

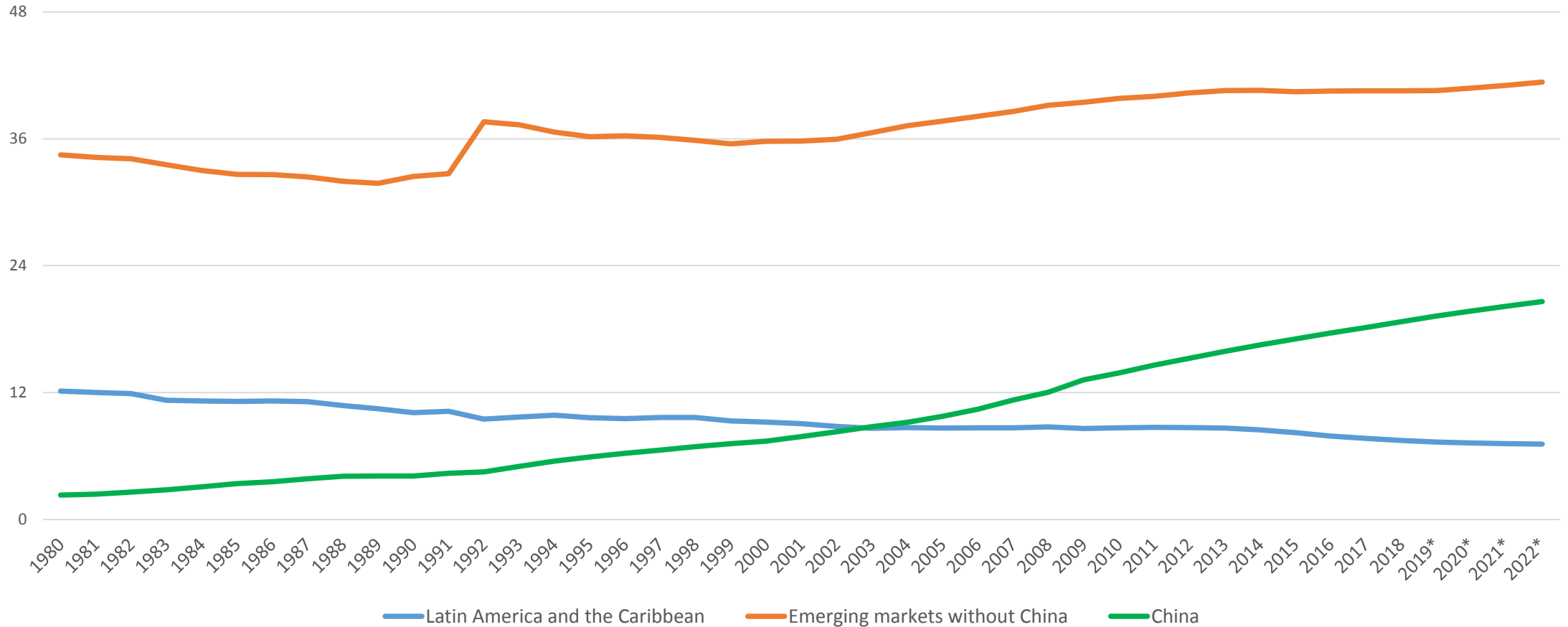
Monetary Policy in Selected Latin American Countries

Rodrigo Vergara
September, 2019

Agenda

- Introduction: Long term trends and recent developments in LA.
- Monetary Policy
- The Exchange Rate as a Shock Absorber: The Case of Chile

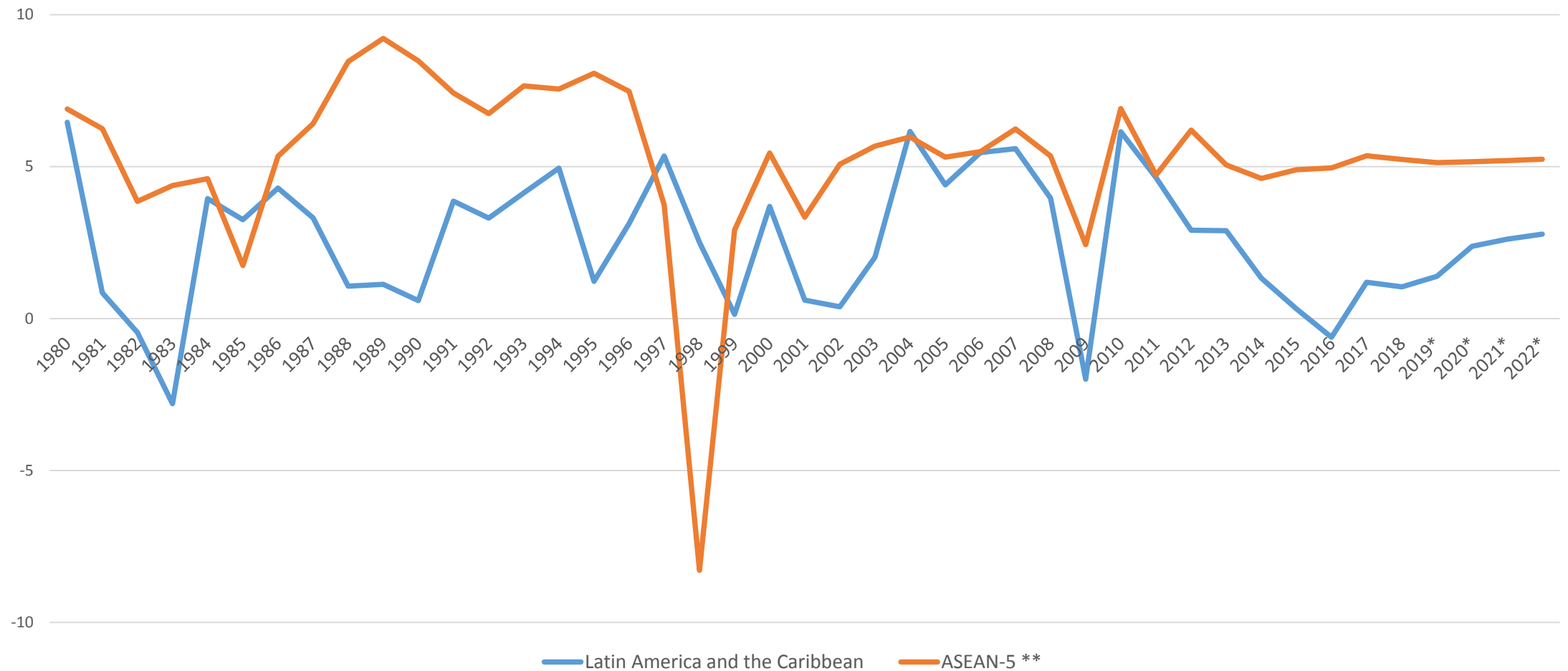
Latin America: Share of world total GDP



* Forecast

Notes: Based on purchasing-power-parity (PPP). Source: World Economic Outlook (IMF)

Growth in Latin America and Asean-5

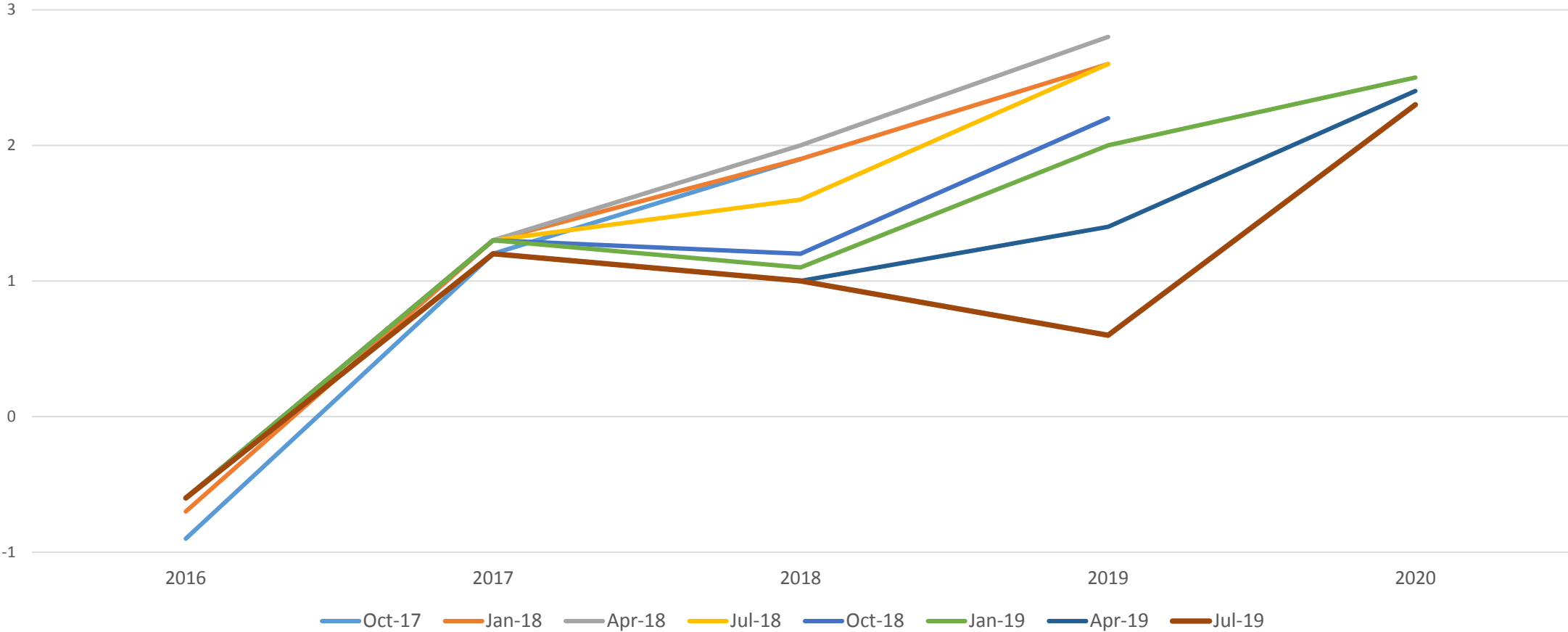


* Forecast

** Indonesia, Malaysia, Philippines, Thailand and Vietnam

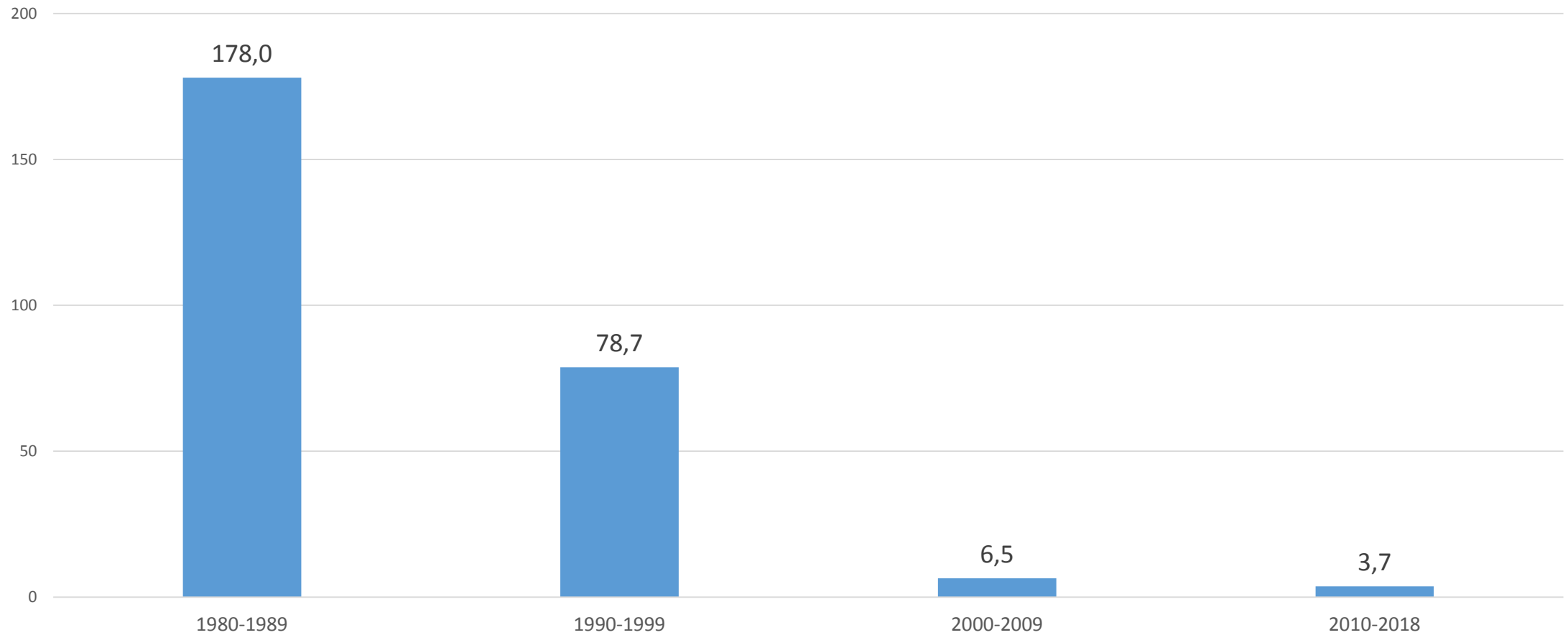
Source: World Economic Outlook (IMF)

Growth in Latin America: evolution of projections



Source: World Economic Outlook (IMF)

Latin America: Inflation (% annual change)



Notes: Excludes Argentina and Venezuela. Source: World Economic Outlook (IMF)

Monetary Policy

Central bank independence

Country	Dependency state	Year of Independence
Argentina	Not independent	-
Brazil	Not independent	-
Chile	Independent	1989
Colombia	Independent	1992
Mexico	Independent	1994
Peru	Independent	1993

Source: Central Bank of each country

Monetary Policy

Country	Monetary Policy Regime	Implementation year	Inflation Target	Target horizon
Brazil	Inflation targeting	2006	4.5 (2.5 – 6.5)	1 year
Chile	Inflation targeting	2001	3.0 (2.0 – 4.0)	2 year
Colombia	Inflation targeting	2010	3.0 (2.0 – 4.0)	2 year
Mexico	Inflation targeting	2002	3.0 (2.0 – 4.0)	“Medium term”
Peru	Inflation targeting	2006	2.0 (1.0 – 3.0)	Not specified

Notes: in parenthesis is the range of the target. Source: Central Bank of each country, AREAER (IMF)

Three Key Decisions:

- Range
- Why 3% and not 2%?
 - Negative real interest rates
 - Real Exchange Rate Flexibility
- Time horizon

Exchange Rate Arrangements

Country	Arrangement (AREAER)	Arrangement (*)
Argentina	Floating	Exchange rate band (-)
Brazil	Floating	Floating (-)
Chile	Free Floating	Free Floating
Colombia	Floating	Floating (+)
Mexico	Free Floating	Floating (+)
Peru	Floating	Floating (-)

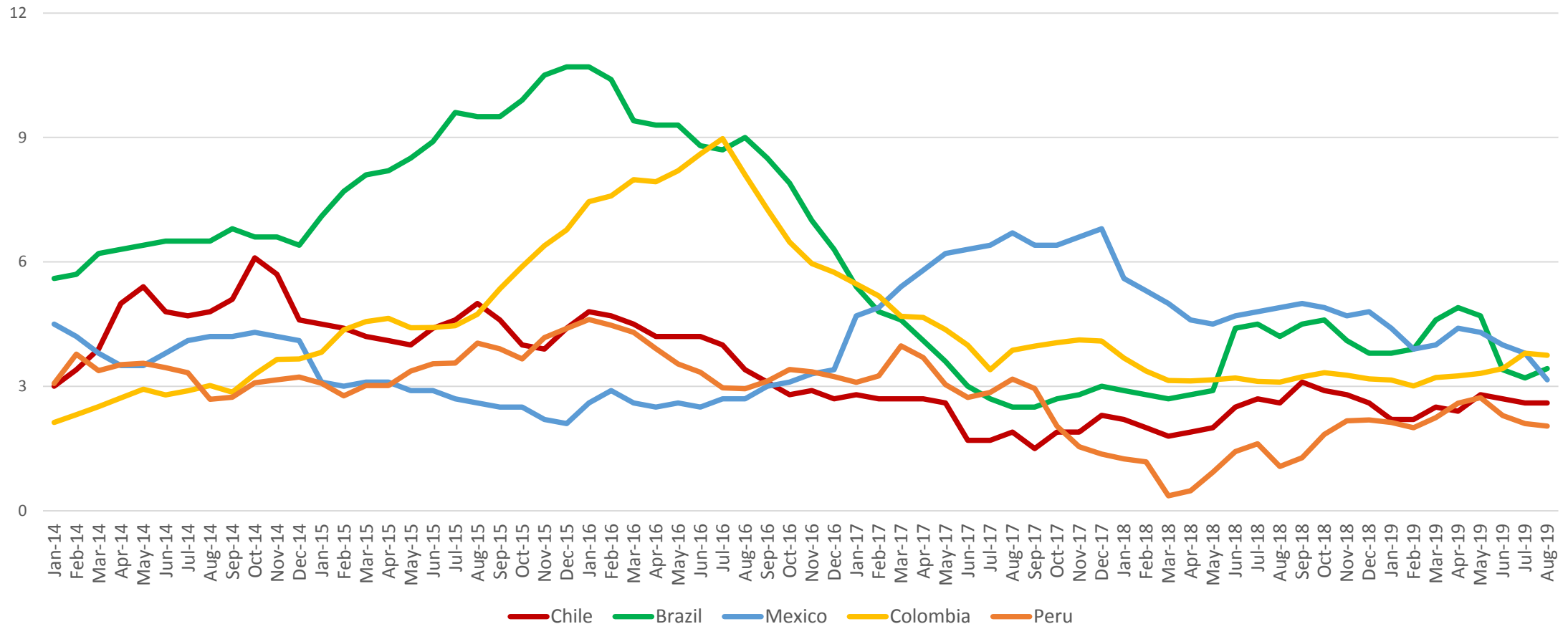
Note: * Classification of my own from evidence of each Central Bank regulation and FX interventions. Source: AREAER (IMF)

Fiscal Policy Arrangements

Country	Fiscal Rules	Fiscal Council?
Argentina	Expenditure and revenue rules (2000-2008)	No
Brazil	Expenditure and debt rules (2000)	No
Chile	Cyclically Adjusted Budget balance rule (2001)	Yes (2014)
Colombia	Expenditure and Cyclically Adjusted Budget balance rules (2000 and 2011)	Yes (2012)
Mexico	Budget balance and expenditure rules (2006 and 2013)	Yes (1998)
Peru	Expenditure, budget balance and debt rules (2000, 2000 and 2013)	Yes (2015)

Source: Fiscal Rules Dataset (IMF), Fiscal Rules at a Glance (IMF), Fiscal Council Dataset (IMF), Schmidt-Hebbel (2017)

Recent Inflation Rates in Latin America (% var. yoy)



Sources: Bloomberg, Central Bank of Chile, Central Bank of Peru, Central Bank of Colombia

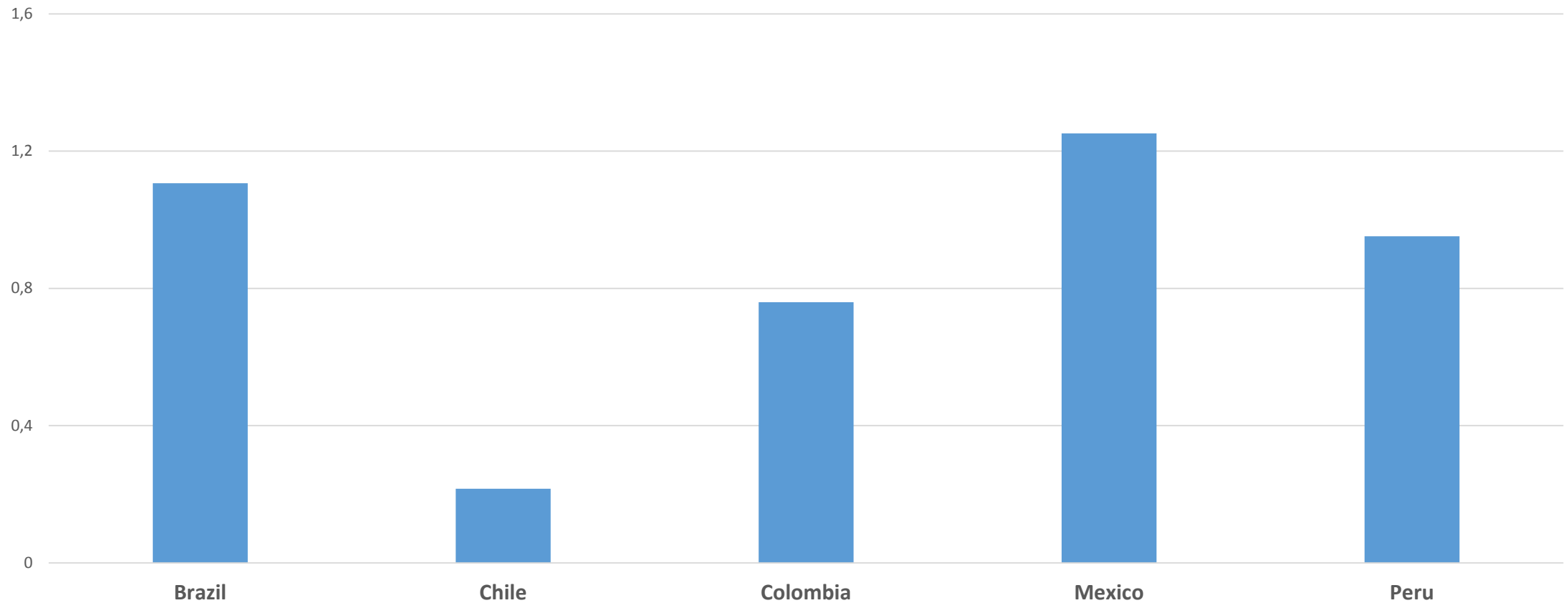
Inflation and Inflation Targets

Country	Inflation target (%)	Range (%)	Implementation year	Avge. inflation rate (%)
Brazil	4.5	2.5 – 6.5	2006	5.61
Chile	3.0	2.0 – 4.0	2001	3.18
Colombia	3.0	2.0 – 4.0	2010	3.76
Mexico	3.0	2.0 – 4.0	2002	4.25
Peru	2.0	1.0 – 3.0	2006	2.95

Notes: Means calculated since the implementation of the current regime. Source: Central Bank of each country, World Economic Outlook (IMF), INDEC

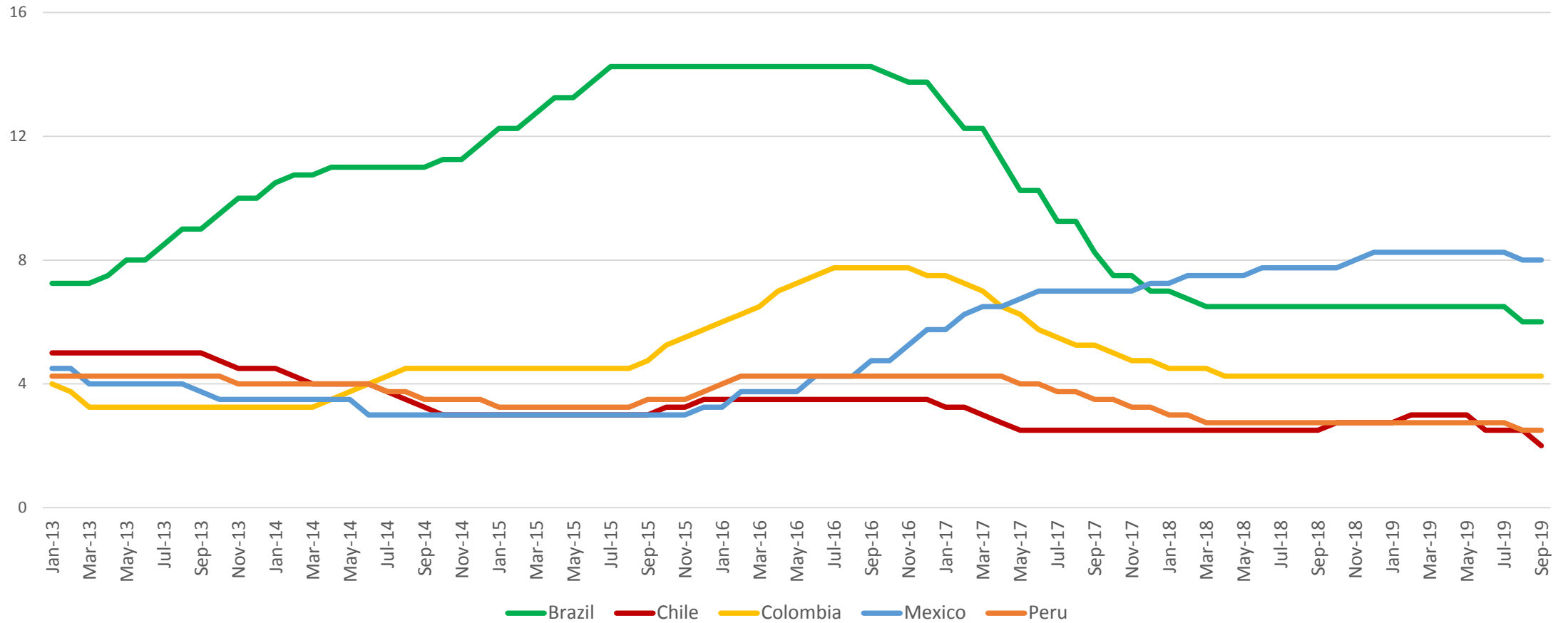
Inflation and Inflation Targets cont.

Difference between target and effective inflation, since target implementation



Source: Central Bank of each country, World Economic Outlook (IMF)

Monetary policy rates



Source: Bloomberg, Central Bank of each country, CBRates

Economic performance: Growth rates

Country	GDP growth	GDP growth volatility	Max - Min
Brazil (2006-2018)	2.1	3.3 [1.57]	11.1
Chile (2001-2018)	3.8	2.2 [0.58]	8.8
Colombia (2010-2018)	3.8	1.8 [0.47]	6.0
Mexico (2002-2018)	2.2	2.3 [1.05]	10.4
Peru (2006-2018)	5.3	2.6 [0.49]	8.1

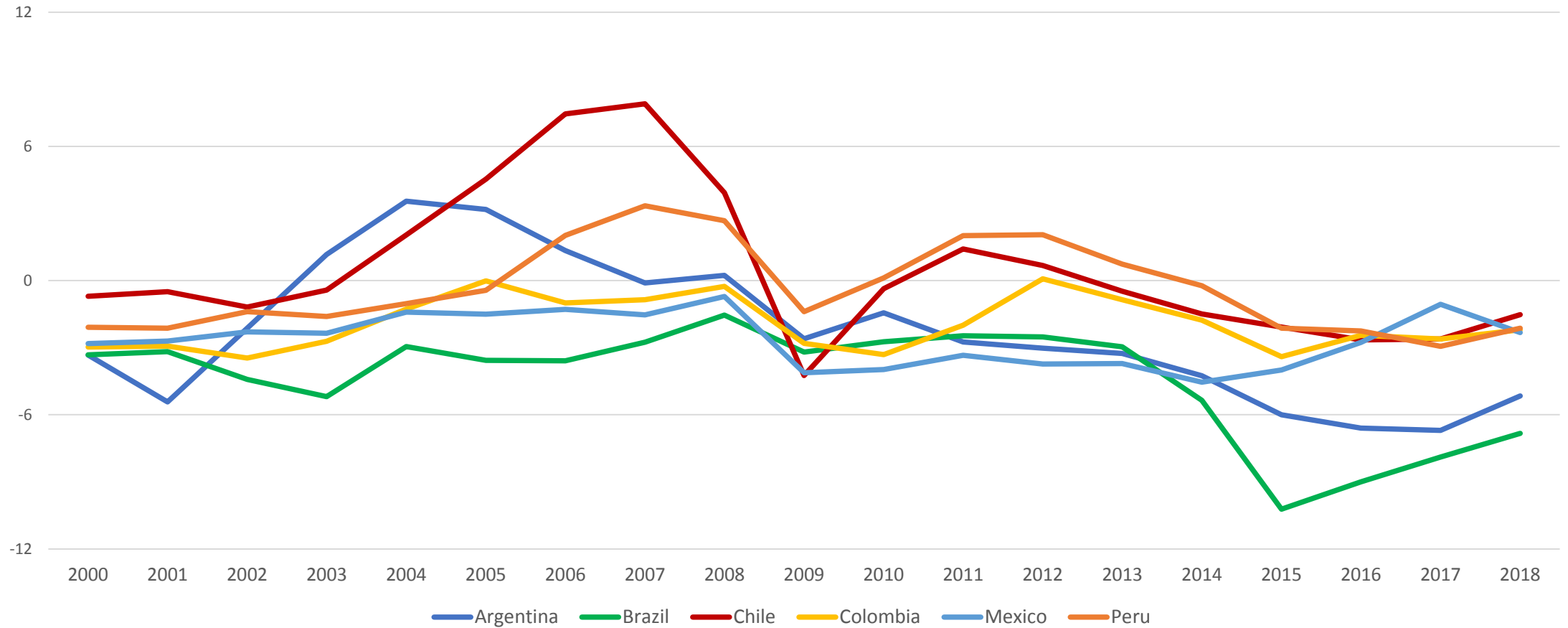
Notes: In parenthesis are the years included for the growth rate and the growth volatility, which are the years since the implementation of the current monetary policy; in square brackets are the relative standard deviations; the mean and volatility were calculated from annual data. Source: World Economic Outlook (IMF)

Economic performance: Growth rates

Country	GDP growth	GDP growth volatility	Max - Min
Argentina (2000-2018)	2.2	6.1 [2.77]	21.0
Brazil (2000-2018)	2.4	2.9 [1.21]	11.1
Chile (2000-2018)	3.9	2.2 [0.56]	8.8
Colombia (2000-2018)	3.8	1.8 [0.47]	6.2
Mexico (2000-2018)	2.2	2.4 [1.09]	10.4
Peru (2000-2018)	4.9	2.5 [0.51]	8.5

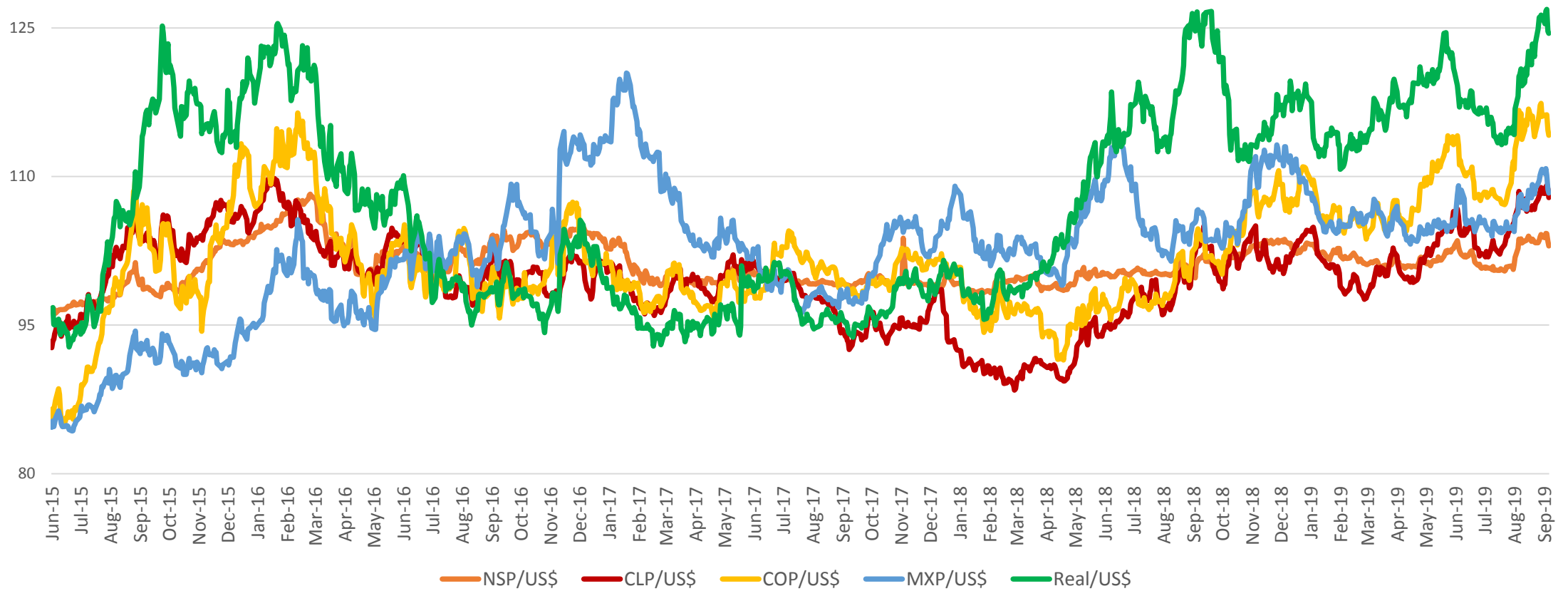
Notes: In parenthesis are the years included for the growth and the growth volatility; in square brackets are the relative standard deviation; the mean and volatility were calculated from annual data. Source: World Economic Outlook (IMF)

Economic performance: Fiscal Balance (% of GDP)



Source: World Economic Outlook (IMF)

NER Index



Notes: 100 correspond to the mean value for June of 2017. Source: Central Bank of Chile

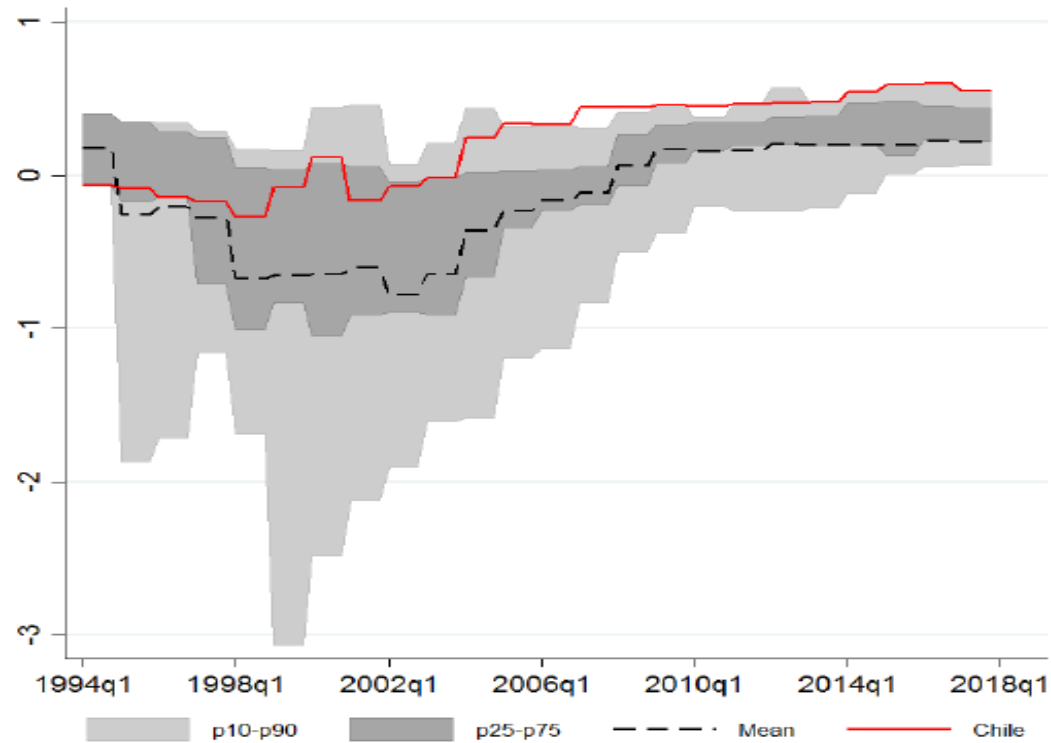
Case study: Chile

Chile: Macro Policy Framework

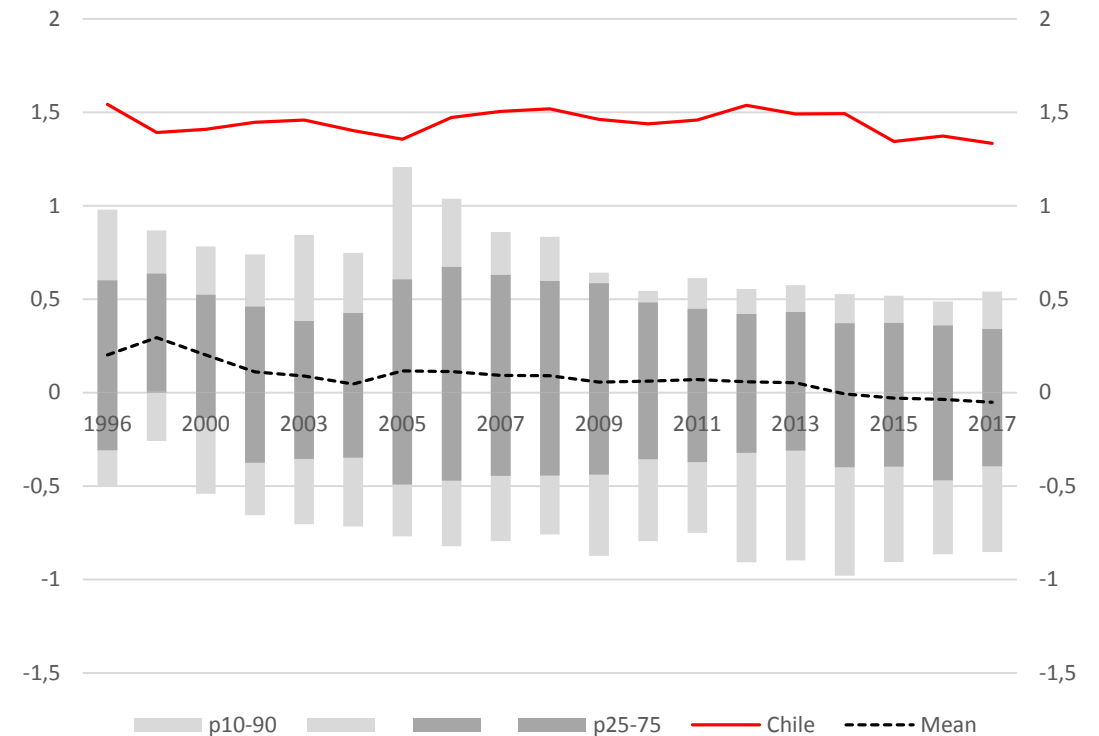
- Independent central bank with a flexible inflation targeting
- Fiscal Rule
- Free Floating FX
 - The Exchange rate as the shock absorber
- Adequate regulation and supervision of the financial system.

Chile: CB credibility and regulatory quality

Central Bank credibility

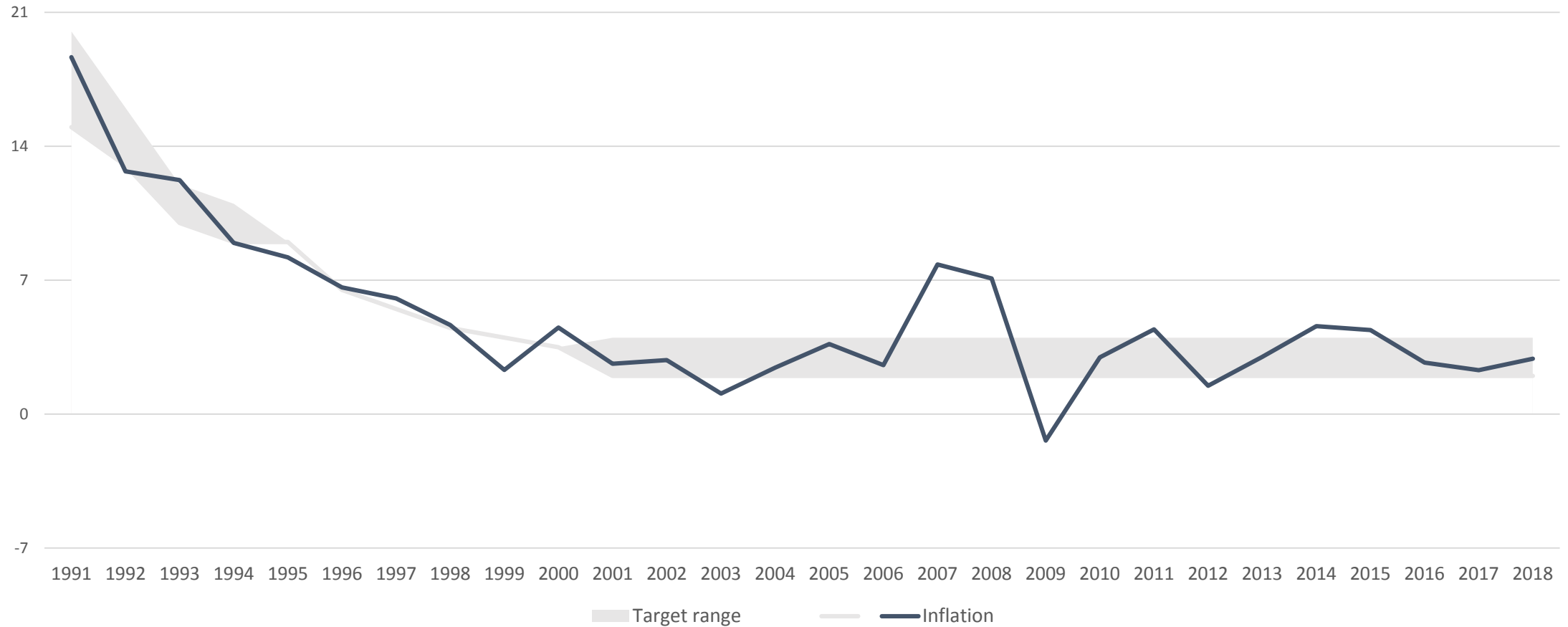


Regulatory quality



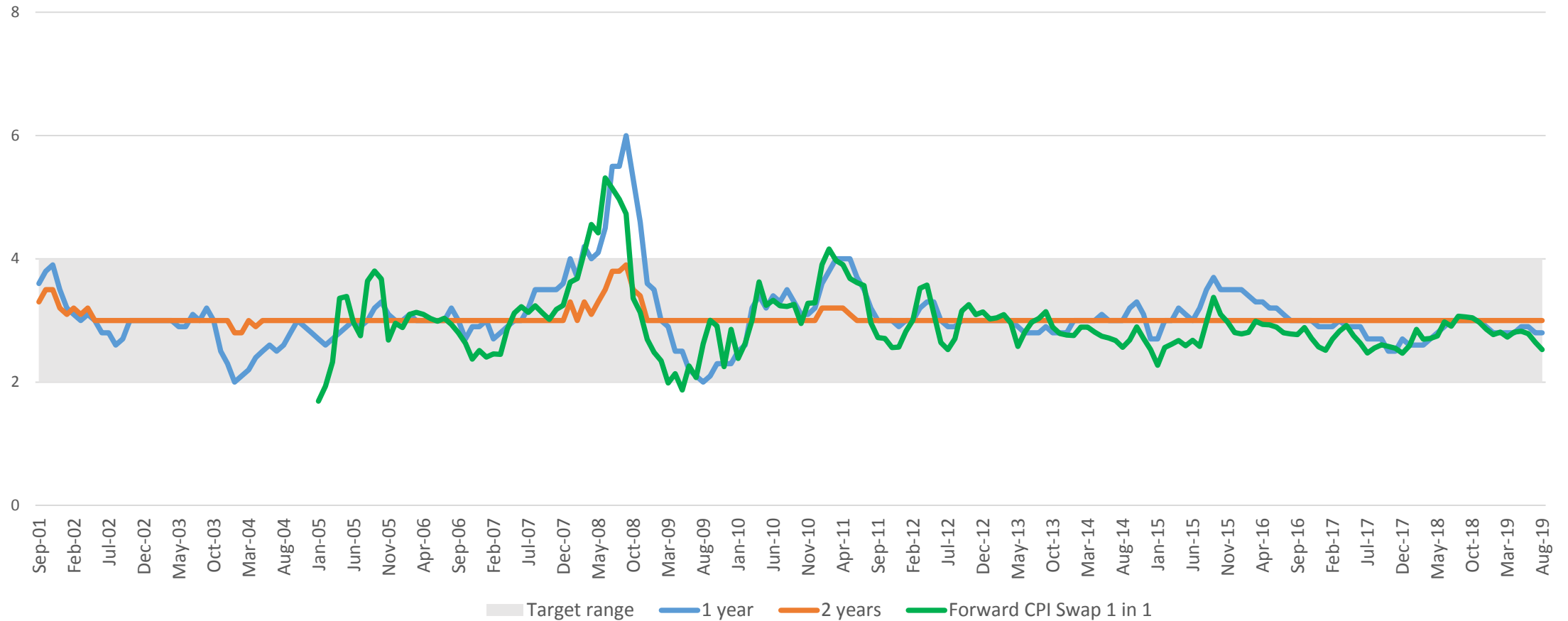
Note: The lhs panel includes emerging economies; the rhs panel includes LATAM countries. Source: Albagli et al (2019), Bems et al (2018), World Governance Indicators (World Bank)

Chile: Historical inflation performance



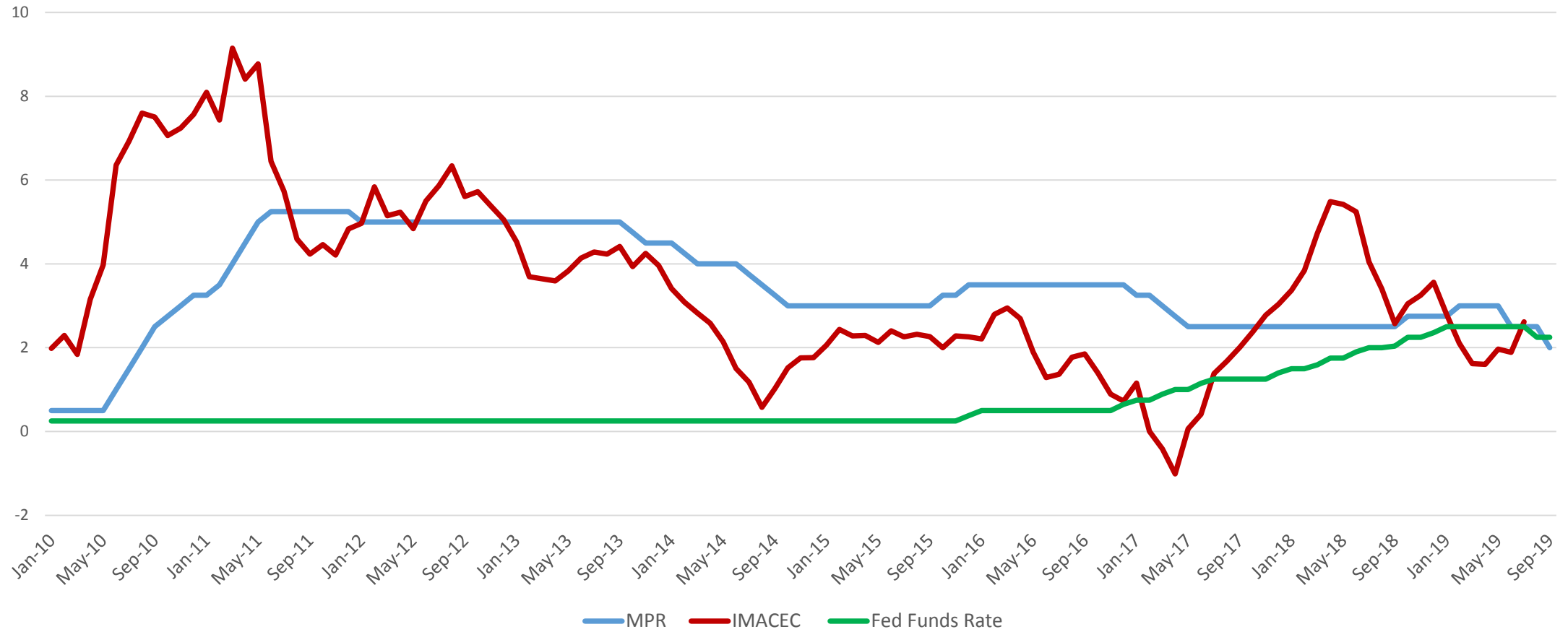
Source: Central Bank of Chile, Vergara (2018)

Chile: Inflation expectations



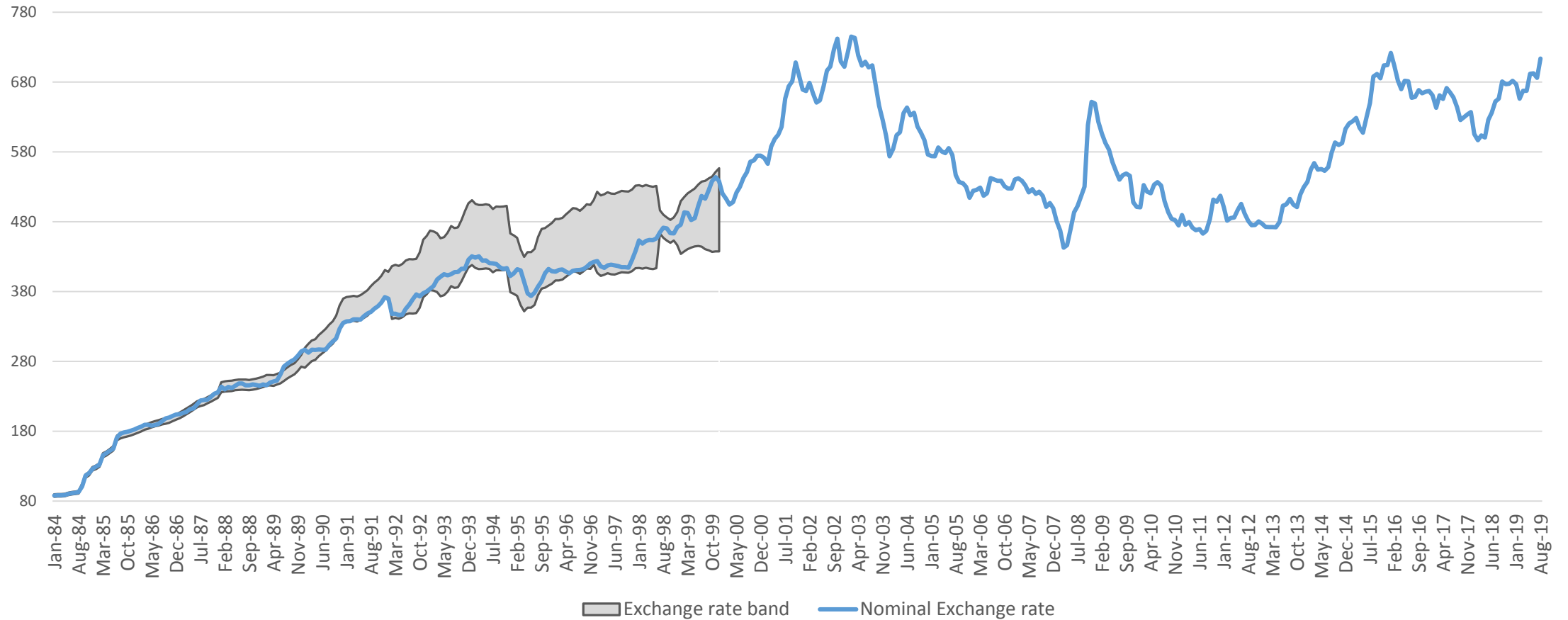
Source: Central Bank of Chile, Vergara (2018)

Chile: MPR, FFR and ec. activity



Notes: IMACEC series correspond to the 12 months variation for not seasonally adjusted and moving averages data. Source: Central Bank of Chile

Chile: NER history

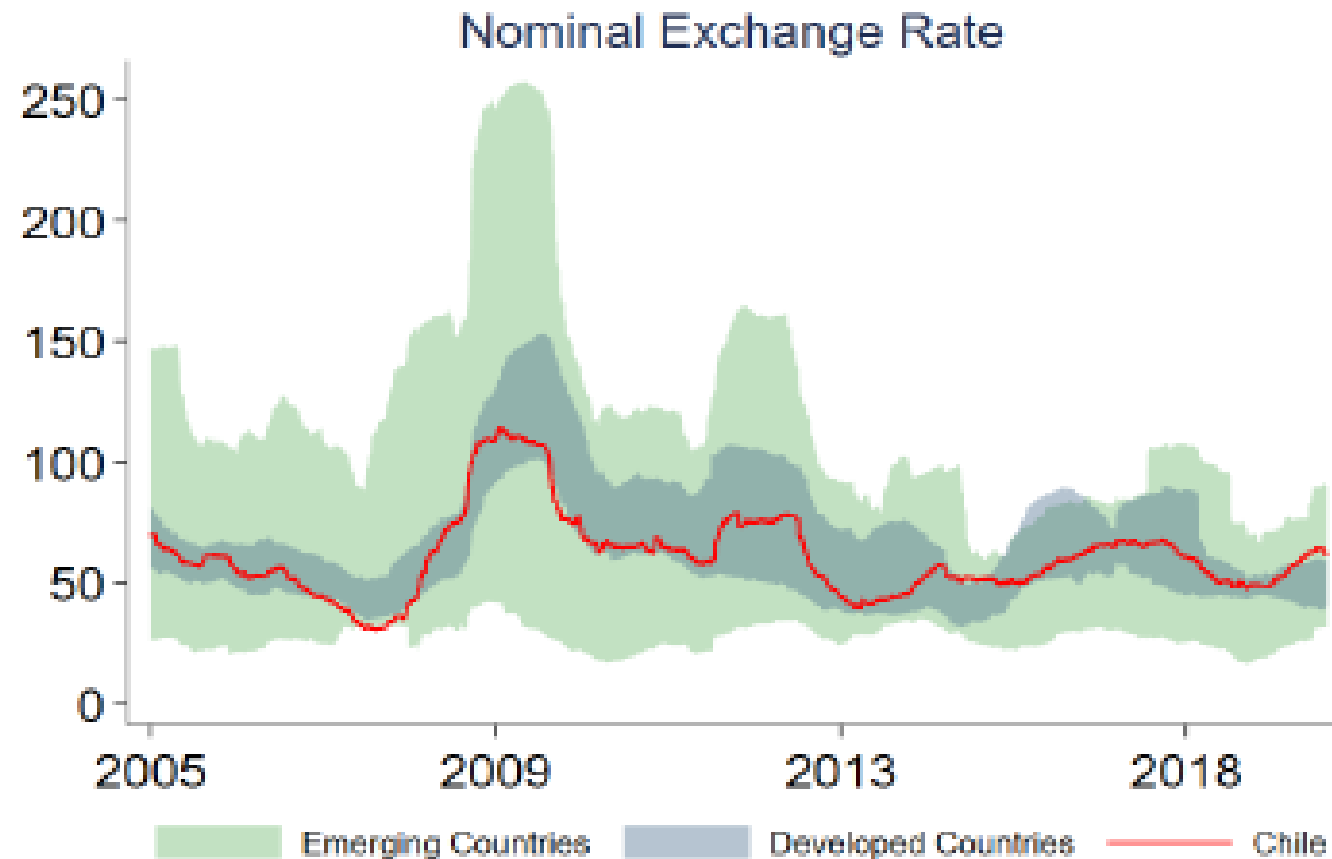


Source: Central Bank of Chile, Vergara(1994), Rojas (2000), Frankel et al. (2000)

Some of the potential costs of floating:

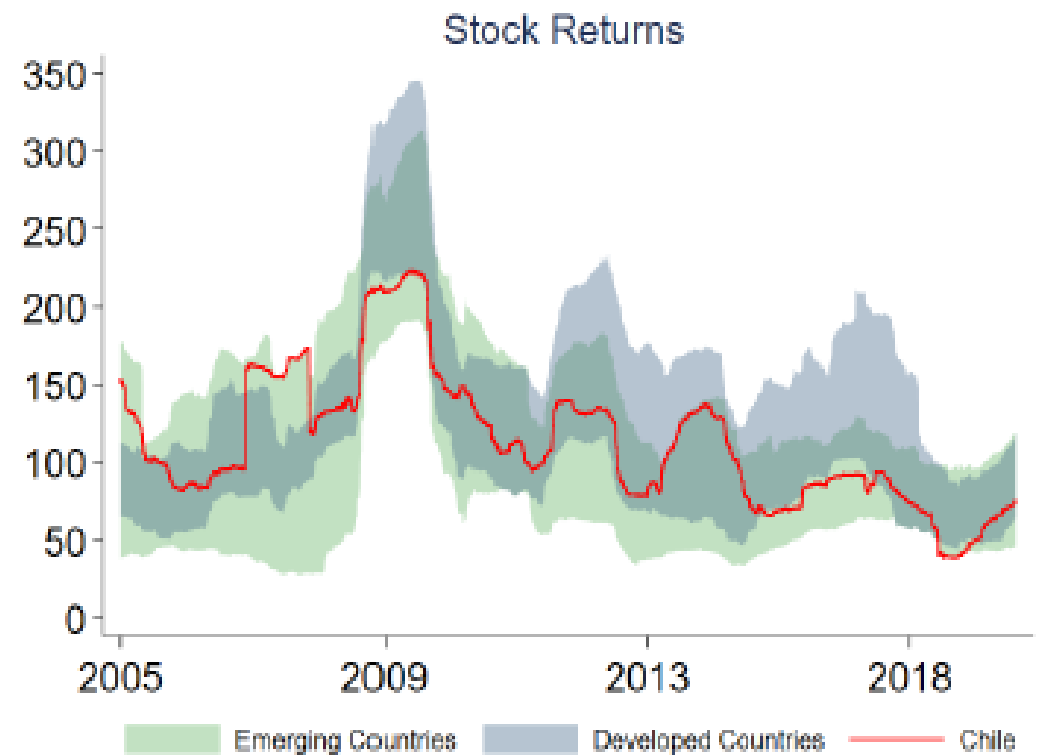
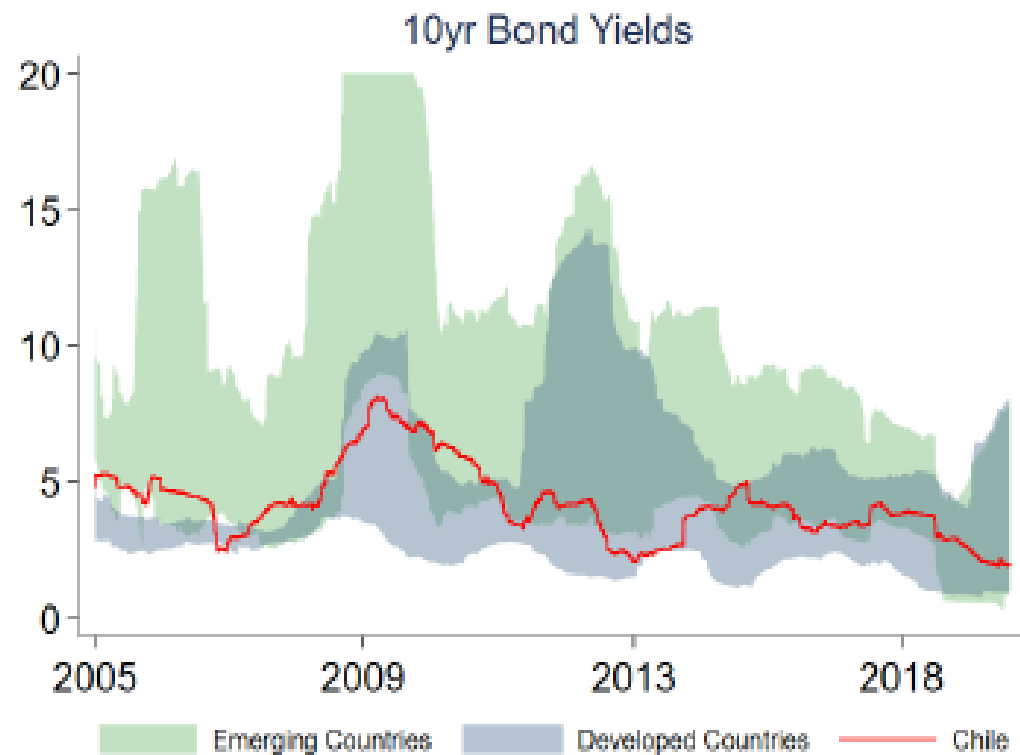
- Volatility of the ER itself
- FX denominated debt. Dollarization.
- Inflation: Exchange rate pass-through

Chile: NER volatility



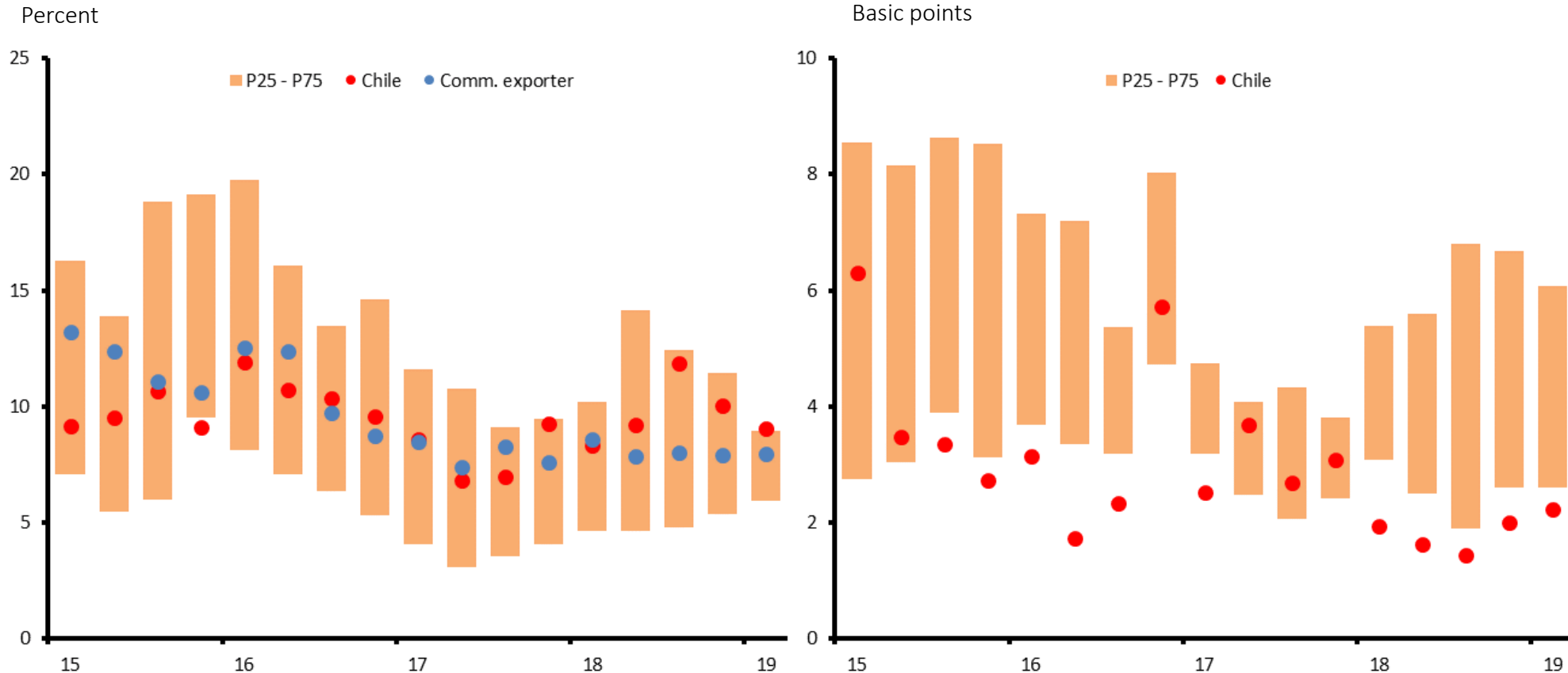
Notes: Volatility defined as twelve months rolling window of daily volatility (changes in basis points). Developed countries: Canada, France, Germany, Italy, Japan, Norway, Sweden, Switzerland, Czech Republic, and United Kingdom. Emerging countries: Chile, Hungary, India, Indonesia, Israel, Korea, Mexico, Poland, South Africa, Taiwan, and Thailand. Source: Albagli et al (2019)

Chile: bond yields and stock returns volatility



Notes: Volatility defined as twelve months rolling window of daily volatility (changes in basis points). Developed countries: Canada, France, Germany, Italy, Japan, Norway, Sweden, Switzerland, Czech Republic, and United Kingdom. Emerging countries: Chile, Hungary, India, Indonesia, Israel, Korea, Mexico, Poland, South Africa, Taiwan, and Thailand. Source: Albagli et al (2019)

ER and 10 year interest rates volatility



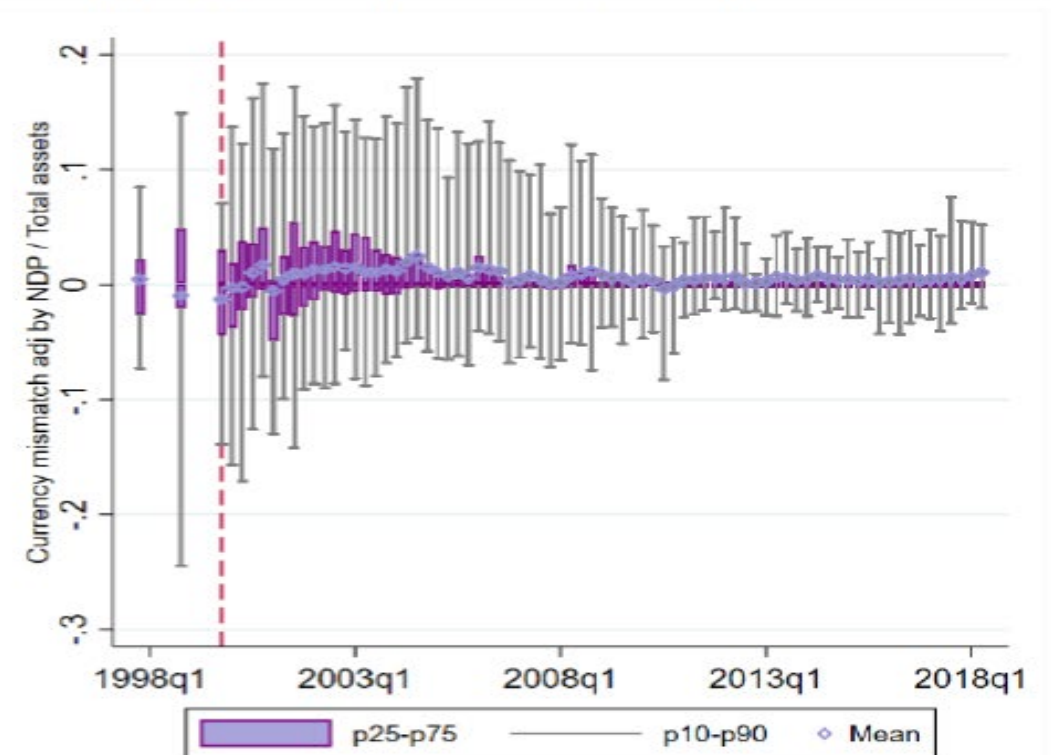
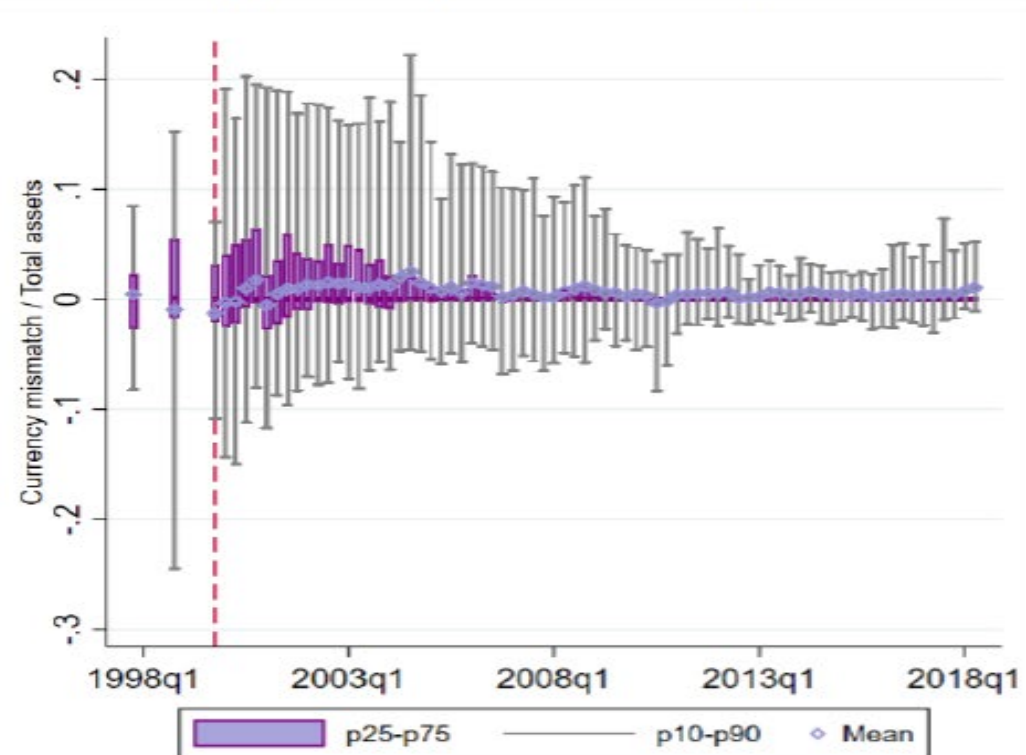
Notes: The lft panel shows the volatility of the year on year exchange rate variation, and the rhs panel the deviation of the daily change in rates. The sample includes Brazil, China, Colombia, Hungary, India, Indonesia, Malaysia, Mexico, Peru Poland, Russia and Turkey. Commodity exporters includes Australia, Canada, New Zealand and Norway. Source: Central Bank of Chile (2019)

Chile: Currency exposure in non-financial firms

Evolution of balance sheet net currency exposure in supervised firms
(USD liabilities – USD assets, as a fraction of total assets)

(a) Non-adjusted mismatch

(b) Adjusted by net derivative position



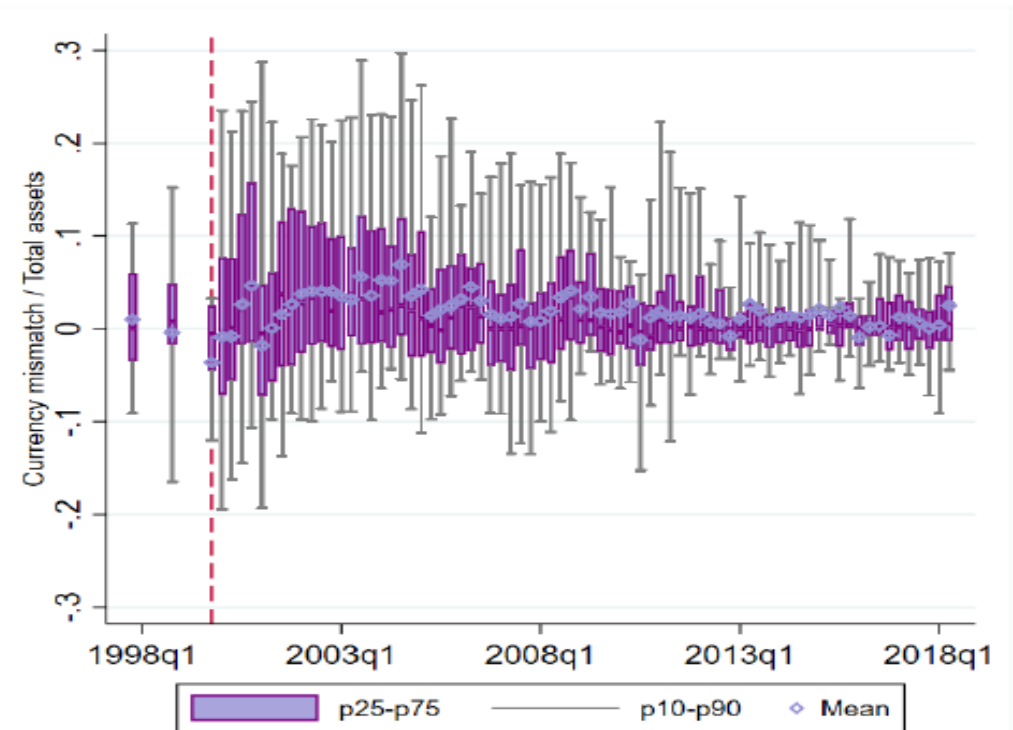
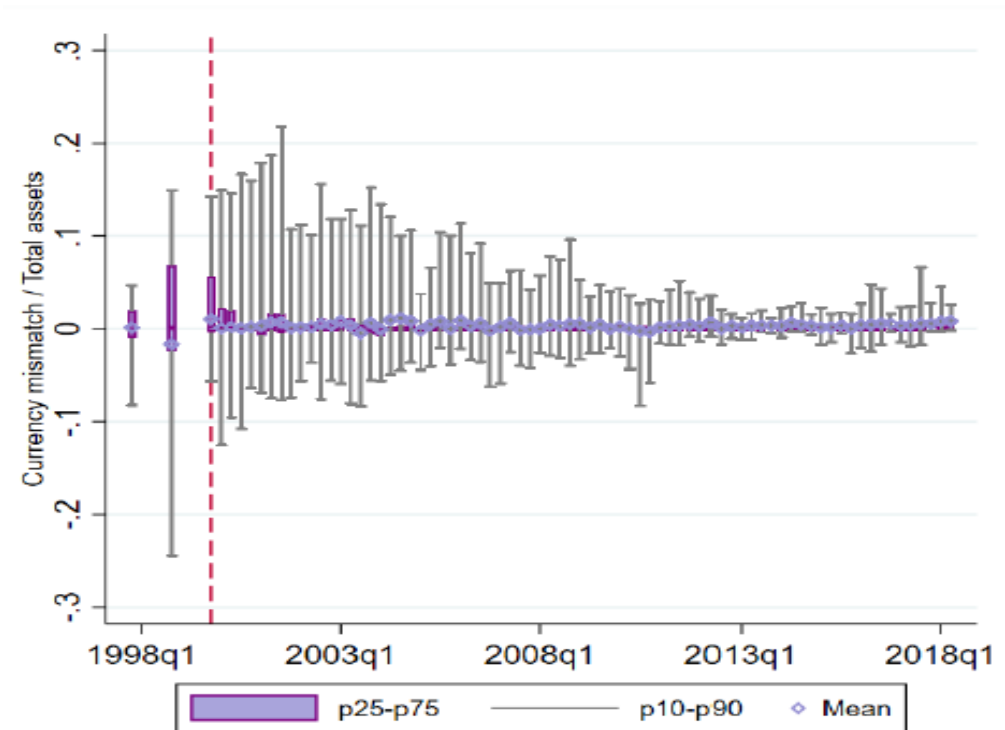
Source: Albagli et al (2019), Central Bank of Chile, Financial Market Commission of Chile

Chile: Currency exposure in non-financial firms

Evolution of balance sheet net currency exposure in supervised firms
(USD liabilities – USD assets, as a fraction of total assets)

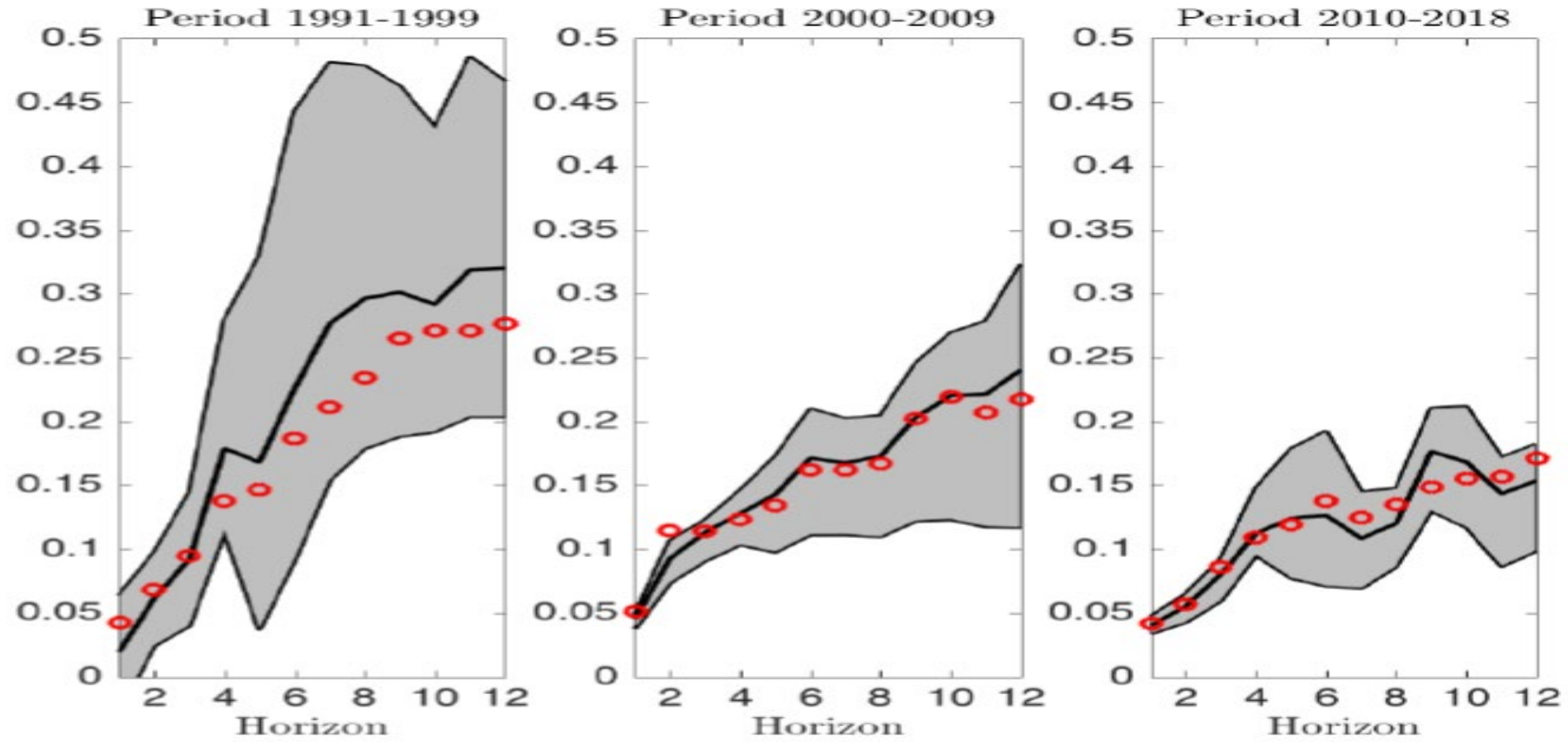
(a) Domestically-oriented

(b) Participate in international trade



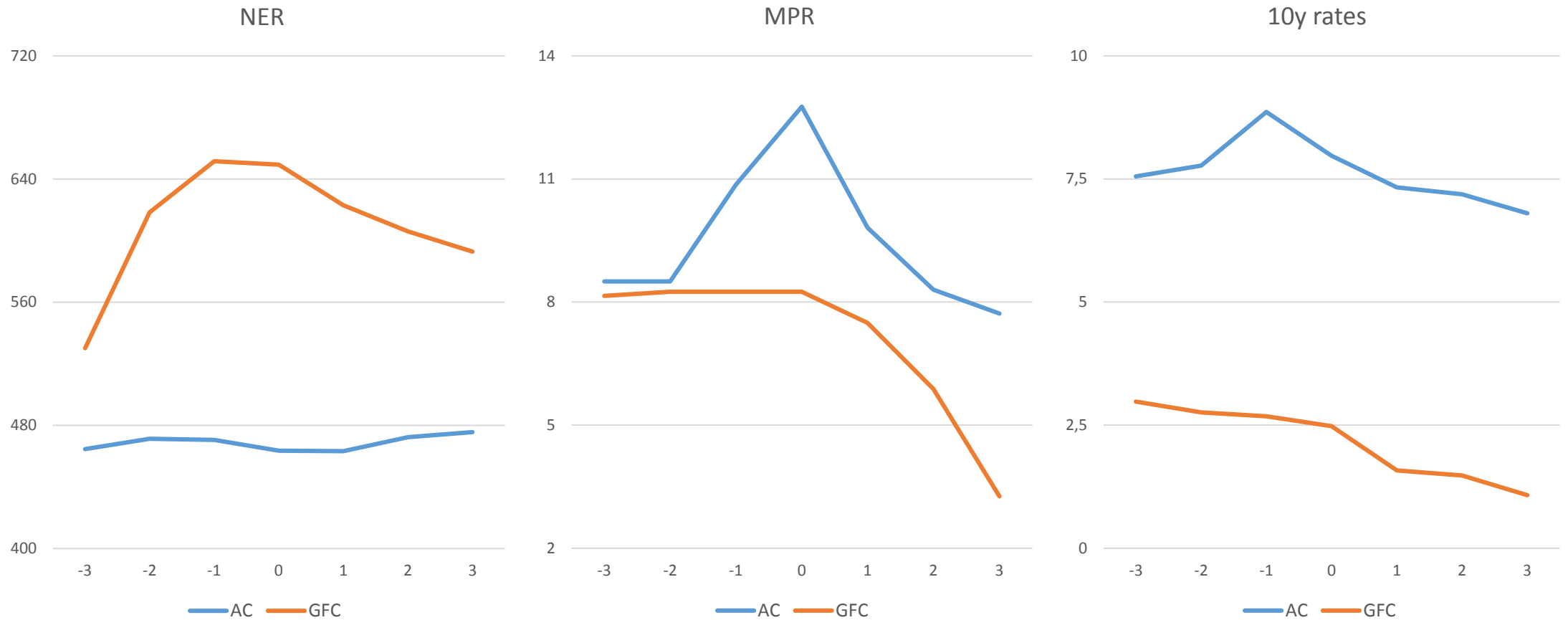
Source: Albagli et al (2019), Central Bank of Chile, Financial Market Commission of Chile

Chile: ER Pass Through



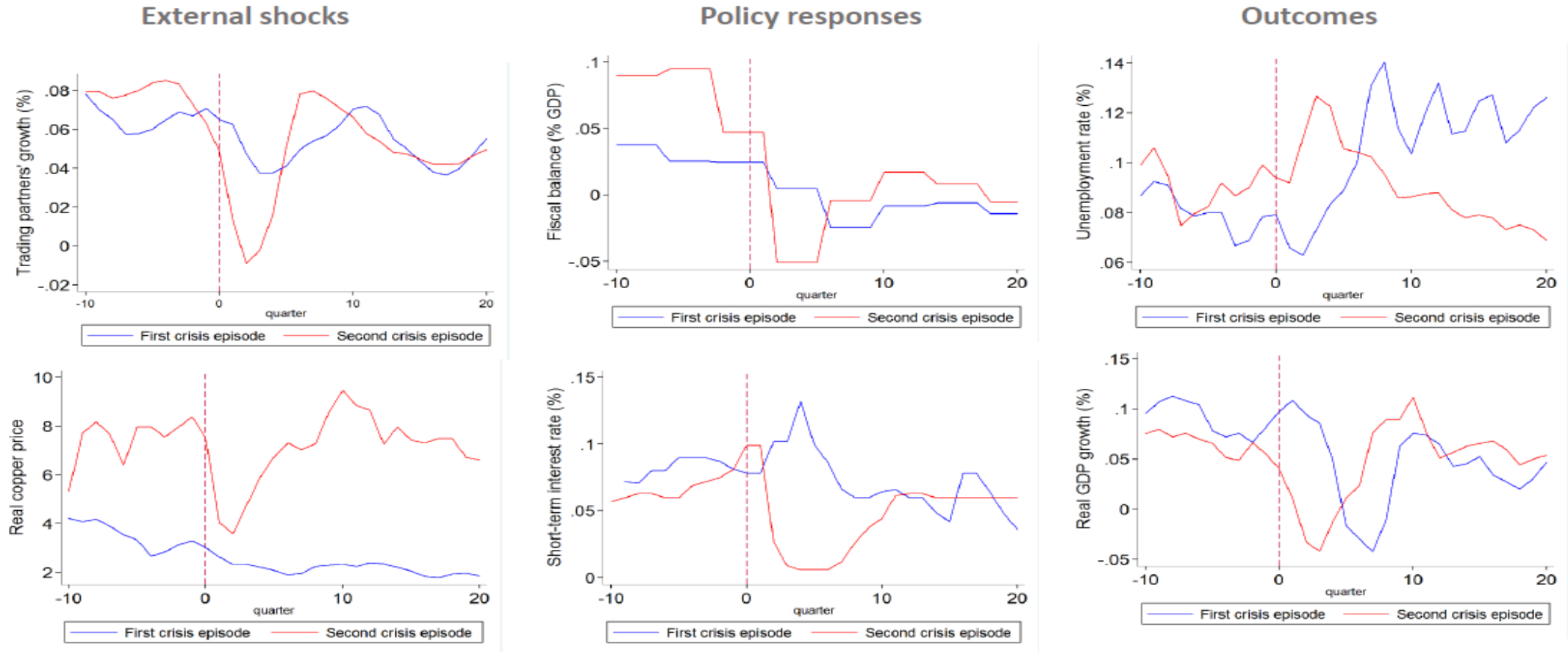
Notes: Gray area is the interquartile range of Bootstrap exercise; black line is the median; and the red dots are the complete sample estimations. Source: Albagli et al (2019), Central Bank of Chile

Chile: Tale of two crises



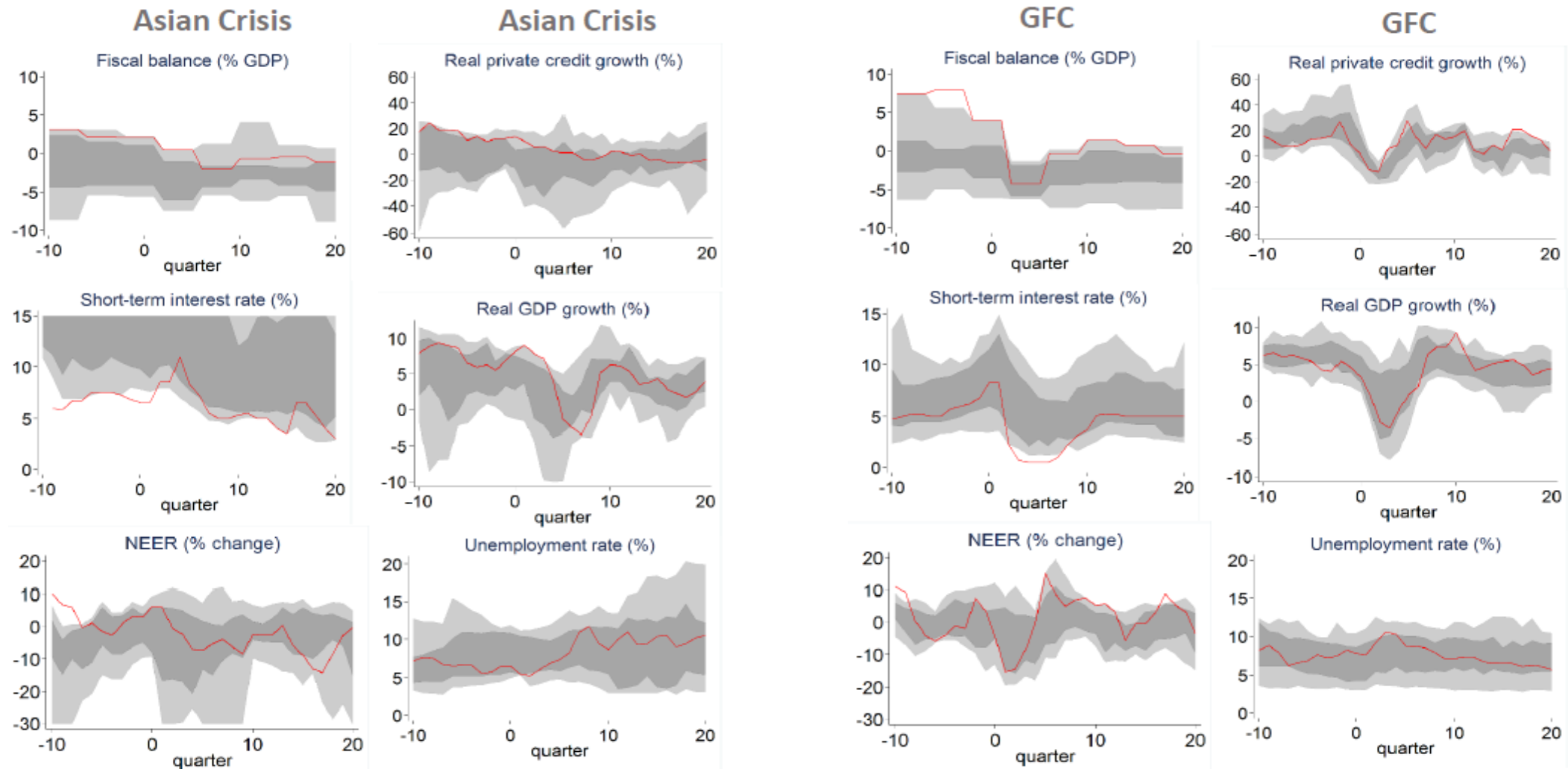
Notes: the 0 point correspond to october 1998 in the case of the Asian Crisis (AC), and to december 2008 for the Global Financial Crisis (GFC); monthly data. Source: Central Bank of Chile

Chile: Performance in the last two crises



Notes: First crisis episode correspond to the Asian/Russia Crisis (1997-1998), and the second crisis episode to the Global Financial Crisis (2008-2009). Source: Albagli et al (2019), Central Bank of Chile

Chile: Performance in the last two crises



Notes: Group of comparison includes Argentina, Brazil, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Iran, Korea, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Thailand, Turkey, Uruguay and Vietnam. Source: Albagli et al (2019)

Conclusion:

- Free floating has worked for Chile. The Exchange rate as a shock absorber has proven efficient.
- Is this a general conclusión?
 - Example: Peru.

Monetary Policy in Selected Latin American Countries

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