Twin/triple crises							-0.424
							(0.345)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	576	576	1031	1031	1025	1029	1031
Countries	29	29	79	79	79	79	79
Instruments			41	41	41	41	41
AR(2)			0.257	0.255	0.258	0.288	0.265
Hansen J			0.500	0.641	0.340	0.529	0.505
Diff-Hansen 1			0.450	0.590	0.318	0.476	0.464
Diff-Hansen 2			0.412	0.450	0.311	0.384	0.336

Conclusions

- Novelty → analyse distinct effects of ***≠ types*** of financial crises.
- Social spending (Healthcare & Social Protection) **increases** when Financial crises strike, mainly with ***Banking*** crises.
- ***Debt*** crises **detrimental** for social spending (undermines social protection; threatening wellbeing).
- Financial crises **harmful** for social expenditures in ***developing countries*** (deteriorates even more living standards and welfare).
- Fiscal balance in normal times… to react during crises + ext. aid.