

Fiscal Policy and Fiscal Rules in Peru: Evaluation and Reform Proposals

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Ciclo de conferencias

Universidad del Pacífico

Webinar, November 5, 2021

In memory of Renzo Rossini

- Renzo Rossini was an outstanding economist and a wonderful person
- Renzo devoted most of his professional life to the Banco Central de Reserva del Perú, as driving force of modernization of its monetary policy and of the central bank at large
- He was a very respected policy maker in Latin America
- Renzo's first-rate research has focused on monetary policy in dollarized economies, the role of FX interventions and international reserves in limiting exchange-rate volatility, and the requirement of fiscal solvency for conducting effective monetary policy under inflation targeting
- He also proposed adoption of a fiscal rule based on a structural fiscal balance – which is what I propose for Peru here
- I met and worked with Renzo very often during the last 25 years, benefiting from his professional insights and enjoying his kind personality
- I dedicate this presentation to Renzo Rossini's memory

Outline

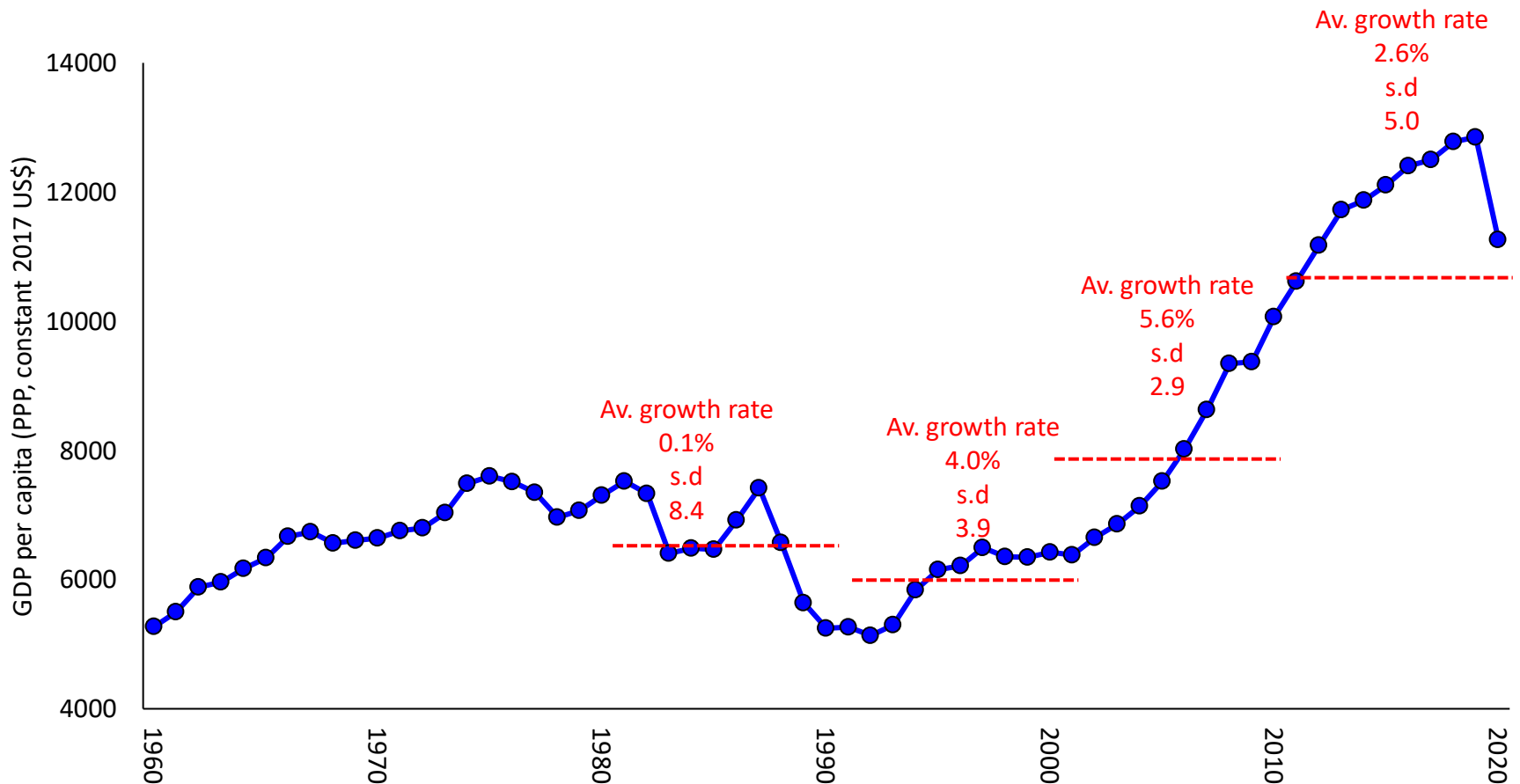
1. Peru's Macroeconomic Developments
2. Evolution of Peru's Institutional Framework for Fiscal Policy and Fiscal Rules
3. Peru's Fiscal Performance Under the Rules
4. Quantitative Evaluation of Fiscal Behavior in Peru – and in Chile and Colombia
5. Fiscal Reform Proposals for Peru
6. Conclusions

1. Peru's Macroeconomic Developments

Introduction

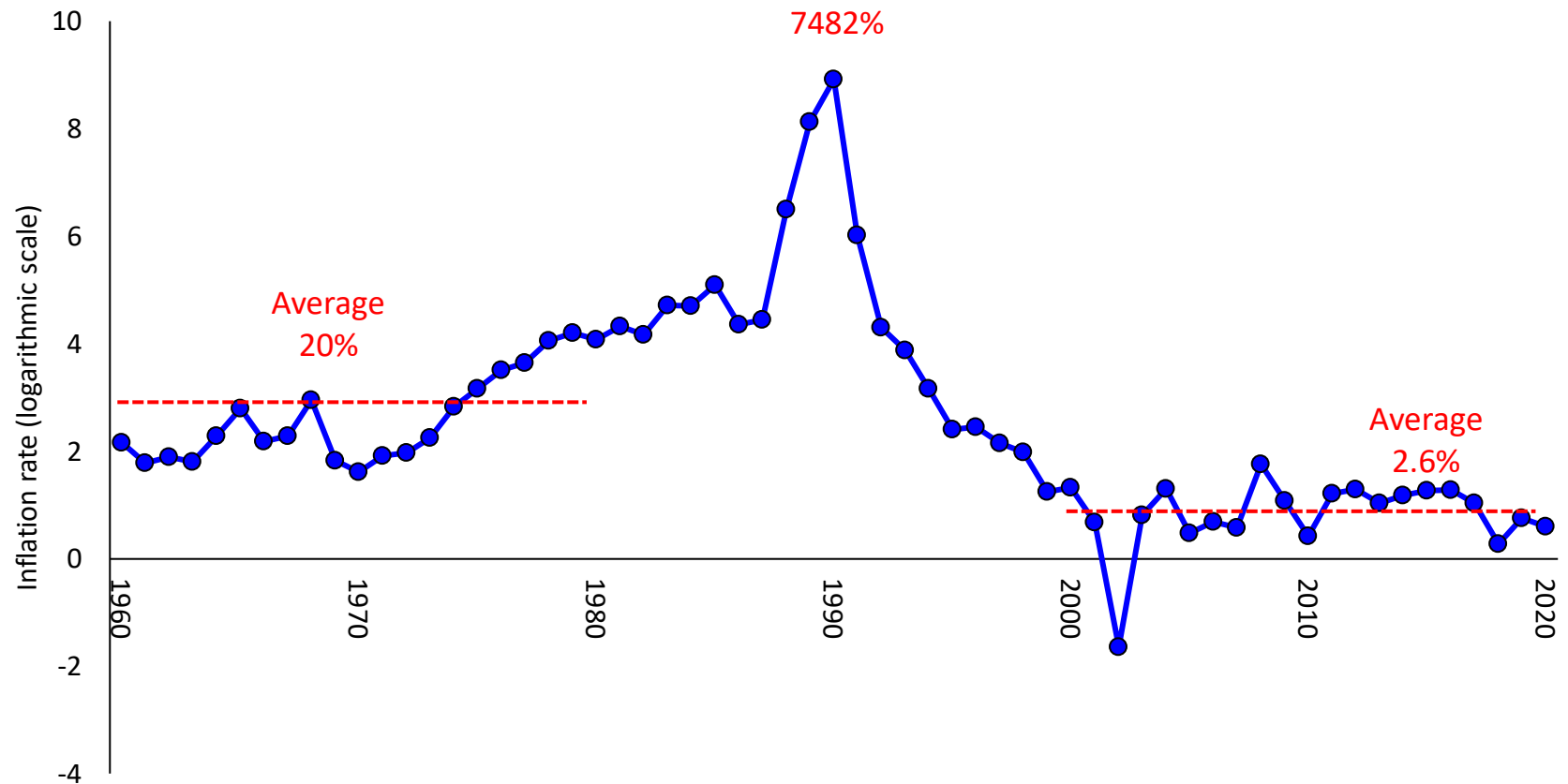
- Developed **fiscal** framework: based on several fiscal institutions that contribute **to fiscal and macro performance**
- Fiscal rules: key building block of frontier fiscal institutions
- Covid19: assessing Peru's experience is timely
- This presentation focuses on three closely related issues:
 - Evolution of the fiscal framework
 - Empirical assessment of hypotheses on the cyclical behavior and the sustainability of key fiscal variables
 - Policy proposals for improvements of the fiscal framework and of policy rules

From low and unstable to higher and sustained growth



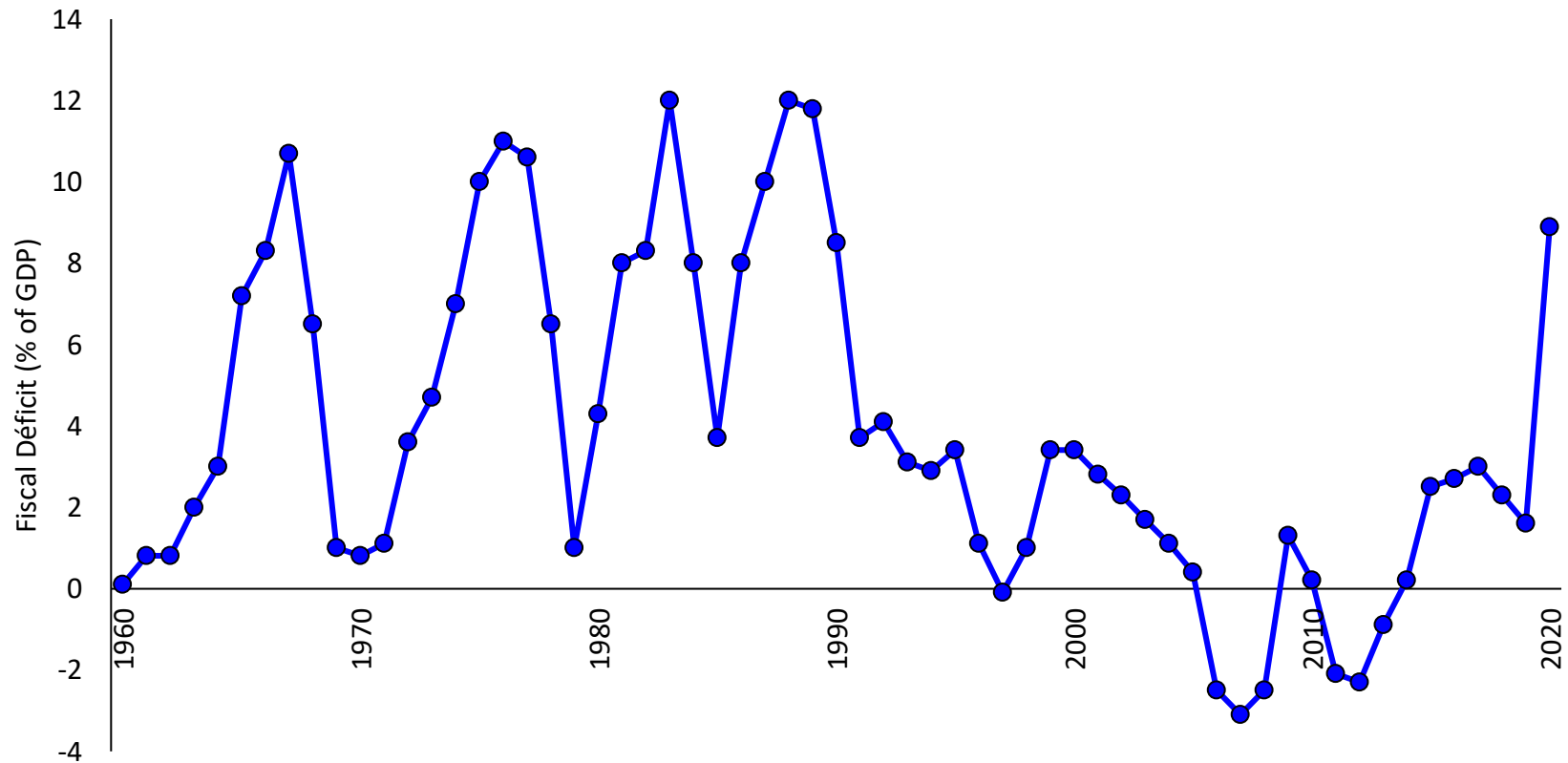
Source: Fred Database.

From hyperinflation to price stability



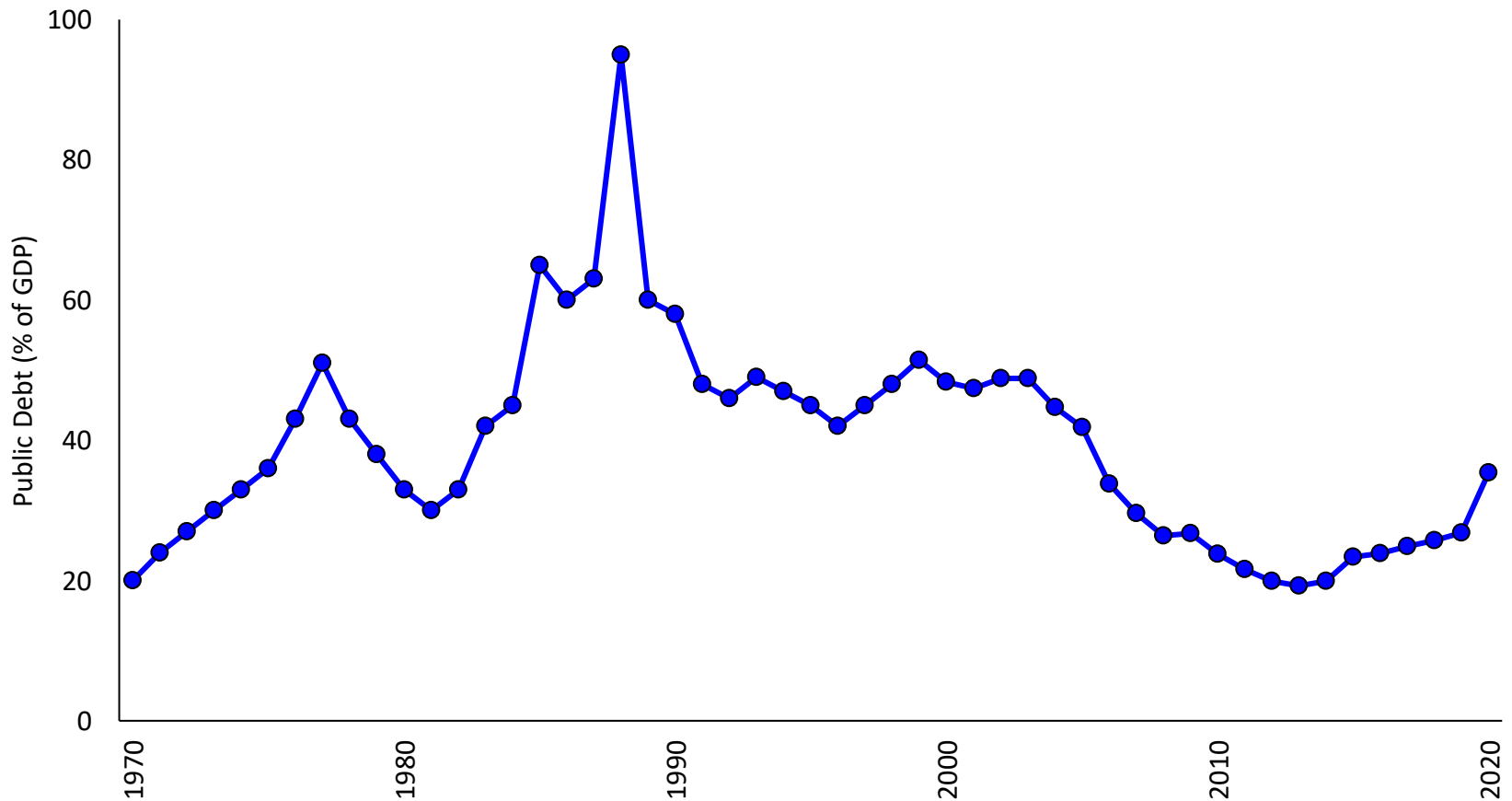
Source: Fred Database.

From large and volatile fiscal deficits to low deficits



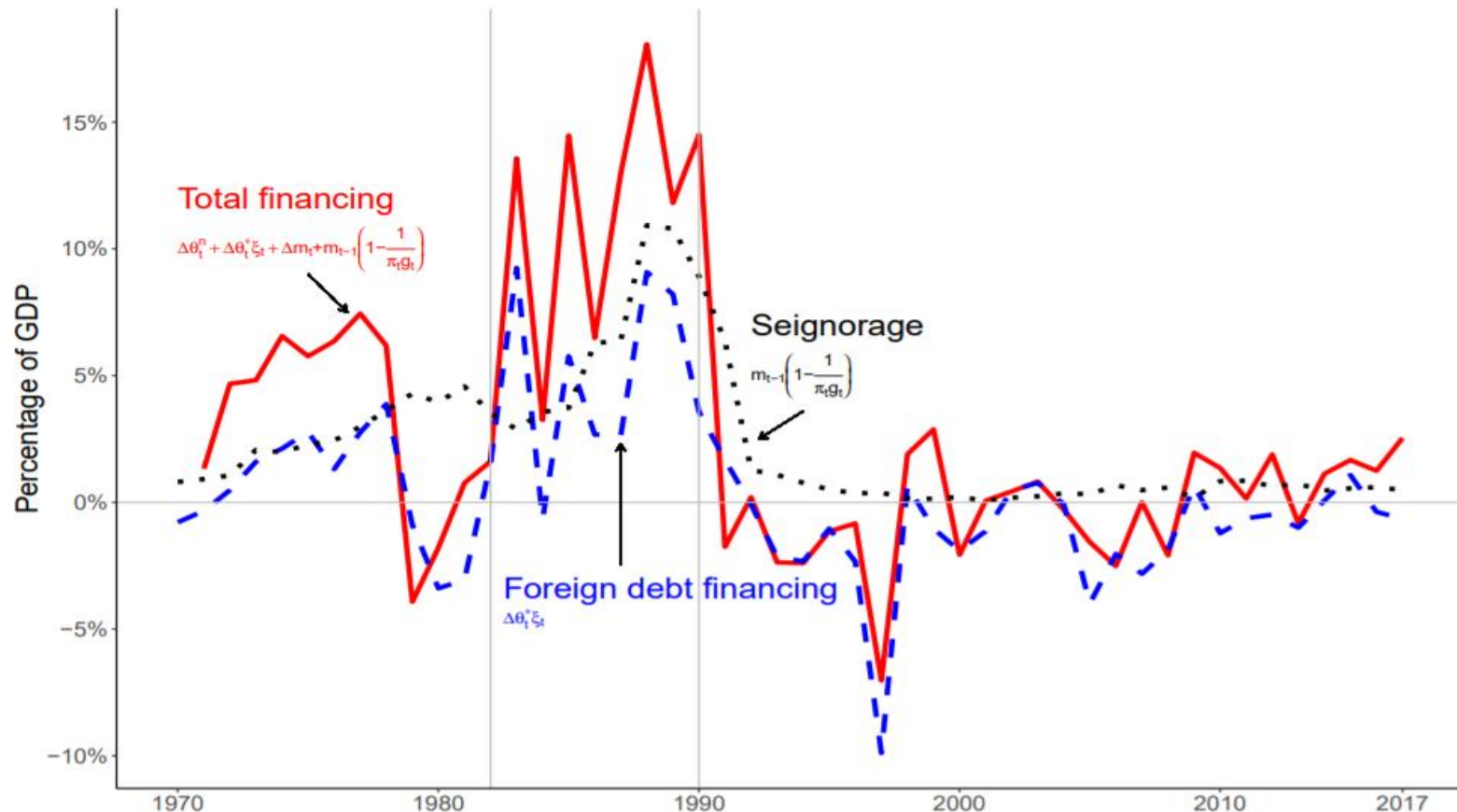
Sources: BCRP and Martinelli and Vega (2018).

From high to lower public debt



Sources: BCRP and Martinelli and Vega (2018).

From high to low government financing through seigniorage and foreign debt



Source: Martinelli and Vega (2018).

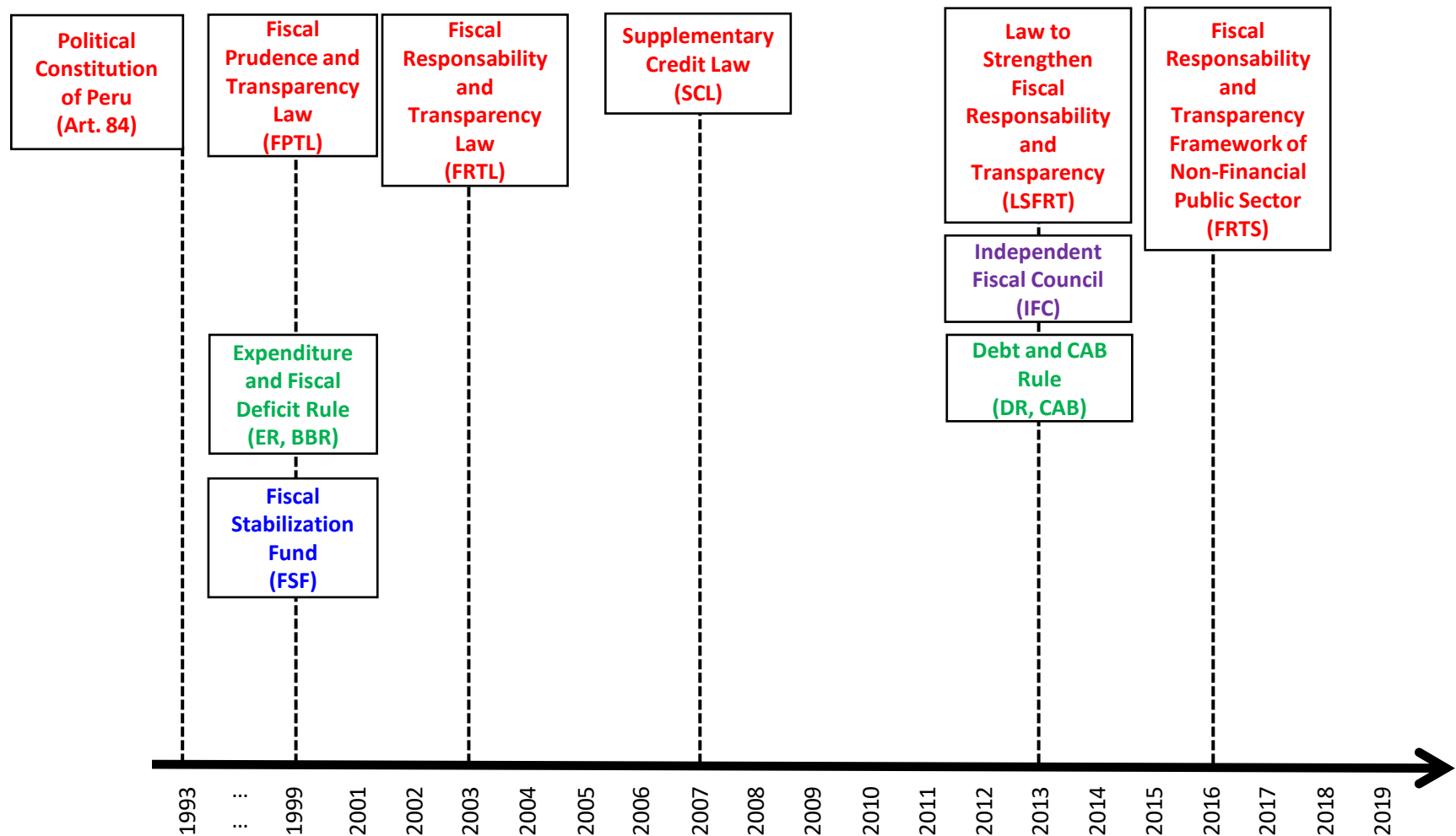
2. Evolution of Peru's Institutional Framework for Fiscal Policy and Fiscal Rules



Since the 1990's Peru's Government has implemented many fiscal reforms

- 1990 **Macroeconomic stabilization package**
- 1993 **Political Constitution** outlaws central bank loans to the government
- 1999 **Fiscal Prudence and Transparency Law (FPTL)**, including **sovereign wealth fund**
- 1999 **expenditure rule** and **budget-balance rule**
- 2013 **debt rule** and **cyclically-adjusted balance rule**
- 2013 **Law to Strengthen Fiscal Responsibility and Transparency (LSFRT)**, including **Independent Fiscal Council**

Development of Peru's Institutional Framework for Fiscal Policy



Peru's Main Fiscal Laws

Fiscal Law	Year	Description
Fiscal Prudence and Responsibility Law (FPRL)	1999	Established a BBR (a limit on the fiscal deficit of the Consolidated Public Sector and a limit on public indebtedness) and an ER (a limit to the growth of non-financial expenditure of the General Government) Adopted a sovereign wealth fund : the Fiscal Stabilization Fund (FSF) Established a Multiannual Macroeconomic Framework (MMF)
Base Law of Decentralization (BLD)	2002	Regional governments can assume external indebtedness only with the guarantee of the Central Government Established fiscal rules at a subnational level
Fiscal Responsibility and Transparency Law (FRTL)	2003	Use the concept of consolidated public sector over to non-financial public sector Incorporates aspects considered in the BLD (i.e., incorporates regional development plans in the MMF) Changes some funding rules of the FSF Raises the target value of the expenditure rule
Law to Strengthen Fiscal Responsibility and Transparency (LSFRT)	2013	Applied to the national government (For 2015 and 2016) Established a CAB rule and a DR Established an Independent Fiscal Council (IFC)

Comments on Peru's First Generation Fiscal Rules (1999's rules)

- The adoption of fiscal rules was **attaining fiscal surpluses during good times and only moderate deficits during adverse times** (Liendo, 2015)
- **Peru's adoption of fiscal rules was earlier than what the world evidence suggests about** preconditions in place when fiscal rules are adopted (Schmidt-Hebbel and Soto 2017)
- Both 1999 rules exhibited potentially problematic features:
 - the **BBR is procyclical while the ER is acyclical**
 - rules and their **parameters were modified frequently and sometimes their application was suspended**
- Both fiscal rules had **escape clauses** in order to allow for more flexible fiscal management in times of emergencies or crises

Implementation of a CAB rule, replacing the BB

- The LSFRT set a CAB rule in 2015 (decided in 2013) for the non-financial public sector CAB deficit at 1% of GDP
- The CAB rule **defined the cyclically-adjusted (CA) revenue components of non-main commodity revenue and from mining and hydrocarbons revenue**
- This is a **partial application of the PIH to government expenditure**, setting a target level for the CA Deficit
- In contrast to Chile and Colombia's single CAP rules, Peru's **is more consistent with a PIH by adding a DR to the CAB rule**: feedback effects from the government's financial position to expenditure
- Due to problems in technical capabilities and communication, **the CAB rule was abandoned in 2016, maintaining the DR**

Peru's Fiscal Rules Escape Clauses: to a more flexible management in crises

- **ER and BBR escape clauses**

- In periods of national emergency or international crisis or when there is sufficient evidence that real GDP is declining or could decline in the following fiscal year, and at the request of the government, Congress could suspend compliance with fiscal rules
- Escape clauses were modified by the 2003 FRTL law, which established that the rules can be suspended for up to three years with subsequent annual reductions of 0.5% of GDP.
- The 2013 LSFRT established escape clauses for regional governments: if regional governments face natural disasters or in the event that higher expenditure is presented to regional governments

- **DR escape clauses**

- In cases of financial volatility and as long as the other rules are complied with, public debt could exhibit a temporary deviation of no more than 4% of GDP

Peru's Sovereign Wealth Fund: the Fiscal Stabilization Fund (FSF)

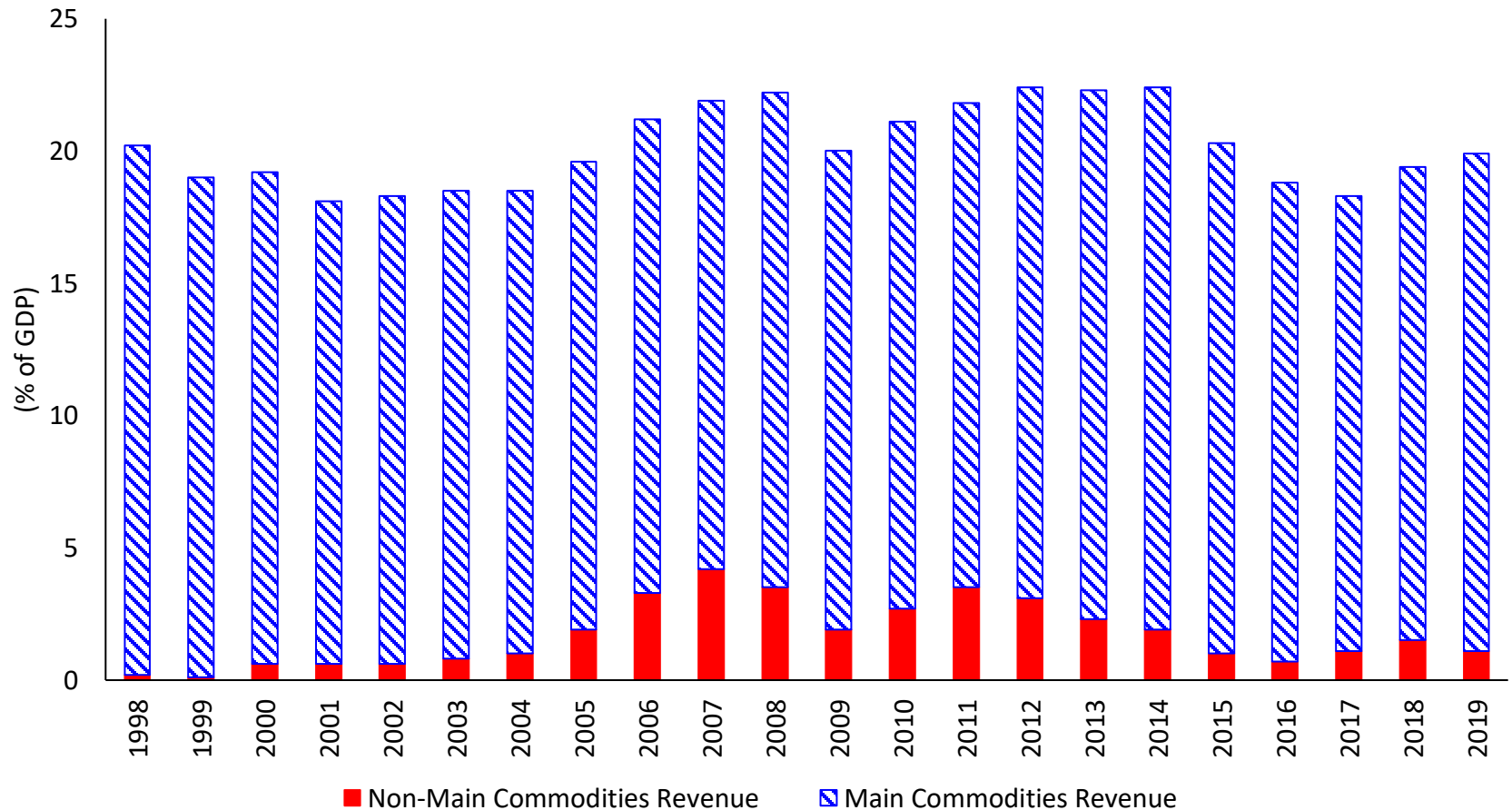
- FSF is funded by extraordinary current revenue, a share of income from concessions, and a share of privatization proceeds
 - *Art.7. Any excess in the amount of current income beyond 0.3% of GDP, 75% of the cash revenue of asset sales from privatization, except the resources allocated to the National Public Savings Fund, and 50% of cash income from concessions*
- FSF resources can be used in financing expenditure when lower revenue is projected, when real GDP is declining or under conditions of a national emergency or international crisis
 - *Art. 8. When an expected decline in current income exceeds 0.3% of GDP, an amount equivalent to the reduction in income and up to 40% of the fund's resources can be used*
 - *Art. 7.2. Cumulative savings of the FSF may not exceed 3% of GDP. Any additional income will be deposited in the Consolidated Pension Reserve Fund or will be used to reduce public debt*

Peru's 2013 Independent Fiscal Council

- IFC's objective is to **contribute to the independent technical analysis of macro-fiscal policy and strengthen transparency and the institutional framework of management of public finances**
- IFC's task is to **contribute to transparency of public finance management**, by conducting independent technical analysis of macro fiscal policy. IFC publishes its opinion on methodologies and assumptions used in macroeconomic projections and on government compliance with fiscal rules
- IFC is financed by the **budget of the Ministry of Economy and Finance**
- Council is comprised by **no less than three members appointed by Supreme Resolution**, on a proposal and with endorsement of the Minister of Economy and Finance

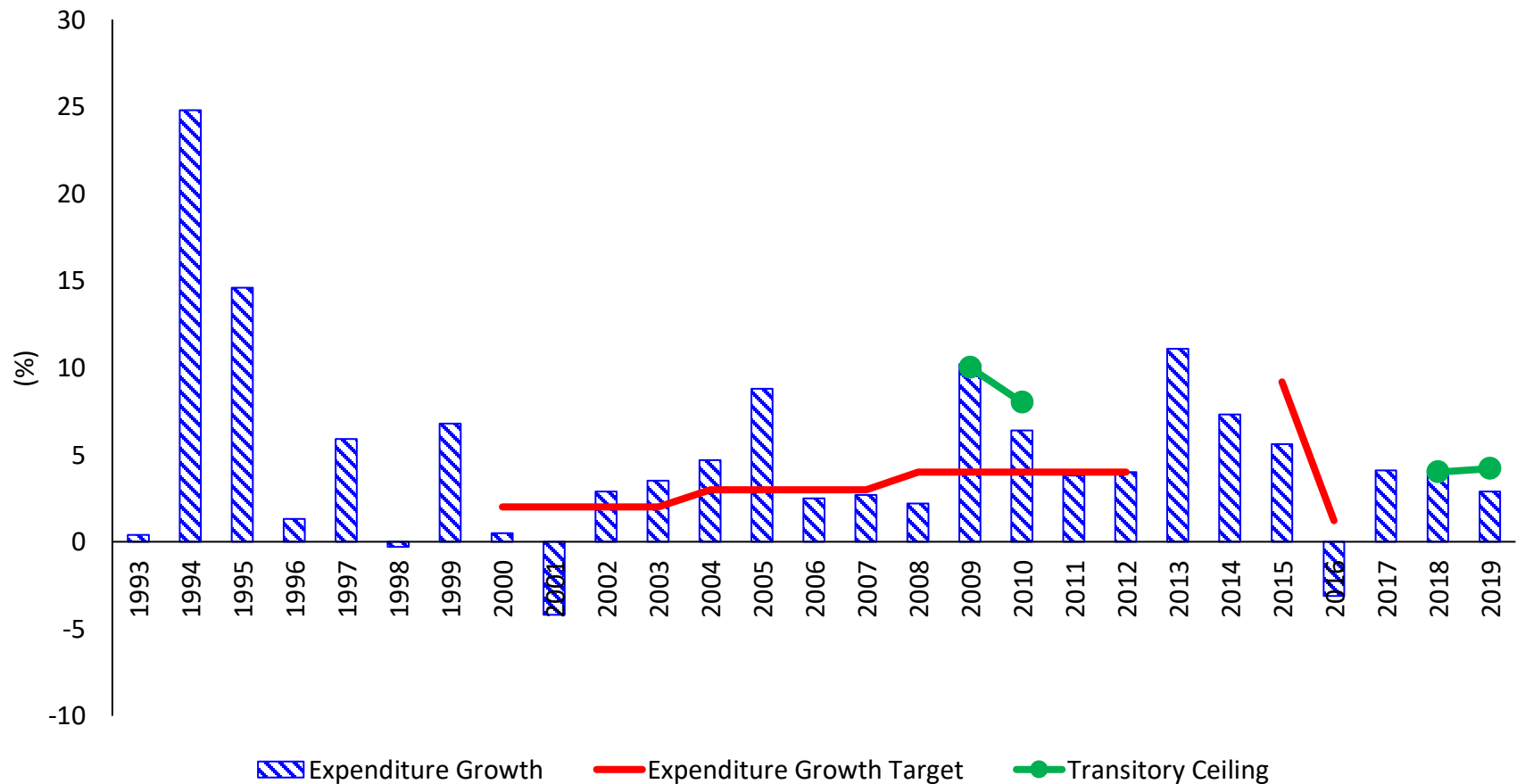
3. Peru's Fiscal Performance under the Rules

Government Main-commodities and Non-commodities Revenue



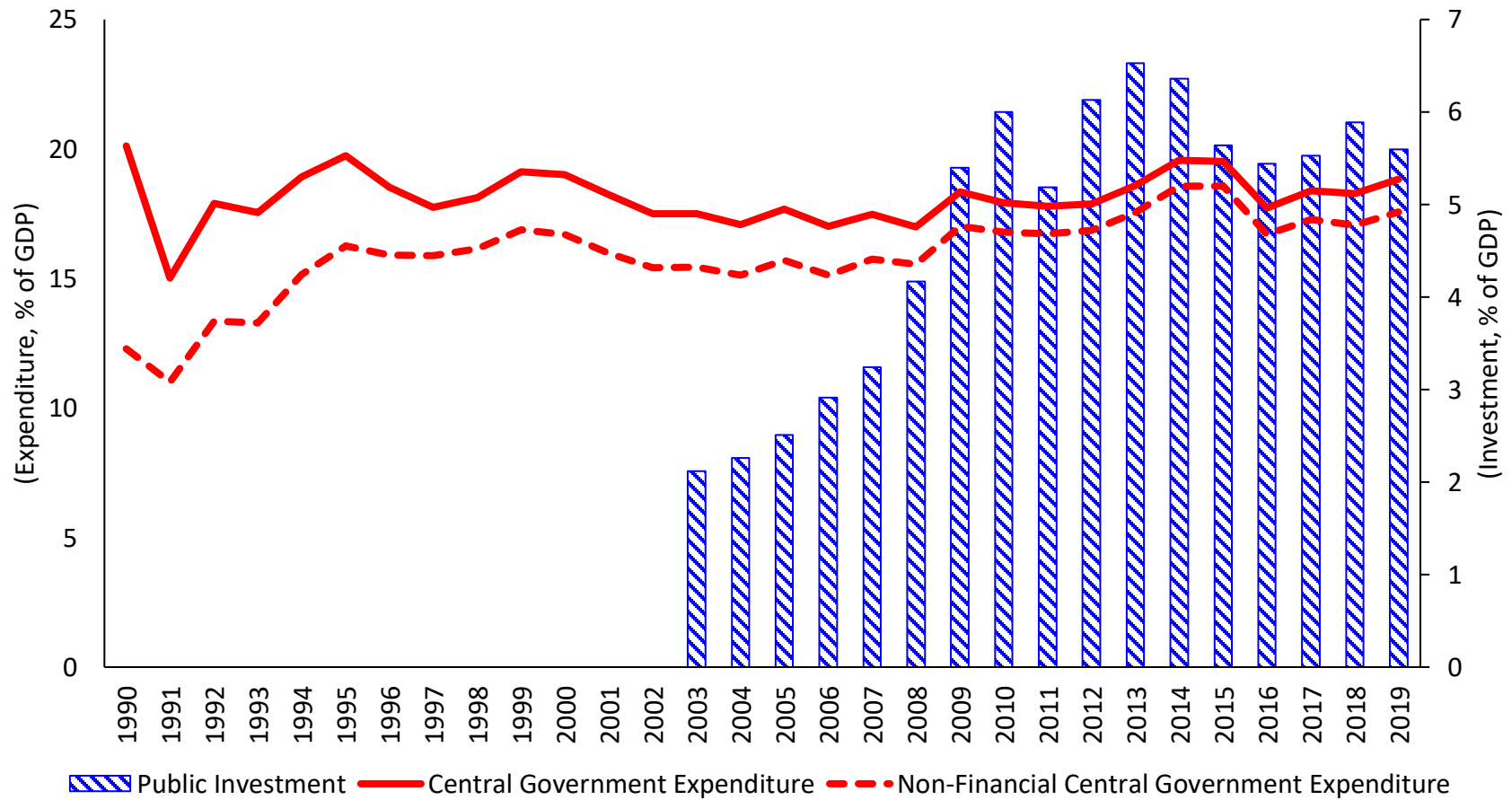
Source: the author based on BCRP database

Government Expenditure Growth, ER, and Transitory Ceilings



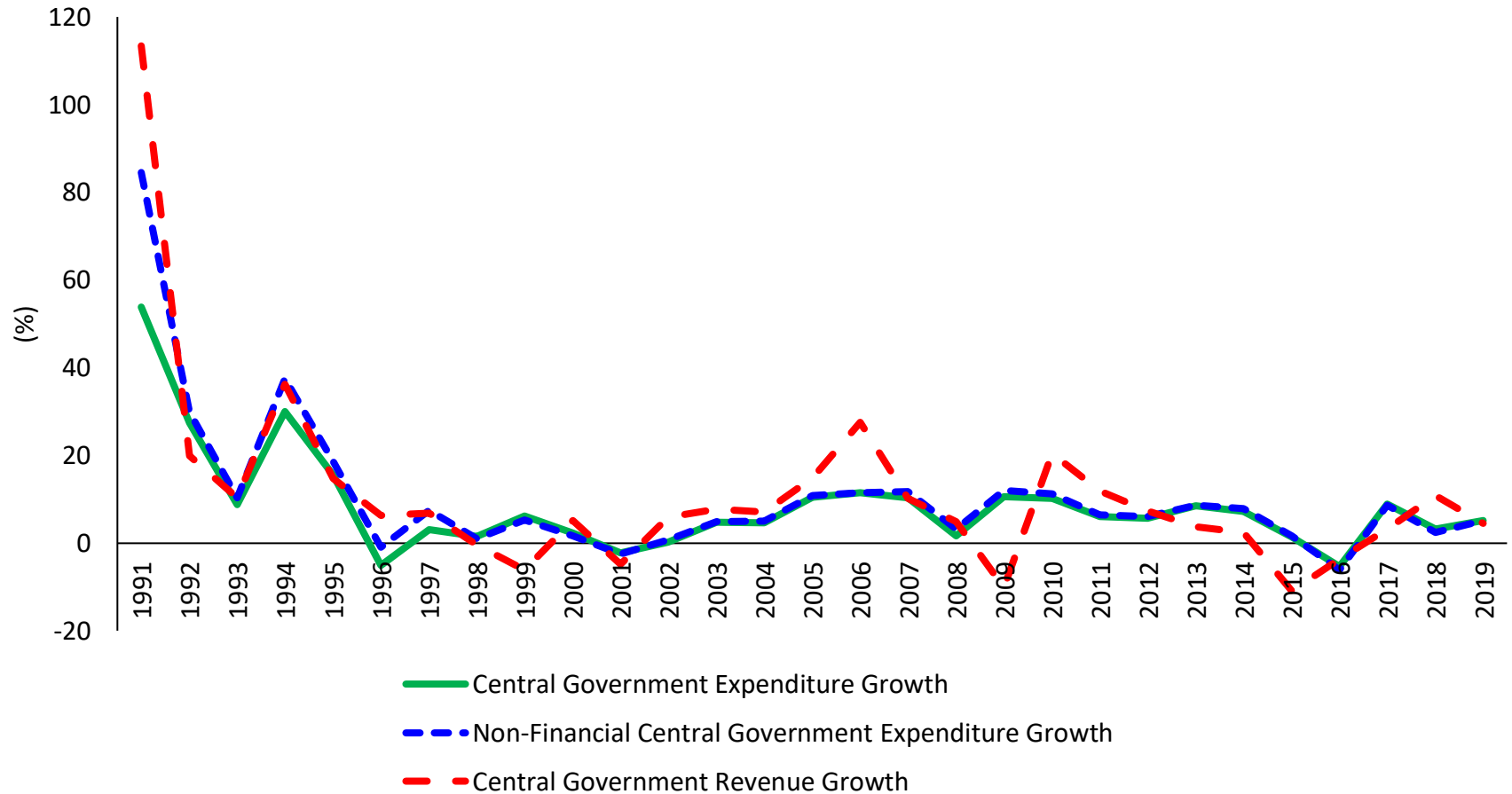
Source: the author based on BCRP database

Central Government Expenditure and Public Investment



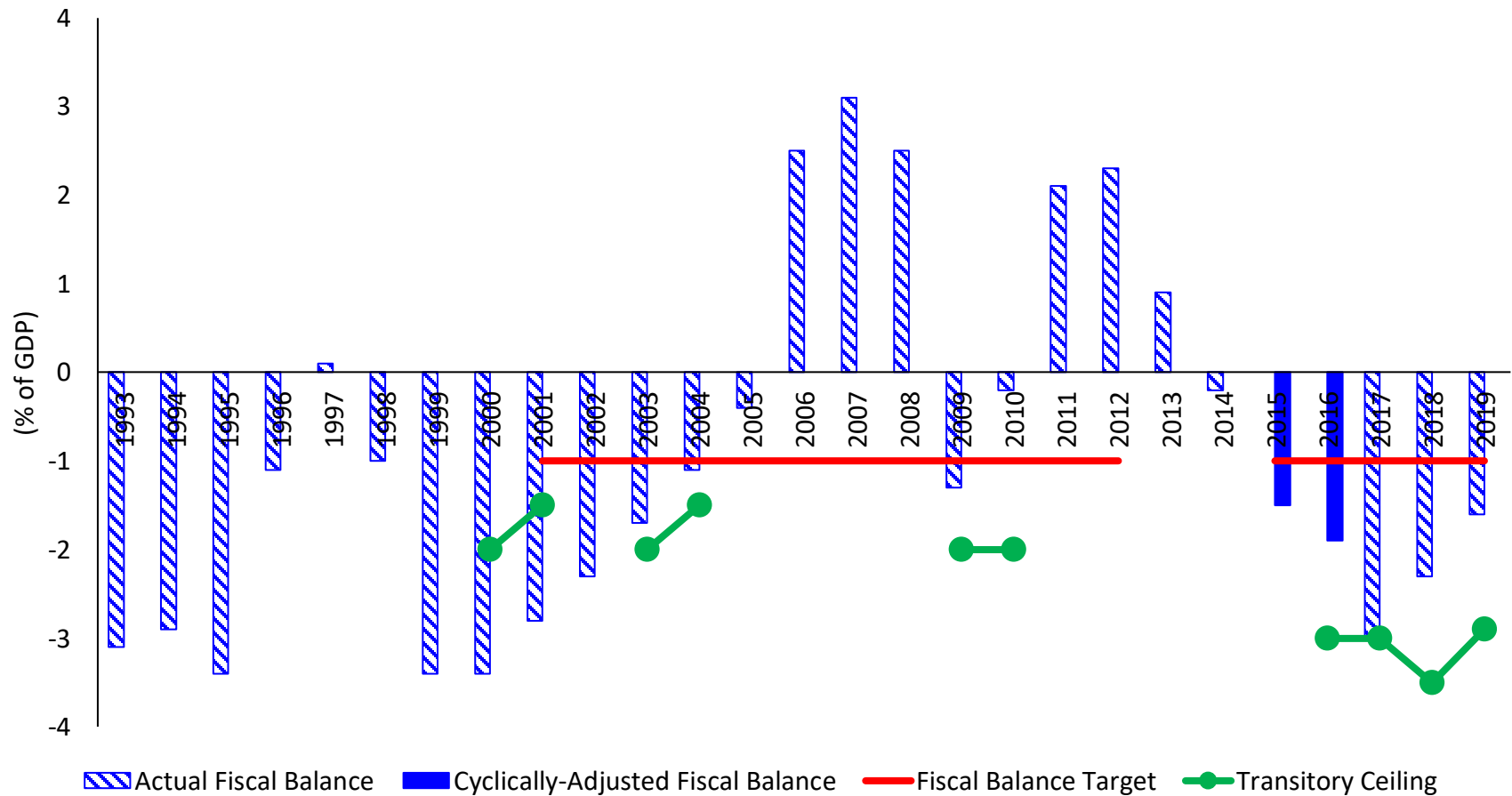
Source: the author based on BCRP database

Central Government Expenditure Growth and Revenue Growth



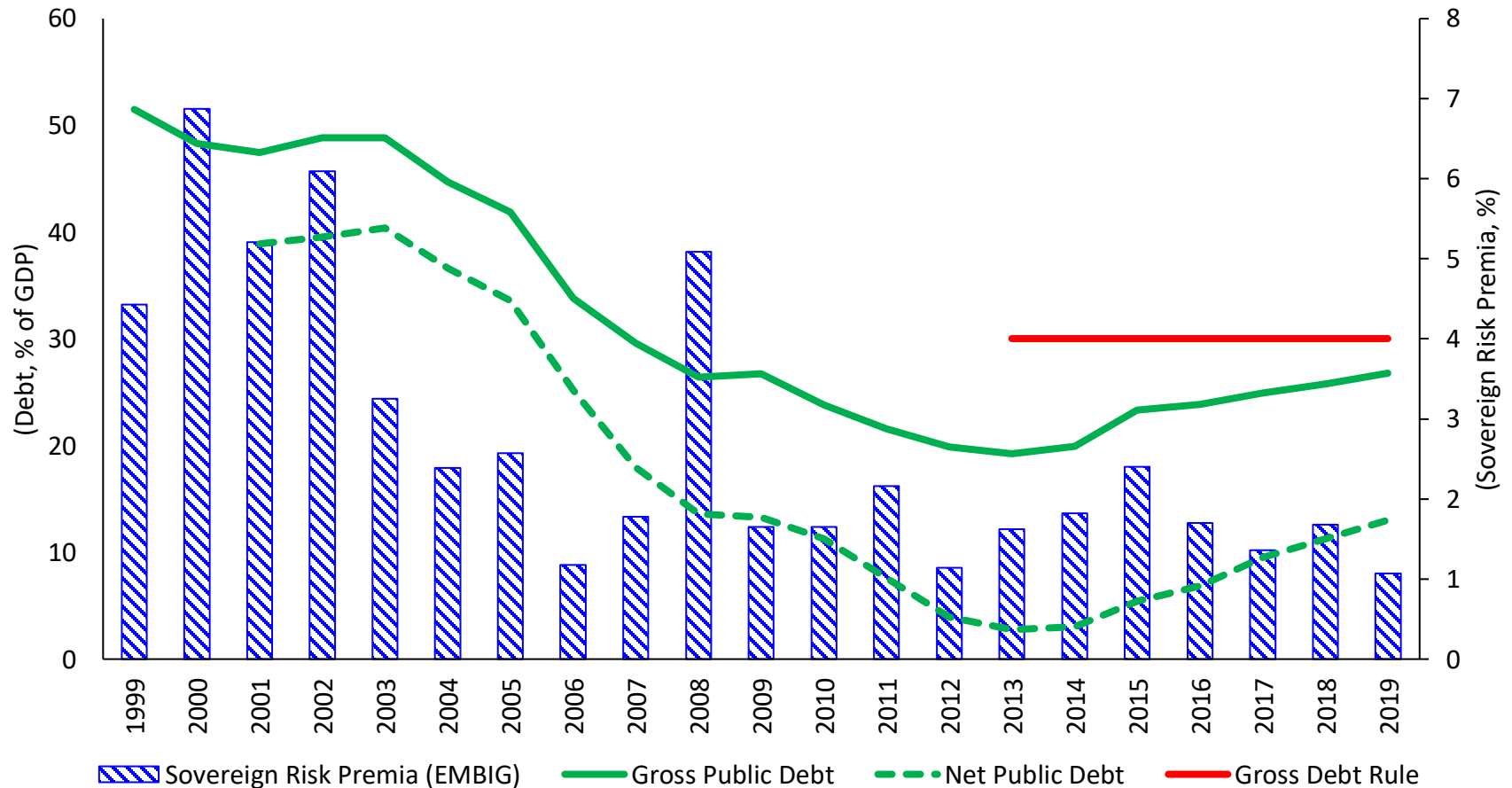
Source: the author based on BCRP database

Actual Fiscal Balance, Fiscal Balance Target, and Transitory Deficit Ceilings



Source: the author based on BCRP database

Sovereign Risk Premium, Public (Gross and Net) Debt and DR



Source: the author based on BCRP database

Peru's Changes to the Rule

- Due to external adverse shocks (GFC) or domestic shocks (El Niño event), **fiscal rules have been modified and breached frequently**
- Therefore the **domestic business cycle and international conditions** have been key triggers in changes of the rules
- Transitory limits were established for the BBR and its application was suspended four times.
- The ER was modified three times and was suspended four times
- Expenditure categories' coverage for the ER was frequently modified
- Summing up: **adoption and application of fiscal rules have exhibited many inconsistencies over time**

4. Quantitative Evaluation of Fiscal Behavior in Peru - and in Chile and Colombia (Schmidt-Hebbel, 2021)

Four hypotheses on the performance of fiscal rules

- **Hypothesis 1:** the quantitative target of the fiscal rule does not depend on cyclical conditions
- **Hypothesis 2:** the fiscal rule is associated to a weaker procyclical (or stronger countercyclical) behavior of the ratio of total public expenditure to GDP
- **Hypothesis 3:** the fiscal rule is associated to a weaker procyclical behavior of the ratio of public investment debt to GDP
- **Hypothesis 4:** the fiscal rule is associated to a weaker procyclical behavior of the ratio of public debt to GDP

Estimation Techniques

- **Econometric Regressions**

Hypothesis 1: Three-state multinomial logit regression

$$\varphi(\Delta fr_t = j) = \varphi(\beta_0 + \beta_1 gdp_t + \beta_2 pc_t + e_t)$$

Hypothesis 2-4: econometric estimations

$$fv_t = \beta_0 + \beta_1 gdp_t + \beta_2 cp_t + \beta_3 D_t^{FR} gdp_t + \beta_4 D_t^{FR} pc_t + e_t$$

$$\Delta fv_t = \gamma_0 + \gamma_1 \Delta gdp_t + \gamma_2 \Delta cp_t + \gamma_3 D_t^{FR} \Delta gdp_t + \gamma_4 D_t^{FR} \Delta pc_t + u_t$$

where: fr_t is fiscal rule target, fv_t is fiscal variable, gdp_t is output gap, cp_t is commodity price, e_t , u_t are disturbance terms, and D_t^{FR} is fiscal rule period dummy

- **VAR Analysis and Impulse Response Functions**

Hypothesis 1-4: VAR Estimation

$$Y_t = B(L)Y_{t-1} + U_t$$

where $B(L)$ is the lag polynomial, and U_t is the vector of reduced form innovations

Quarterly data of key fiscal variables

Variable	Description	Measure	Source
Output Gap	$((\text{Effective GDP} - \text{trend GDP}) / \text{trend GDP}) * 100$. The calculation of trend GDP is based the trend component of the HP filter applied to the series of real GDP	% of trend GDP	the author based on BCCH, BRP, DANE
Main Commodity Price	In the case of Chile and Peru, the price of BML copper is used. In the case of Colombia, the WTI oil price is used.	USD/lbs and USD/barrel	BCCH, BRP, DANE
Government Expenditure	Expenditure on personnel, consumer and production goods and services, interest, subsidies and donations, pension benefits, public investment, capital transfers and others	% of GDP	DIPRES/BRP/DANE
Public Investment	Government Expenditure destined to create, increase, improve or replace the stocks of public physical capital and / or human capital. The Investment includes all investment activities carried out by Central Government entities, Non-Financial Public Companies and the Rest of the General Government.	% of GDP	DIPRES/BRP/DANE
Net Public Debt	Gross public debt minus the balance in sovereign wealth funds	% of GDP	DIPRES/BRP/DANE
Quantitative Target	In the case of Chile and Colombia is the value of the CAB target. The value defined for year t is hold constant for the quarters of that year until the value is modified in the fourth quarter. In the case of Peru, the target for year t is hold constant in the quarters of the corresponding year. The target considers the transitory limits and for years that the target was suspended, I use the previous targets.	% of GDP	DIPRES/MHC/DANE
Fiscal Rule Dummy	Dummy variable that takes a value of 1 since the date that a fiscal rule is implemented at the national level. In the case of Chile, it starts in 2001, for Colombia in 2011 and for Peru in 2000.	-	the author
Global Financial Crisis Dummy	Dummy variable that takes a value of 1 in the period of the Global Financial Crisis, starting in the fourth quarter of 2008 and ending in the fourth quarter of 2010.	-	BCCH, BRP, DANE

Example 1: Multinomial regression results for Peru's Expenditure Rule

Probability of decreasing the ER target increases with commodity prices, while the level of expenditure declines the probability of increasing the ER target value

Dependent variable: changes in the quantitative target

Period: 2000.1 – 2019. 4

	(1)			(2)			(3)			(4)		
	M	D	I	M	D	I	M	D	I	M	D	I
Output gap	-0.010 (0.026)	0.008 (0.024)	0.001 (0.011)	-0.014 (0.033)	0.001 (0.030)	0.013 (0.016)	-0.024 (0.033)	0.026 (0.030)	0.007 (0.016)	-0.029 (0.033)	0.016 (0.030)	0.012 (0.016)
Copper price	-0.021 (0.045)	0.042* (0.031)	-0.020 (0.045)	-0.021 (0.064)	0.041* (0.051)	-0.021 (0.039)	-0.018 (0.064)	0.037* (0.051)	-0.019 (0.039)	-0.010 (0.064)	0.035* (0.051)	-0.025 (0.039)
Expenditure				0.026 (0.053)	-0.002 (0.045)	-0.024* (0.031)				0.032* (0.120)	-0.007 (0.042)	-0.024* (0.132)
Global Financial Crisis							-0.447 (0.053)	0.472 (0.045)	-0.025 (0.031)	-0.475 (0.053)	0.483 (0.045)	-0.008 (0.031)

Notes: standard errors (in brackets) computed with heteroskedasticity-consistent standard errors, *(p<0.1), ** (p<0.05), *** (p<0.01). D=decrease, M=maintain, I=increase.

Example 1: Multinomial regression results for Peru's Balance Rule

Probability of increasing the BBR target decreases with the level of expenditure and (weakly) increases with the output gap

Dependent variable: changes in the quantitative target

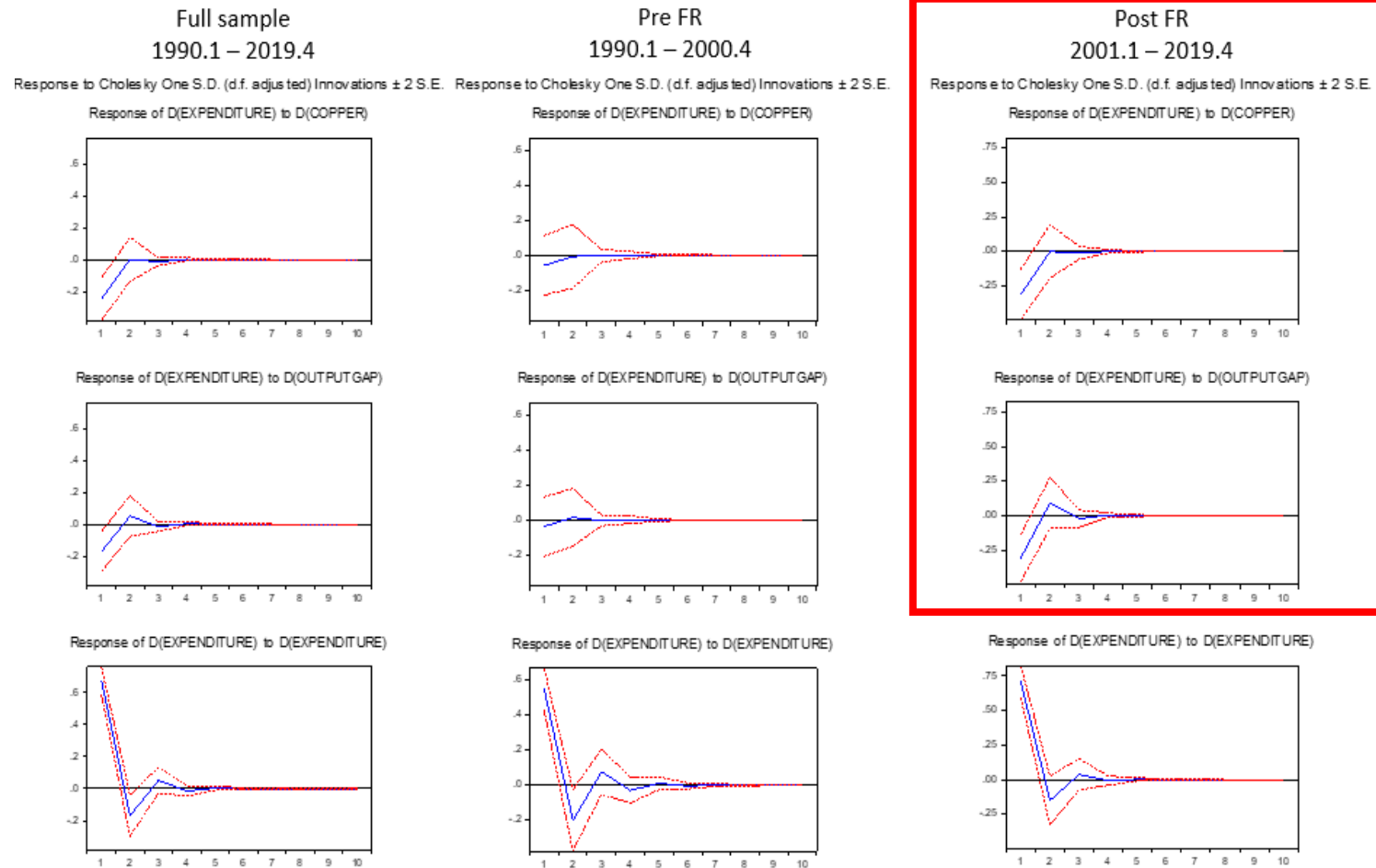
Period: 2000.1 – 2019. 4

	(1)			(2)			(3)			(4)		
	M	D	I	M	D	I	M	D	I	M	D	I
Output gap	-0.001 (0.026)	-0.009 (0.024)	0.010 (0.011)	-0.005 (0.033)	-0.008 (0.030)	0.014 (0.016)	-0.001 (0.033)	-0.009 (0.030)	0.009 (0.016)	-0.006 (0.033)	-0.008 (0.030)	0.015* (0.016)
Copper price	0.042 (0.045)	-0.021 (0.031)	-0.021 (0.045)	0.042 (0.064)	-0.021 (0.051)	-0.021 (0.039)	0.048 (0.064)	-0.029 (0.051)	-0.019 (0.039)	0.055 (0.064)	-0.031 (0.051)	-0.024 (0.039)
Expenditure				0.033 (0.053)	-0.010 (0.045)	-0.023* (0.031)				0.035* (0.120)	-0.011 (0.042)	-0.024* (0.132)
Global Financial Crisis							-0.020 (0.053)	0.025 (0.045)	-0.006 (0.031)	-0.045 (0.053)	0.031 (0.045)	0.014 (0.031)

Notes: standard errors (in brackets) computed with heteroskedasticity-consistent standard errors, *(p<0.1), ** (p<0.05), *** (p<0.01). D=decrease, M=maintain, I=increase.

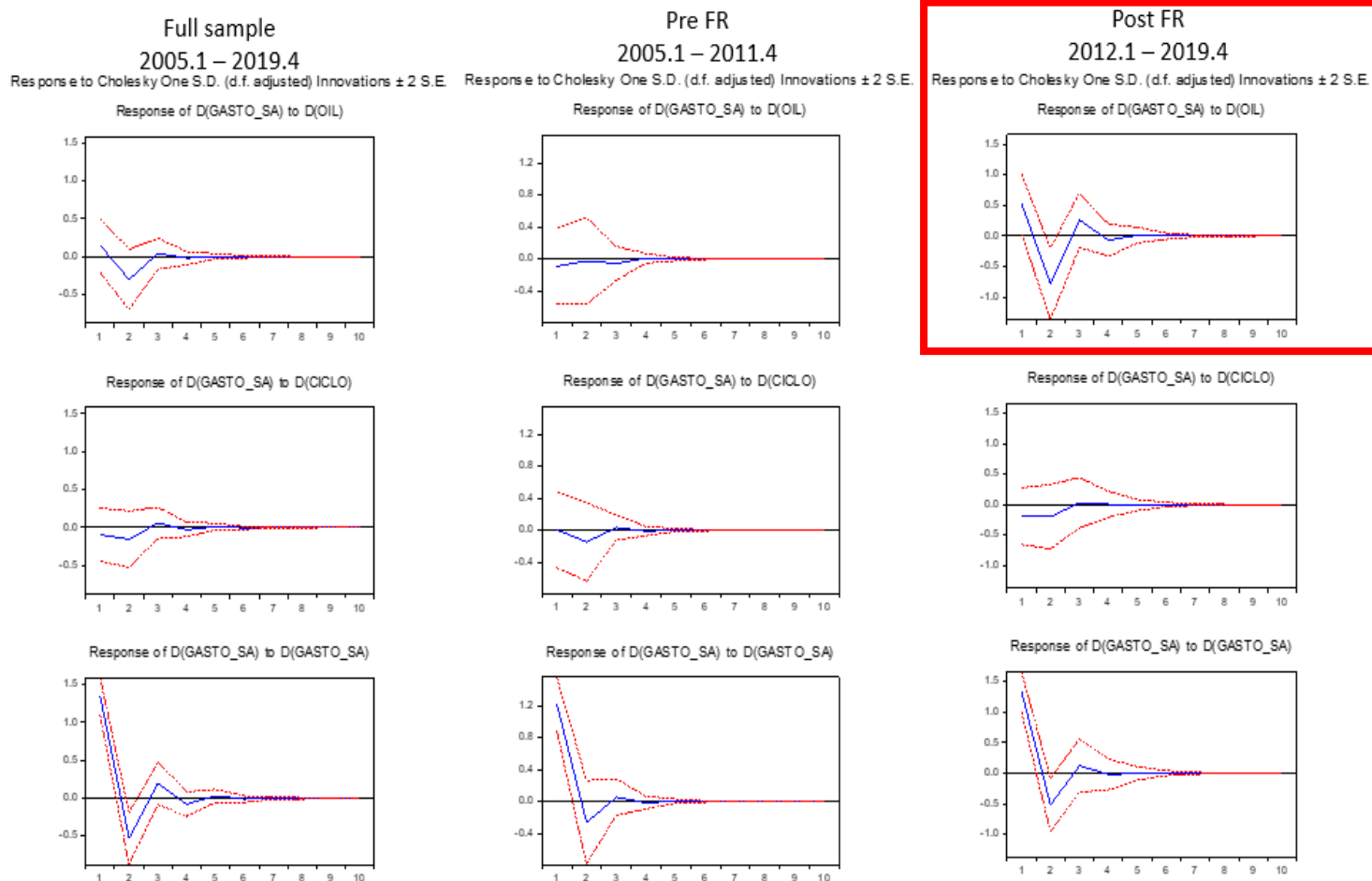
Example 2: VAR results for Chile's Gov. Expenditure (Hypothesis 2)

Introduction of the fiscal rule has promoted countercyclical behavior of fiscal policy



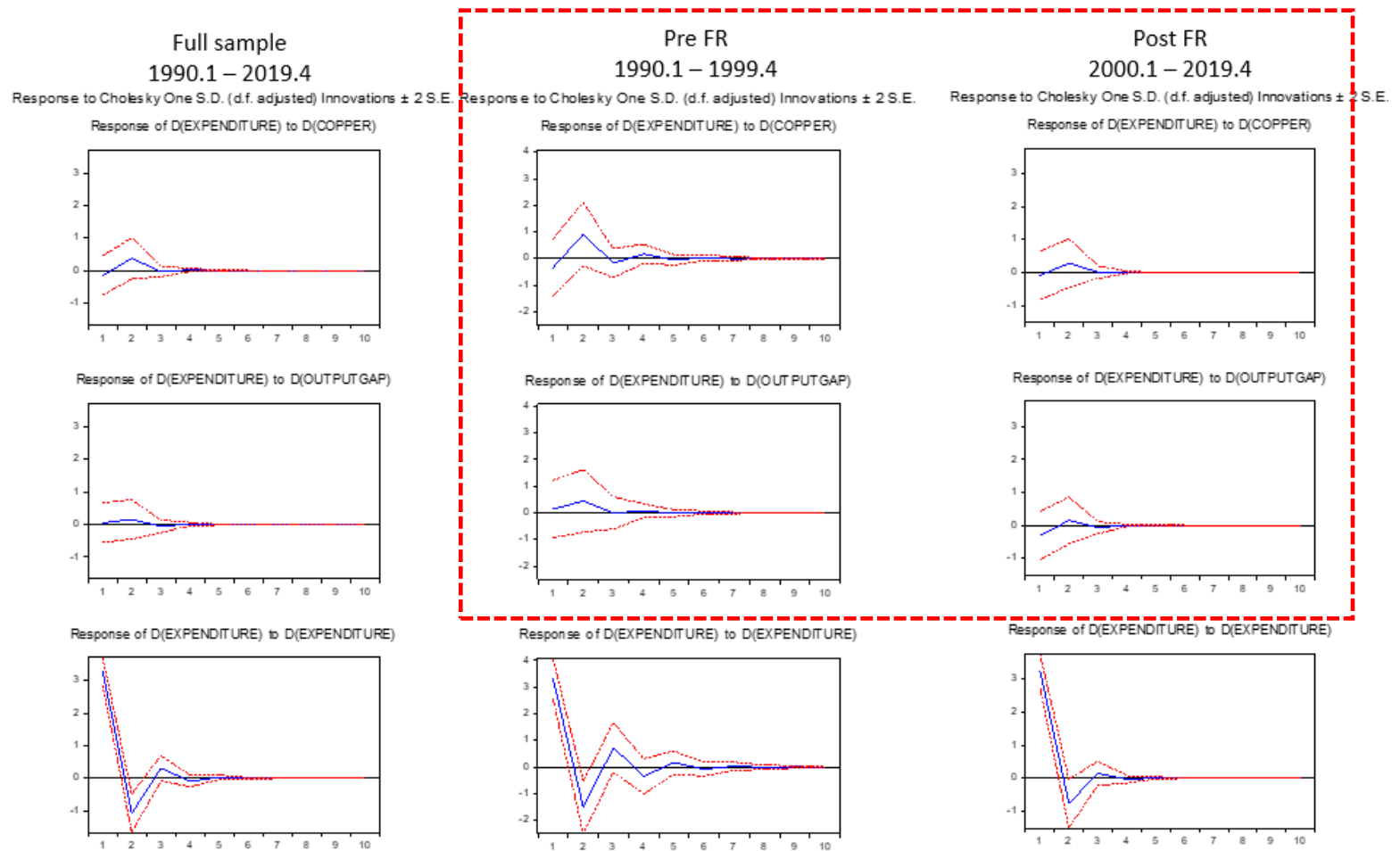
Example 2: VAR results for Colombia's Gov. Expenditure (Hypothesis 2)

Introduction of the fiscal rule has weakly promoted countercyclical behavior of fiscal policy



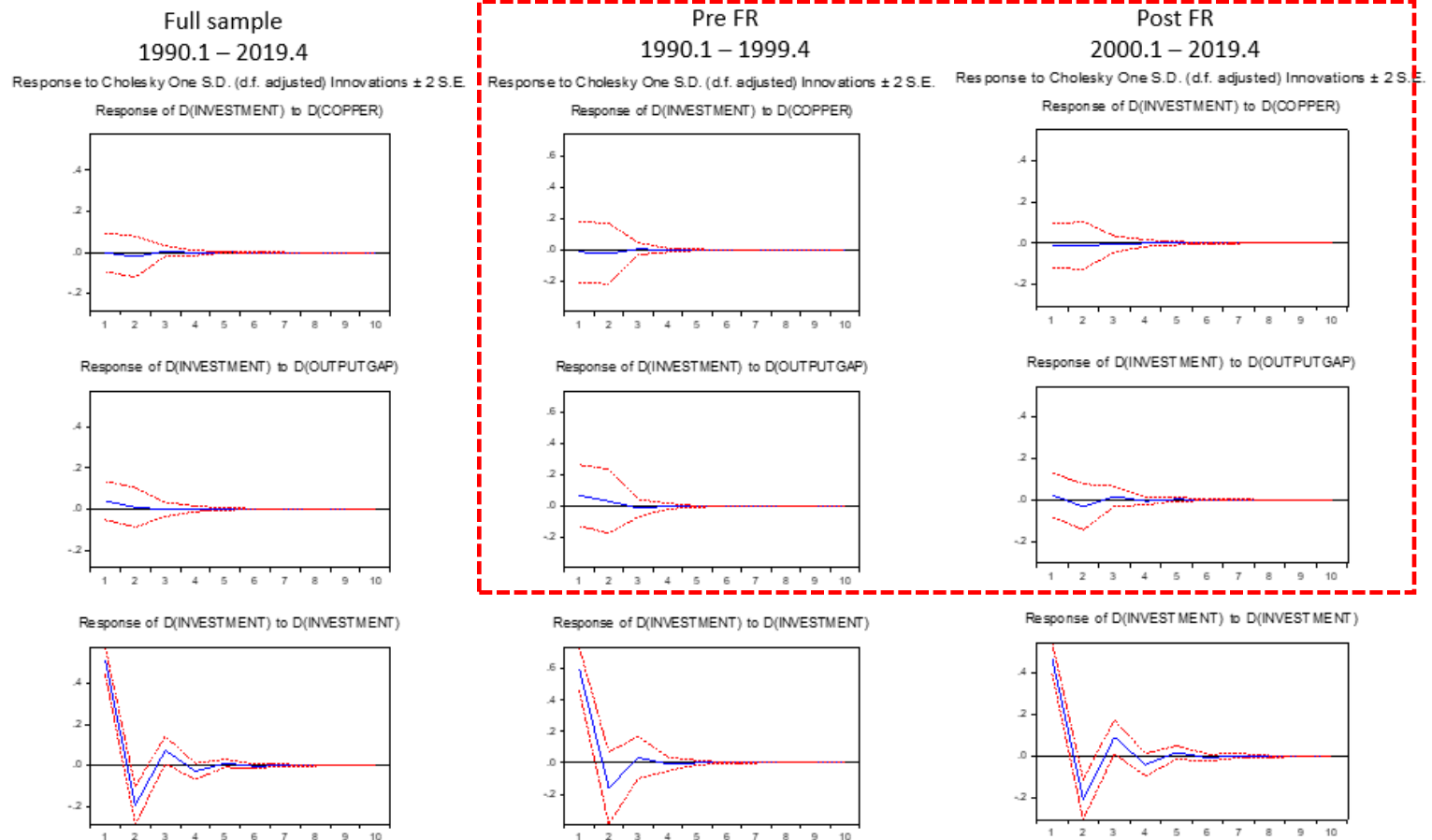
Example 2: VAR results for Peru's Gov. Expenditure (Hypothesis 2)

Introduction of the fiscal rule has not promoted countercyclical behavior of fiscal policy



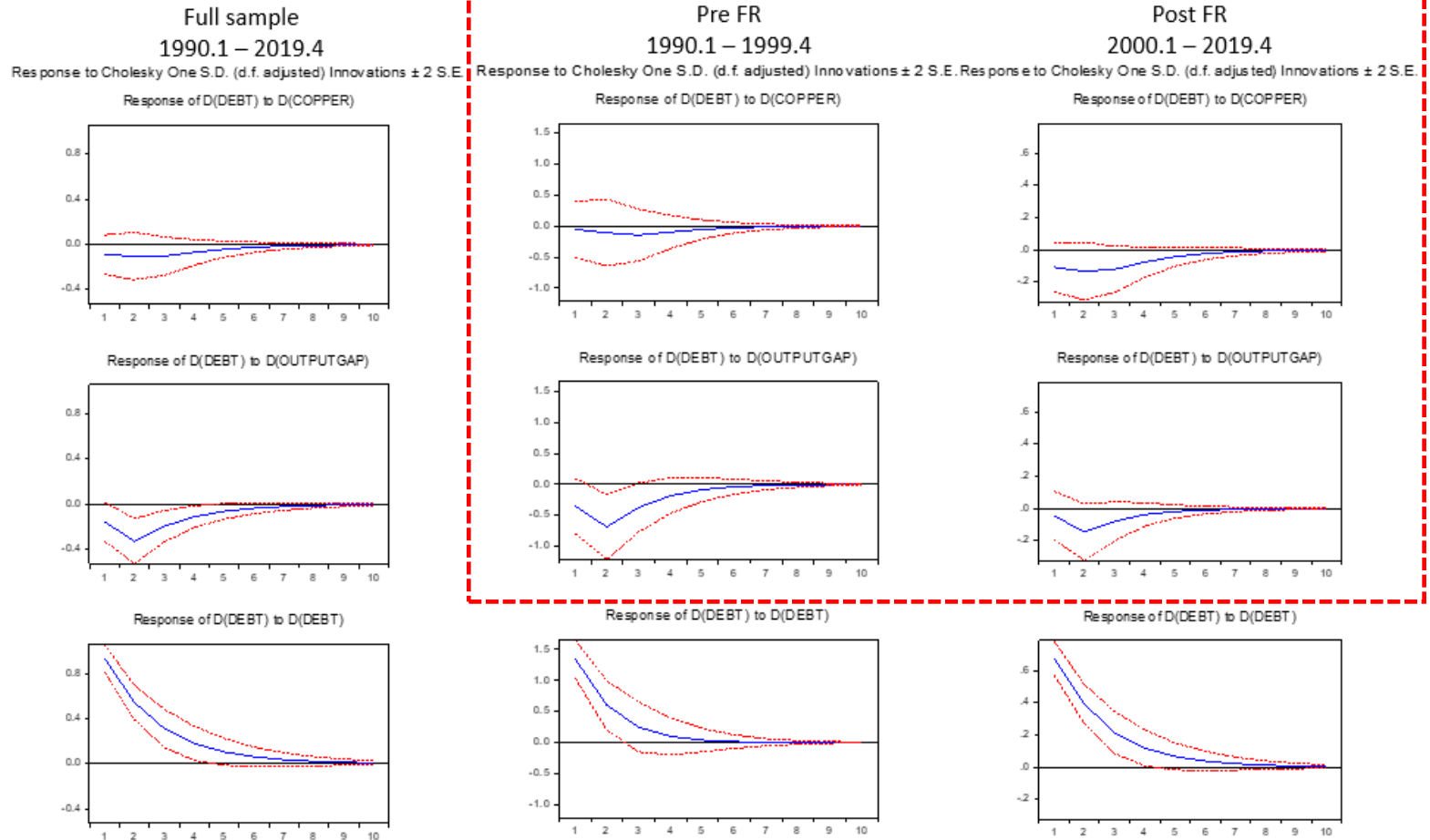
Example 3: VAR results for Peru's Public Investment (Hypothesis 3)

The introduction of the fiscal rule has not promoted countercyclical behavior of fiscal policy



Example 4: VAR results for Peru's Public Debt (Hypothesis 3)

Introduction of the fiscal rule has not promoted countercyclical behavior of fiscal policy



Country Results for Hypotheses 1 - 4

- **Hypothesis 1 (fiscal rule targets)**
 - ✓ Chile: higher CP and higher GDP raise the CAB rule target
 - ✓ Peru (weak results): a higher CP increases the prob. of raising the ER target. A higher GDP level increases the prob. of a higher BBR target
- **Hypotheses 2 (gov. expenditure) and 3 (public investment)**
 - ✓ Chile: fiscal policy is counter-cyclical since the fiscal rule: higher CP and higher GDP lower both expenditure and investment
 - ✓ Colombia: fiscal policy is weakly countercyclical since the fiscal rule: higher CP lower (weakly) expenditure, but not investment
 - ✓ Peru: fiscal policy is not countercyclical: higher CP or higher GDP does neither affect gov. expenditure nor public investment
- **Hypothesis 4 (public debt)**
 - ✓ Country results are largely consistent with results of hypotheses 2 and 3

5. Reforms Proposals for Peru (based on Schmidt-Hebbe, 2021)

Modify the Family Composition of Fiscal Rules

- As of 2019, Peru has three rules in place: an ER, a DB, and a BBR for the actual fiscal balance
- An excessive number of fiscal rules leads to over-determination of fiscal policy and inconsistencies between the three fiscal rule targets
- **Therefore I recommend to eliminate one of the three rules – the ER – and replace the actual balance rule by a CAB rule**
- As Peru is affected by shocks stemming from several commodity prices (copper, gold, silver, among others), its challenge lies in estimating and projecting medium and long-term prices of several main commodities
- Peru should come back to a CAB rule, developing robust methods to project cyclically-adjusted commodity revenue – or, alternatively focusing only on one (two) main revenue-generating commodities

Avoid Frequent Changes in Fiscal Rules

- Peru has not only changed frequently its choices of fiscal rules, but also changed their application to different budgetary components
- Frequent changes in target values, transitory limits, and suspensions of fiscal rules have been adopted
- This affects fiscal policy credibility
- **A simple and consistent design of the two proposed fiscal rules is called for, including adoption of stable parameter values and time-consistent enforcement of the rules**
- Finally, **escape clauses should be specified for exceptional cases of very adverse shocks, with clear definition of conditions and time frames for returning to full application of the rules**

Public Investment

- Public investment is not shielded from adverse shocks other than the umbrella protection by the fiscal rule
- As in Colombia, Peru has multi-year public investment programs in place
- Considering performance of public investment and due to to the multi-year investment program, **I do not favor adding particular conditions to the fiscal rule to deal with public investment**
- Yet effective **coordination between national and subnational governments is key**: 1/3 of public investment is executed by the national government and 2/3 by subnational governments
- Coordination between governments is poor: sometimes when the national government adopts a countercyclical investment policy, subnational governments implement pro-cyclical investment policies

Strengthen the Independent Fiscal Council

- The IFC states its technical opinion regarding compliance of fiscal rules, fiscal projections by the MMF, and the methodology for calculating cyclically-adjusted revenues
- **I propose a substantial enlargement of IFC tasks and responsibilities, with a consistent expansion of its budget and staff that will complement the introduction of a CAB rule**
- As for Chile, I recommend that measurement, analysis, and proposals for improving financial management of the government's overall balance sheet should be outsourced to the IFC, and the committees that project long-term commodities prices and the output gap should be selected and their work should be coordinated by Peru's IFC

6. Conclusions

Conclusions

- Peru started adopting fiscal rules very early, becoming a regional example for having a mature fiscal institutional framework in place
- Peru has been highly successful in improving its fiscal performance
- **Evaluation of Peru's policy performance shows that since the start of its rules:**
 - Higher CP raises (weakly) the prob. of lowering the ER target. Higher GDP raises (weakly) the prob. of raising the DR target
 - Higher CP and higher GDP do not affect gov. exp., public debt, and public debt. **Rules are effective: fiscal policy is acyclical**
- To strengthen further its fiscal framework, **Peru could modify composition of its rules (DR + CAB rule), avoid frequent changes in fiscal rules, coordinate better public investment, and strengthen IFC**

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Webinar, November 5, 2021

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