



# CAPITAL CONTROLS, SECTORAL FLOWS & COVID-19

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# The need for more refined data on capital controls

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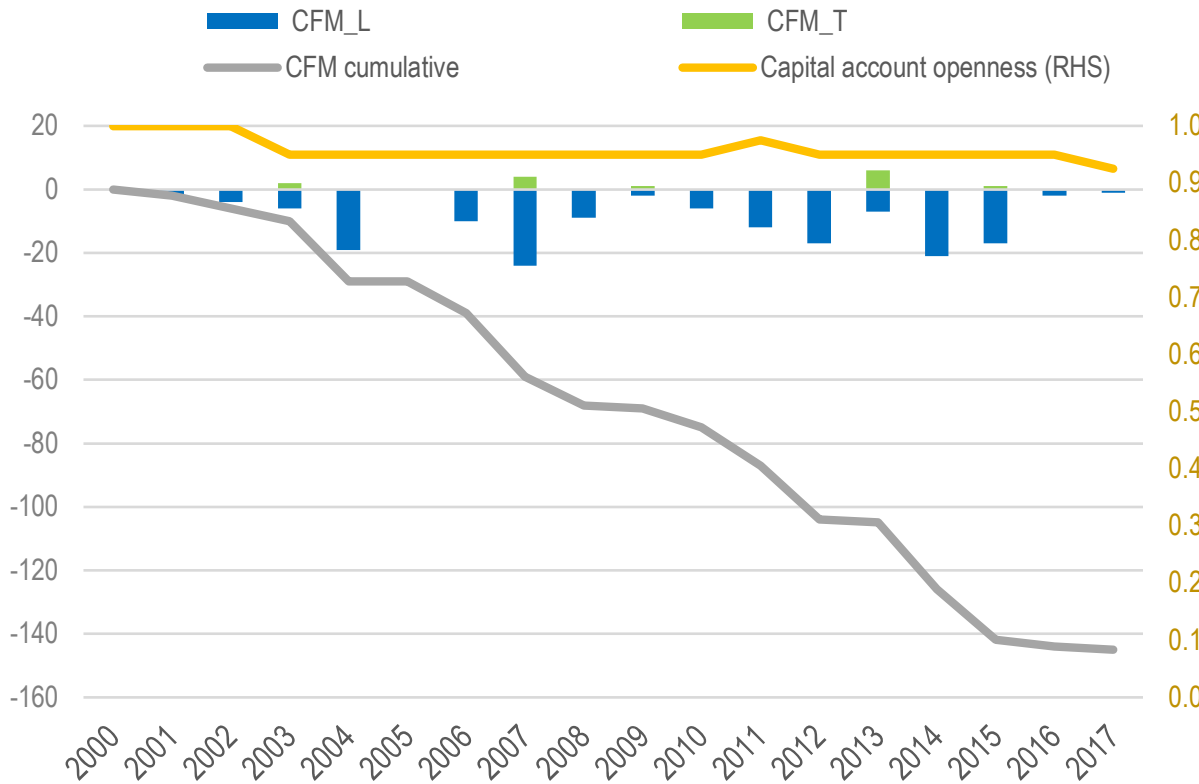
- **Research on capital controls plagued with data issues:**
    - No clear **definition** of capital controls
    - No **granularity** by type of instrument
    - No measure capturing the **intensity** of capital controls actions
    - Small number of **observations**
  - **New dataset on capital controls adjustments (Lepers and Mehigan 2019):**
    - ✓ Moving beyond slow-moving indices to **tightening/easing**
    - ✓ More comprehensive coverage – 2300 adjustments, 51 econ, 2000-17
    - ✓ Split by **instruments**
- ...
- Extended in Lepers and Mercado (2020) to include:**
- ✓ Split by **Sectors**





# Capturing the extensive and intensive margins of controls

## Example of India:



Fernandez et al (2015):

1 if operation is restricted

0 otherwise (free)

Us:

+1 if restriction is introduced

+1 if restriction is tightened

-1 if restriction is eased

-1 if restriction is removed





## Adding a sectoral breakdown to capital controls

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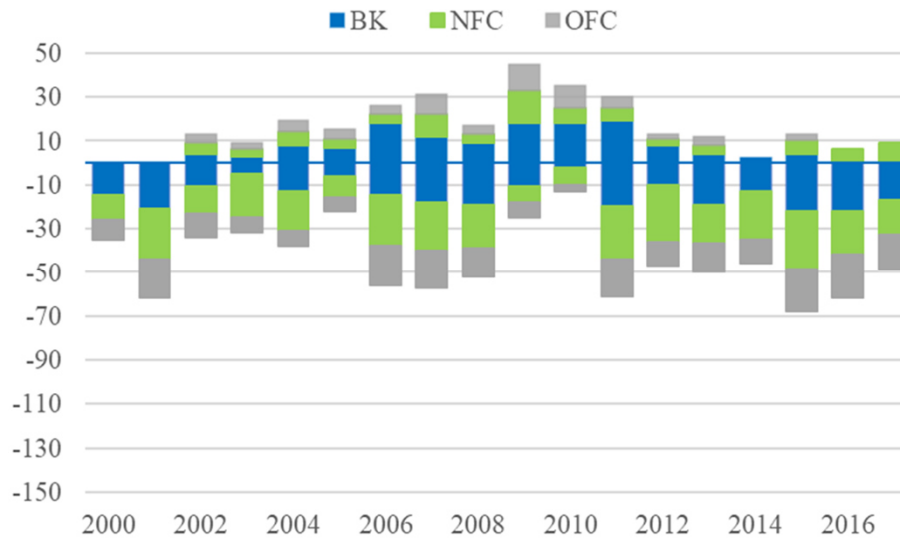
- **Neither obvious, nor trivial:** controls are usually applied to specific transactions rather than specific sectors
- **BUT** major categories of controls appear to fit better a **sectoral classification**:
  - Controls on banks, pension funds, insurance outward transactions
  - FDI restrictions (See OECD FDI Restrictiveness Index)
  - Controls on natural persons, controls on NFC external borrowing ...
- **What do we do?**
  - Classification of 2300 control adjustments **whether they apply to OFC, NFC, BK or all sectors**
  - Classification **based on the resident sector**, i.e., the investor sector for outflow controls and investee sector for inflow controls
  - Number of capital control adjustments is summed up in each year within each sectoral control category for each country



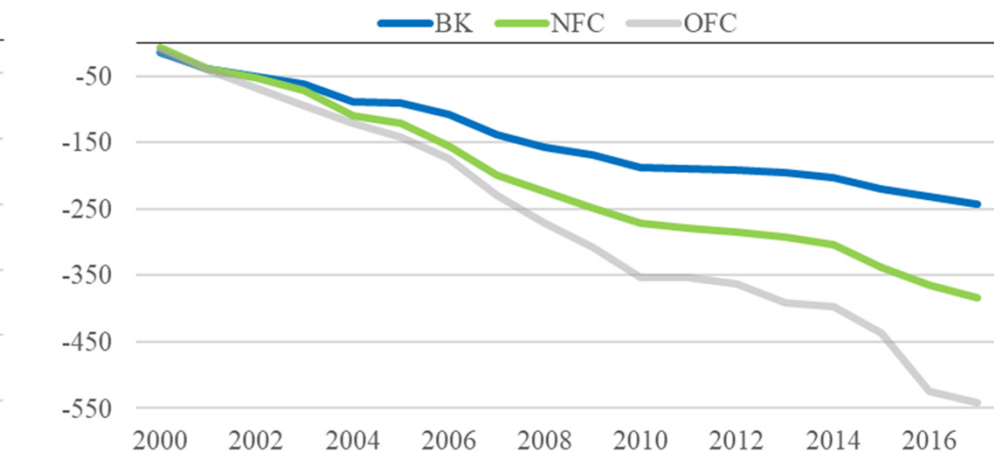
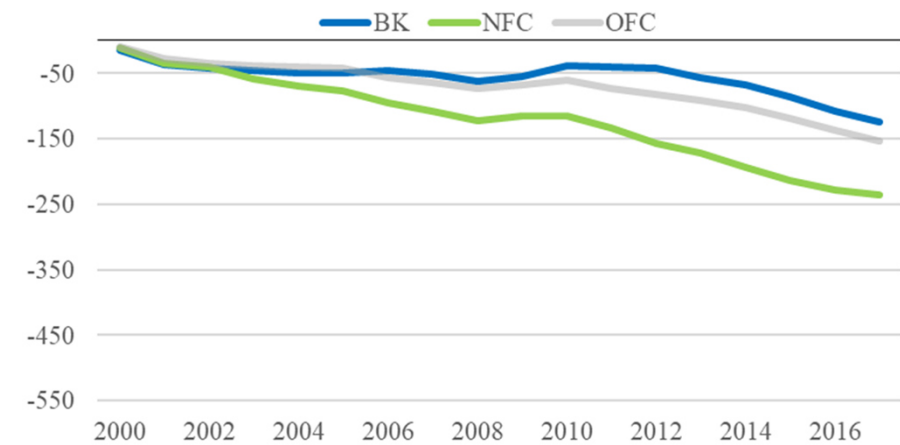
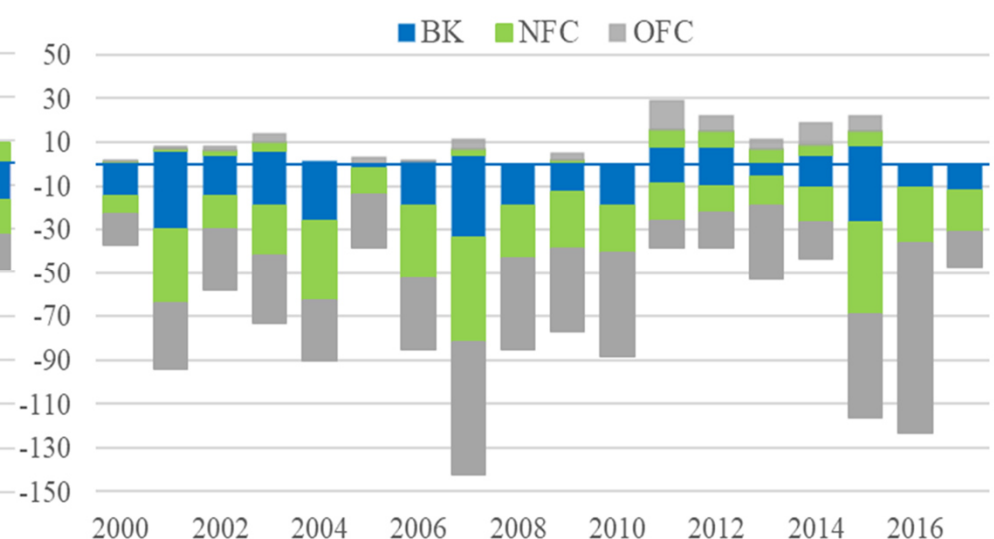


# Sectoral Capital Controls: Stylized Facts

On non-resident flows:



On resident flows:





## Sectoral capital controls & Sectoral flows: Empirical Analysis

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$$CF_{i,j,t} = \alpha + X_t^G \beta' + X_{i,t-1}^D \gamma' + \delta Controls_{i,j,t-1} + \varepsilon_{i,j,t}$$

- Narrower focus to **emerging economies** & **tightening** actions
- Interested in the **effectiveness of tightening actions for emerging economies, including those in Asia, in reducing sectoral flows** and not on the more structural trend of capital account liberalisation
- **Lagged K controls** because of **endogeneity/ delay in impact**





## Baseline results

<b>Non-Resident Flows</b>	<b>(1) BK</b>	<b>(2) NFC</b>	<b>(3) OFC</b>
<i>Baseline: Sectoral Inflows</i>			
Correspond. Sectoral Controls	-0.090 (0.096)	-0.389** (0.160)	-0.091* (0.051)

Controls on inflows to NFC and OFC associated with lower flows to these sectors

<b>Resident Flows</b>	<b>(1) BK</b>	<b>(2) NFC</b>	<b>(3) OFC</b>
<i>Baseline: Sectoral outflows</i>			
Correspond. Sectoral Controls	0.211 (0.624)	0.181 (0.245)	0.095 (0.159)

No impact on outflows

# Sensitivity Tests

## On non-resident flows:

	BK	NFC	OFC
<i>Winsorised sectoral inflows</i>			
Correspond. Sectoral Controls	-0.068 (0.090)	-0.209* (0.112)	-0.089* (0.045)
<i>Without country fixed effects</i>			
Correspond. Sectoral Controls	-0.191* (0.103)	-0.791*** (0.263)	-0.106* (0.053)
<i>Using unclustered robust standard errors</i>			
Correspond. Sectoral Controls	-0.090 (0.092)	-0.389* (0.212)	-0.091* (0.047)
<i>Using two-step regression</i>			
Correspond. Sectoral Controls	-0.099 (0.101)	-0.294** (0.131)	-0.095* (0.055)
<i>Using binary sectoral controls</i>			
Correspond. Sectoral Controls	-0.585 (0.450)	-1.021 (0.836)	-0.309* (0.168)
<i>Including contemporaneous and lagged sectoral controls</i>			
Correspond. Sectoral Controls (t-1)	-0.091 (0.101)	-0.399** (0.190)	-0.096* (0.052)
Correspond. Sectoral Controls (t)	-0.019 (0.081)	-0.523** (0.233)	0.048 (0.097)
<i>Including controls applied to other sectors</i>			
Correspond. Sectoral Controls	-0.115 (0.100)	-0.693 (0.429)	-0.110* (0.058)
BK-only Controls		-0.089 (0.265)	0.021 (0.050)
NFC-only Controls	0.181 (0.428)		0.312 (0.306)
OFC-only Controls	1.157 (1.367)	4.665 (6.649)	

## On resident flows:

	BK	NFC	OFC
<i>Winsorised sectoral outflows</i>			
Correspond. Sectoral Controls	0.220 (0.577)	0.159 (0.175)	0.146 (0.112)
<i>Without country fixed effects</i>			
Correspond. Sectoral Controls	0.116 (0.561)	-0.331 (0.340)	-0.049 (0.165)
<i>Using unclustered robust standard errors</i>			
Correspond. Sectoral Controls	0.211 (0.548)	0.181 (0.210)	0.095 (0.138)
<i>Using two-step regression</i>			
Correspond. Sectoral Controls	0.108 (0.697)	0.245 (0.253)	0.124 (0.130)
<i>Using binary sectoral controls</i>			
Correspond. Sectoral Controls	-0.635 (0.929)	-0.512 (0.745)	-0.165 (0.587)
<i>Including contemporaneous and lagged sectoral controls</i>			
Correspond. Sectoral Controls (t-1)	0.200 (0.630)	0.180 (0.251)	0.078 (0.166)
Correspond. Sectoral Controls (t)	-0.162 (0.195)	-0.029 (0.205)	-0.193* (0.105)
<i>Including controls applied to other sectors</i>			
Correspond. Sectoral Controls	0.215 (0.627)	0.178 (0.246)	0.093 (0.161)
BK-only Controls		-1.546* (0.733)	0.200 (0.297)
NFC-only Controls	1.053*** (0.127)		-0.090 (0.073)
OFC-only Controls	-0.025 (0.321)	-0.248 (0.180)	

Results robust to wide range of sensitivity tests





# Circumventing capital controls

## On non-resident flows:

## On resident flows:

Non-Resident Flows	(1)	(2)	(3)	Resident Flows	(1)	(2)	(3)
	NFC+OFC	BK+OFC	NFC+BK		NFC+OFC	BK+OFC	NFC+BK
Global GDP Growth	-0.086 (0.368)	0.030 (0.193)	0.135 (0.513)	Global GDP Growth	-0.211 (0.385)	-0.400 (0.226)	0.070 (0.461)
Global Liquidity	0.238 (0.152)	0.157* (0.090)	0.303 (0.185)	Global Liquidity	0.159 (0.149)	0.084 (0.101)	0.158 (0.180)
VIX	-0.135 (0.108)	-0.064 (0.042)	-0.138 (0.121)	VIX	-0.039 (0.091)	-0.106* (0.057)	-0.050 (0.111)
Global Commodity Price	0.046** (0.018)	0.006 (0.008)	0.045** (0.020)	Global Commodity Price	0.031 (0.018)	0.007 (0.012)	0.029 (0.017)
Domestic GDP Growth	0.206 (0.171)	0.245** (0.087)	0.330* (0.184)	Domestic GDP Growth	-0.029 (0.085)	-0.002 (0.056)	0.055 (0.137)
BK-only Controls	-0.110 (0.270)			BK-only Controls	-1.346 (0.949)		
NFC-only Controls		0.322 (0.377)		NFC-only Controls		0.961*** (0.186)	
OFC-only Controls			5.211 (7.826)	OFC-only Controls			-0.302 (0.363)
Observations	408	408	408	Observations	198	198	198
R-squared	0.215	0.144	0.221	R-squared	0.212	0.138	0.122
Country F.E.	Yes	Yes	Yes	Country F.E.	Yes	Yes	Yes

Tighter controls on resident NFC flows associated with increase in BK and OFC flows pointing to potential circumvention



# Sectoral Capital Flows: Covariates, Co-movements, and Controls

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## Main Findings:

- 1) Sectoral resident and nonresident flows exhibit varying responses and sensitivities to global and domestic factors.
- 2) Co-movements between resident and non-resident OFC sectoral flows contribute to the observed positive correlation between gross inflows and outflows.
- 3) Tighter capital controls on BKs and OFCs reduce nonresident inflows to these sectors.





# Sudden stops and policy responses: Lessons from recent history for COVID-19

## Policy responses

Conditional on:	Stop		Flight	
	Easing	Tight.	Easing	Tight.
RBM inflows	74	43	71	27
RBM outflows	98	20	147	20
MPM	53	54	28	41
CBM	12	15	22	14

Source: Lepers and Mehigan (2019) and OECD (2020)

- **Easing monetary policy** a double-edged sword: protecting domestic balance sheets but may accelerate outflows
- Sterilised **FX intervention** generally effective in delaying depreciation
- No clear pattern in **CBM** and **MPM** use
- Easing **inflow controls** in stop and flight episodes helpful in some cases
- **Outflow controls** rarely tightened, typically last-resort tool in crises





## Capital controls during COVID-19 ?

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[See [OECD Report to G20 IFA WG](#) for detailed policy monitoring]

- **FX intervention as first line of defence:** spot and forward
- **Relaxation of (sectoral) inflow controls:**
  - ✓ **China:** eased a ceiling on cross-border financing
  - ✓ **Peru:** reduced reserve requirements on liabilities to non-residents
  - ✓ **India:** eased limits on foreign portfolio investments in corporate and government bonds
- **No reintroduction of outflow controls** (easing in Argentina)
- **Currency-based measures: mainly easing**, some tightening
  - ✓ FX reserve requirements: Indonesia, Turkey, Peru (easing)
  - ✓ FX derivatives caps: Korea (easing), Turkey (tightening)
  - ✓ FX liquidity ratios: Korea, Sweden (easing), Hungary (tightening)
  - ✓ FX liability levy: Korea (easing)



Thank you !

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