Inflation and public finances: an overview

Dubravko Mihaljek*

National Bank of Ukraine workshop

Monetary policy in emerging markets: understanding the causes and consequences of a new wave of inflation

15 December 2023

* The views expressed are those of the presenter and do not necessarily reflect those of the BIS.

Outline

1. Inflation and tax revenues
2. Inflation and public expenditures
3. Budget deficit and public debt under high inflation
4. Feedbacks from fiscal to monetary policy under high inflation

Main findings

High inflation boosts tax revenue and (initially) fiscal positions

Tax systems highly elastic to inflation

Reflects long-term shifts and better tax collection technology

Inflation boosts nominal GDP, improves deficit/debt ratios

Public spending catches up with quickly with inflation

Two-thirds of spending adjusts quickly to inflation

Reflects long-term shift in expenditure structure

Main risk: (mis)perception of strong fiscal position

Buoyant revenues → new spending programmes → risk of long-term fiscal damage

Inflation and tax revenues

Global level, general gvt. revenue growth, % of GDP

	2021	2022	*1992–2020 ave.*
Adv. economies	0.8	0.3	–0.1
EMEs	1.0	0.2	0.2

UK example, cumulative increases in %

	1979-83	2000:Q2 - 2023:Q1
Inflation	42	19
Nominal GDP	18	12
VAT revenue	86	57
PIT revenue	51	27

Inflation and tax revenues

Largely unexplored topic in the literature

1970s: studies on *negative* effects of high inflation on real tax revenues – Tanzi-Oliveira effect

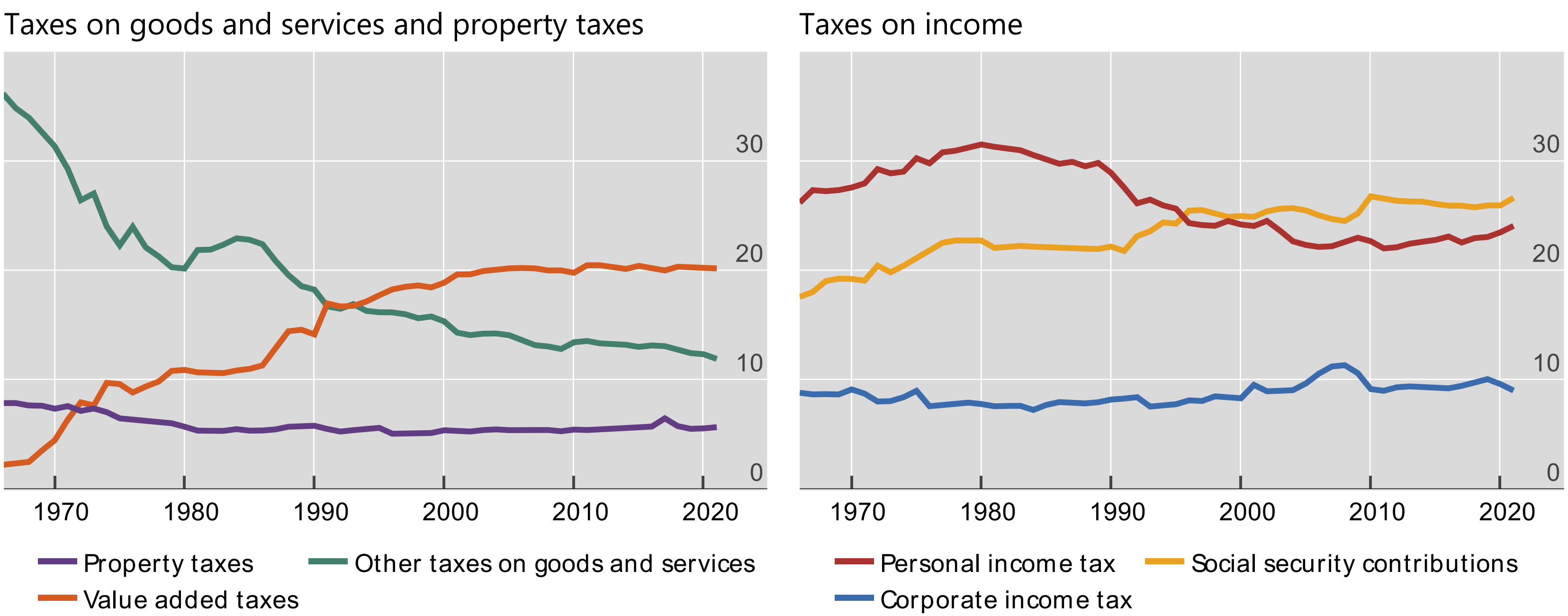
- Eg π 10%/mo, collection lag 60 days, real revenue ↓ 17%

Big changes in tax structure over past 50 years: rise of VAT, better tax collection due to spread of withholding, digital technologies

→ modern tax systems more elastic with respect to inflation

GRAPH 2

Trends in tax structure in the OECD countries (in per cent of total tax revenue)[1]



[1] Simple averages of OECD member countries.

Sources: OECD, *Revenue Statistics*.

Inflation and public expenditures

Unlike taxes, spending items adjust to inflation with varying lags

Public spending structure, OECD, 1980-2019, % of total expenditure

	Share in total	Adjusts to inflation
Goods and services	16%	Immediately
Public investment	9%	Immediately
Pensions, transfers to HH	40%	Few months' lag
Public sector wages	22%	Few quarters' lag
Debt service	5%	Immed. for new debt, depends on maturity for outstanding

TABLE 1

Structure of government expenditure, as a percentage of GDP, period averages

	Public sector wages			Purchases of goods and services			Interest payments			Social security transfers			Public investment		
	1980–95[1]	1996–2008	2009–21	1980–95[1]	1996–2008	2009–21	1980–95[1]	1996–2008	2009–21	1980–95[1]	1996–2008	2009–21	1980–95[1]	1996–2008	2009–21
EA	…	10.3	10.3	4.6	4.7	5.5	5.3	3.6	2.3	21.1	20.6	22.9	3.3	3.2	3.0
GB	9.2	10.1	9.4	7.8	6.7	8.3	4.0	2.4	2.6	11.8	12.3	14.1	1.7	2.3	2.8
JP	5.8	5.9	5.4	2.9	2.9	3.4	3.3	2.8	2.0	12.2	15.5	21.3	7.5	5.4	4.0
US	10.4	9.9	9.8	5.7	6.3	6.7	6.1	4.4	4.0	10.1	11.3	15.4	4.4	3.7	3.5
SOE[2]	14.2	12.6	13.2	7.4	6.5	6.8	4.6	2.4	0.8	17.8	16.3	16.5	2.6	3.4	3.9
EME[2]	…	8.6	8.8	…	5.1	4.8	…	2.3	1.8	…	4.4	7.1	…	3.1	3.6

Note: EA = euro area; GB = United Kingdom; JP = Japan; US = United States, SOE = small open economies; EME = emerging market economies.

[1] Initial observations vary across countries. [2] Median values for small open economies (Denmark, Norway, Switzerland and Sweden) and EMEs (Chile, Korea, Poland and South Africa).

Sources: OECD; IMF; author`s calculations.

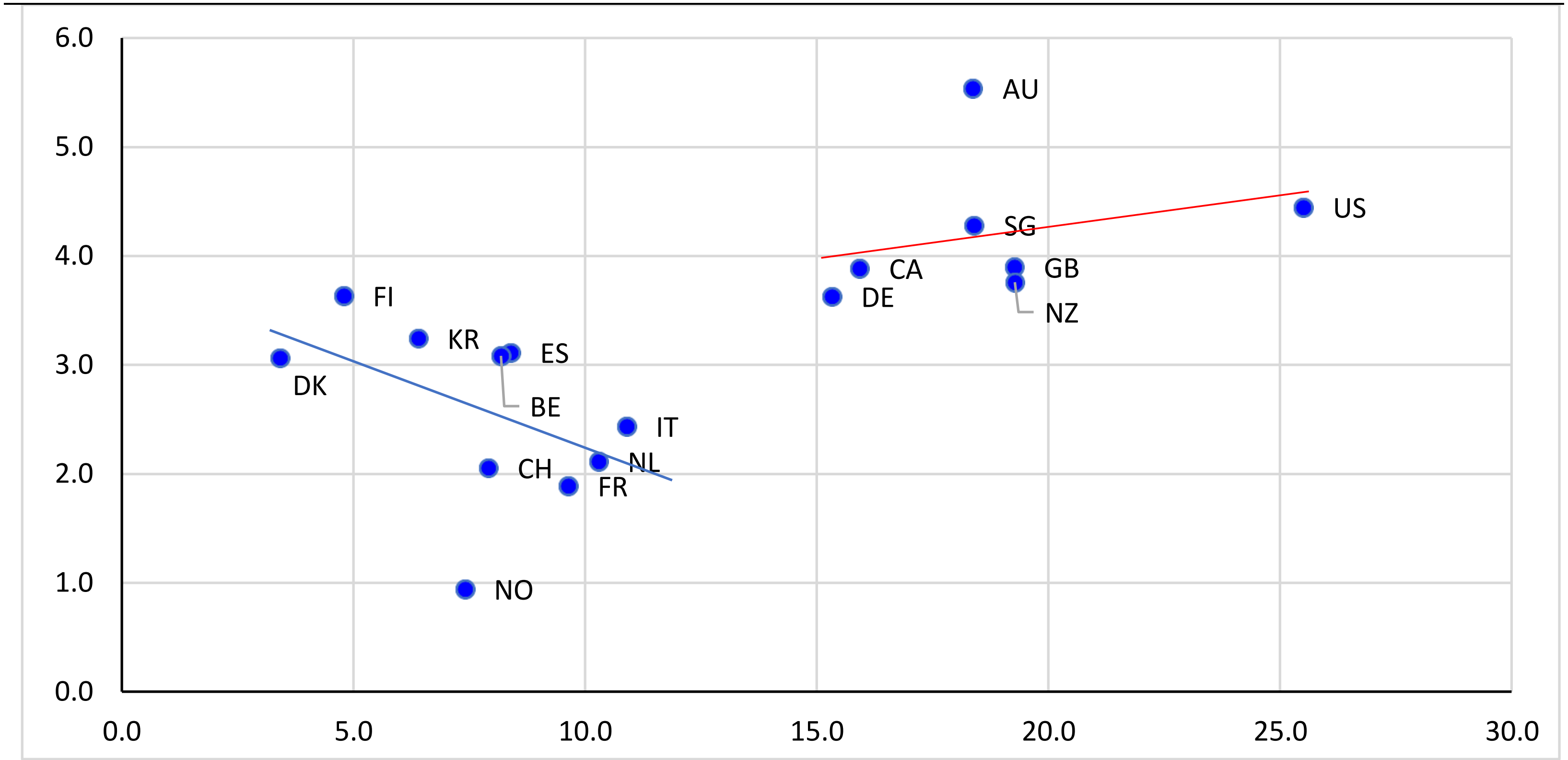
Inflation public expenditures

Example of subsidy programmes

- Raise gvt spending
- But may also affect inflation: energy subsidies lowered π in euro area by 1 pct. pt. in 2022 (ECB Bulletin 2/2023)
- However, this could be reversed when subsidies withdrawn, esp. if energy prices remain high
- Effect of large subsidy programmes could be non-linear depending on level of support – example of pandemic related spending in 2020–21

GRAPH 4

Fiscal policy support and core inflation, 2020–22



Horizontal axis: additional spending or foregone revenue between March 2020 and September 2021, as a percent c GDP. Based on national authorities and IMF staff estimates. Includes temporary support measures for households anc firms and temporary tax reductions (eg lower social security contributions and VAT reductions for specific sector severely hit by the pandemic).

Vertical axis: change in annual average year-on-year core inflation between 2020 and 2022, in percentage points.

Sources: IMF, *Fiscal Monitor Database of Country Fiscal Measures in Response to the Covid-19 Pandemic*; OECD; author's calculation:

Budget deficit and public debt under high inflation

Overall budget balance initially tends to improve under high inflation: revenue increases faster than expenditure

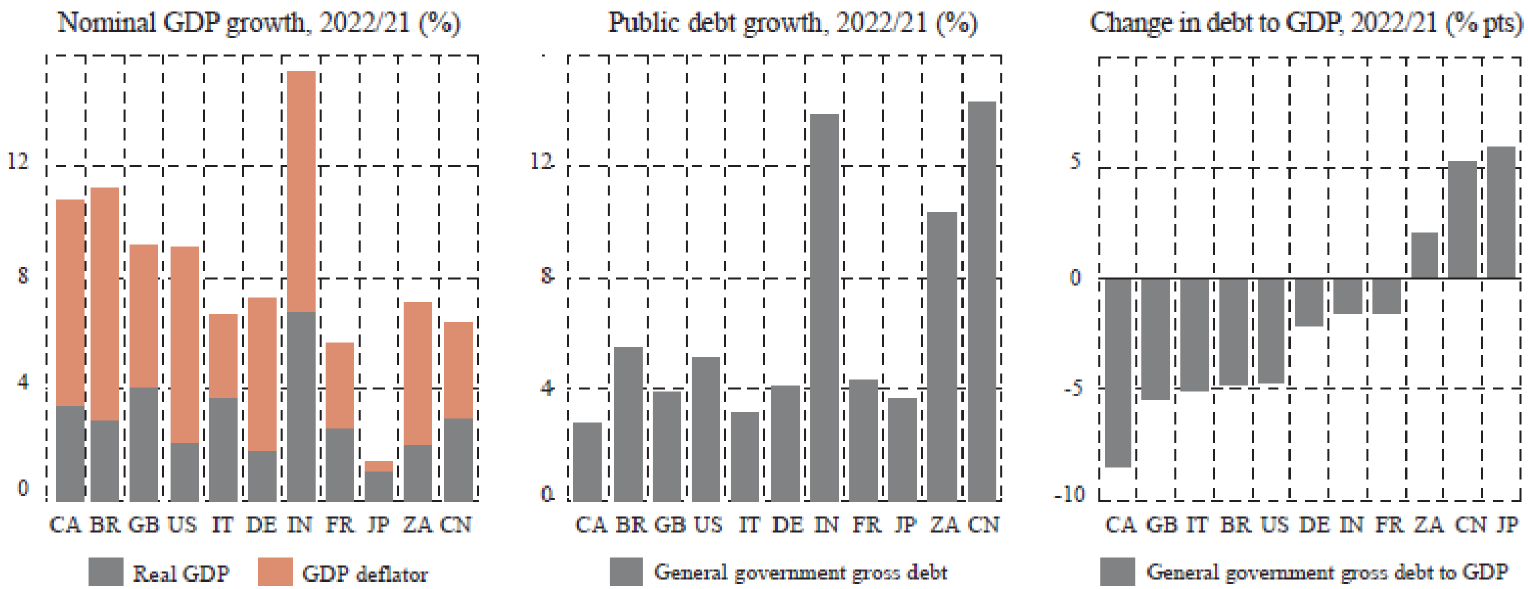
- 1 pct. pt. ↑ in GDP deflator, 0.1–0.2 pct.pt. improvement in primary balance ratio (EU, 1970–2013) (Atinassi et al, 2016; Berti et al, 2016)
- Overall deficit/GDP in adv. economies fell to 4¼% in 2022 from 7½% in 2021
- Public debt/GDP fell by 2–8 pct. pts. despite nominal debt rise by 3–14%

How long improvement lasts depends on

- Speed of inflation adjustment for big-ticket spending items
- New subsidy schemes to offset purchasing power loss
- Level of inflation
- Monetary policy response – interaction with debt dynamics

Graph 5

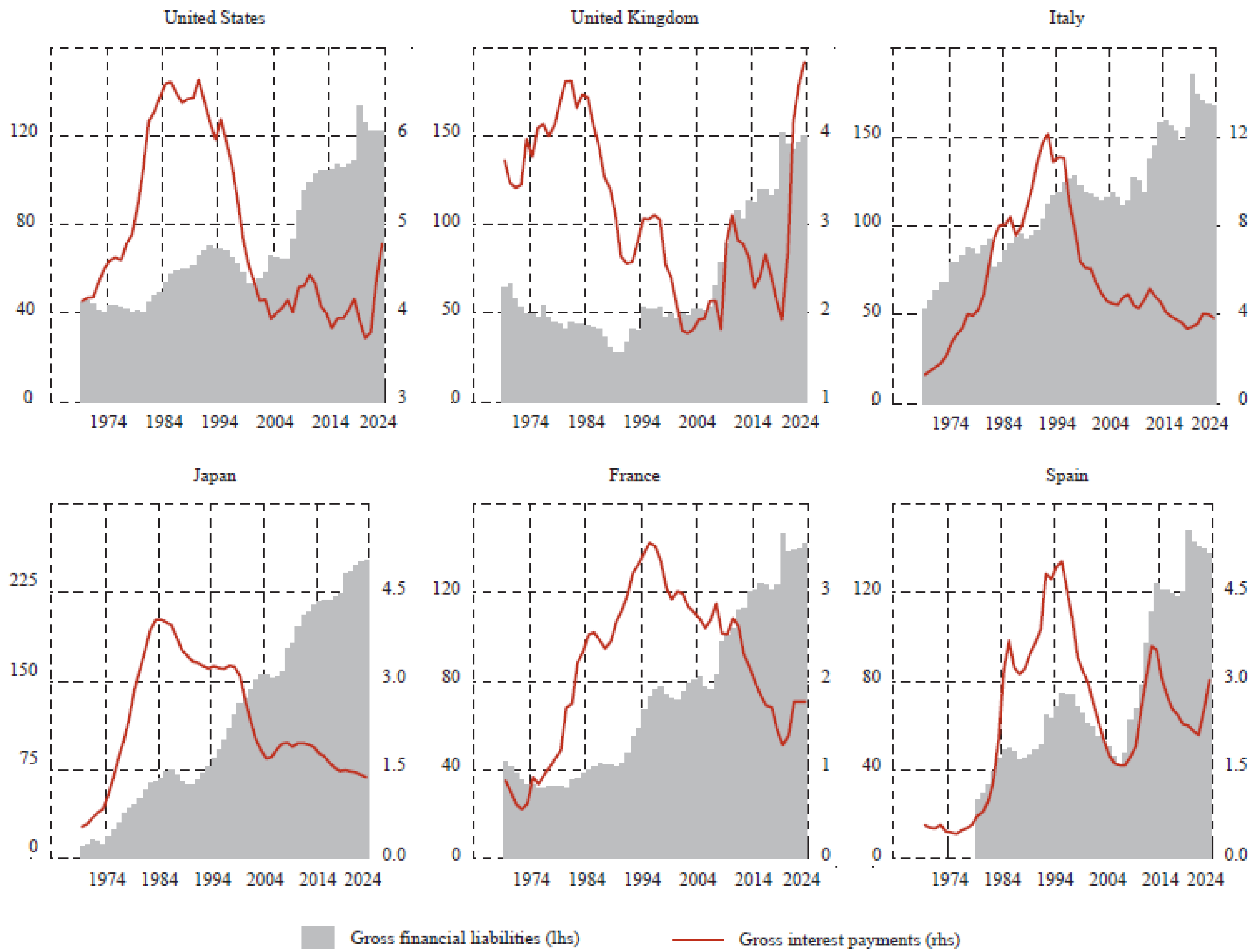
High nominal GDP growth lowers public debt ratios



Source: IMF (2023d).

GRAPH A1

Gross public debt and gross interest payments in advanced economies, as a percentage of GDP[1]



[1] *For the general government.*

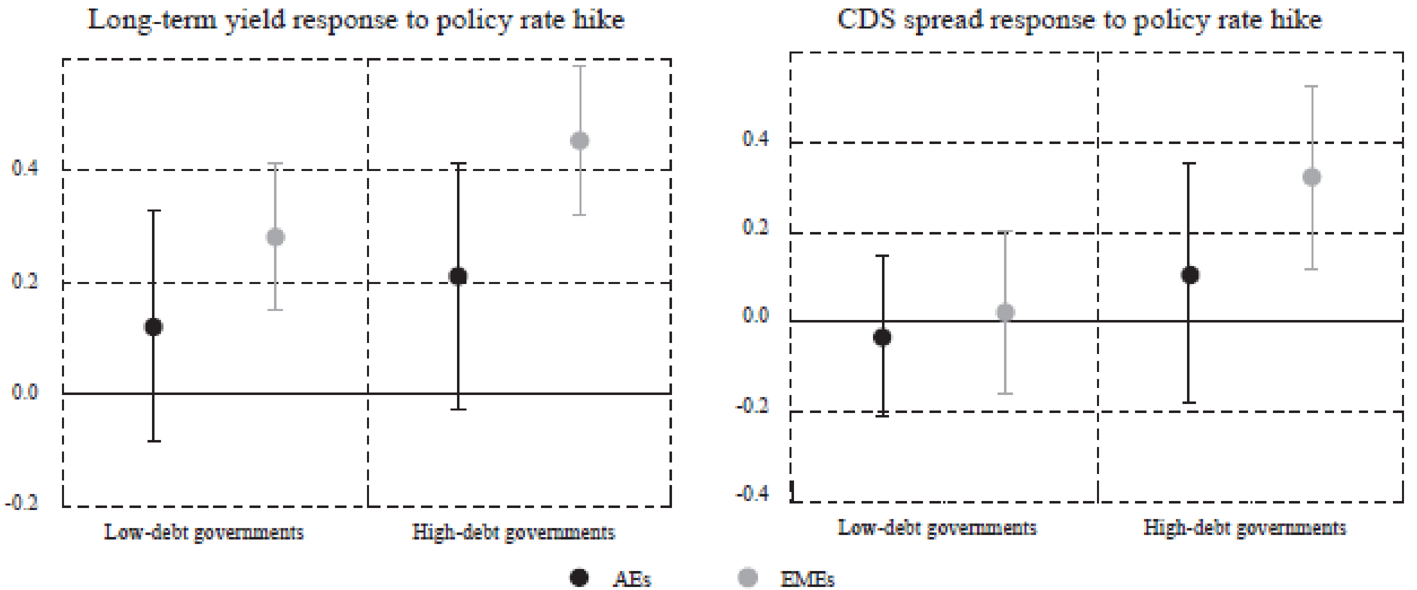
Sources: OECD, Economic Outlook, BIS.

Feedbacks from fiscal to monetary policy

Prudent fiscal policy helps transmission of monetary policy, esp. in EMEs

Graph 7

High public debt leads to larger yield and CDS increases when policy rates rise (in percentage points) [1]



Note: AEs = advanced economies; EMEs = emerging market economies.

[1] Dots correspond to point estimates and bars to +/- two standard deviations around these estimates.

Sources: Bloomberg; IHS Markit; Refinitiv Datastream; national data; BIS.

Concluding remarks

Inflation raises tax revenue in short term, creates perception that fiscal positions are healthy

This may tempt governments and parliaments to consider new spending programmes, lower taxes

But public spending adjusts quickly to inflation

And prudent fiscal policy helps monetary policy in fight against inflation

→ Save the tax windfalls

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Vol. 47, No. 4 | pp. 407-560
December 2023 | Zagreb

ISSN: 2459-8860
https://doi.org/10.3326/pse.47.4

Public Sector Economics

4/2023

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