Business cycle and monetary policy in Romania

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I. Macroeconomic overview

Before the crisis

- Rapid GDP growth in 2001-2008 (6.5% average annual growth) fuelled by large capital inflows:
  - ✓ A real-estate and consumption boom emerged as wage and credit were increasing rapidly
  - ✓ An expansionary fiscal policy further contributed to the overheating of the economy starting in 2005
- Large imbalances were building up, rendering the economy vulnerable to negative shocks
  - ✓ Unsustainable structural fiscal imbalances doomed Romania to fiscal consolidation when the crisis hit
  - ✓ Sizeable external disequilibrium (the current account deficit peaked at 13.4% of GDP in 2007)
  - ✓ External debt increased from euro bn. 30.9 in 2005 to euro bn. 72.4 in 2008

Adjustments in the wake of the crisis

- The current account deficit plunged to sustainable levels (4.4% of GDP in 2012, 0.4% of GDP in 2014)
- Sharp fiscal consolidation brought the deficit from 9% of GDP in 2009 to 1.5% of GDP in 2014
- The public debt-to-GDP ratio increased rapidly during the crisis, but it is still one of the lowest in the EU and is estimated to stabilize below 40% of GDP over the medium term
- Total external debt increased to euro bn. 100 in 2012 and decreased to euro bn. 63 in 2014.

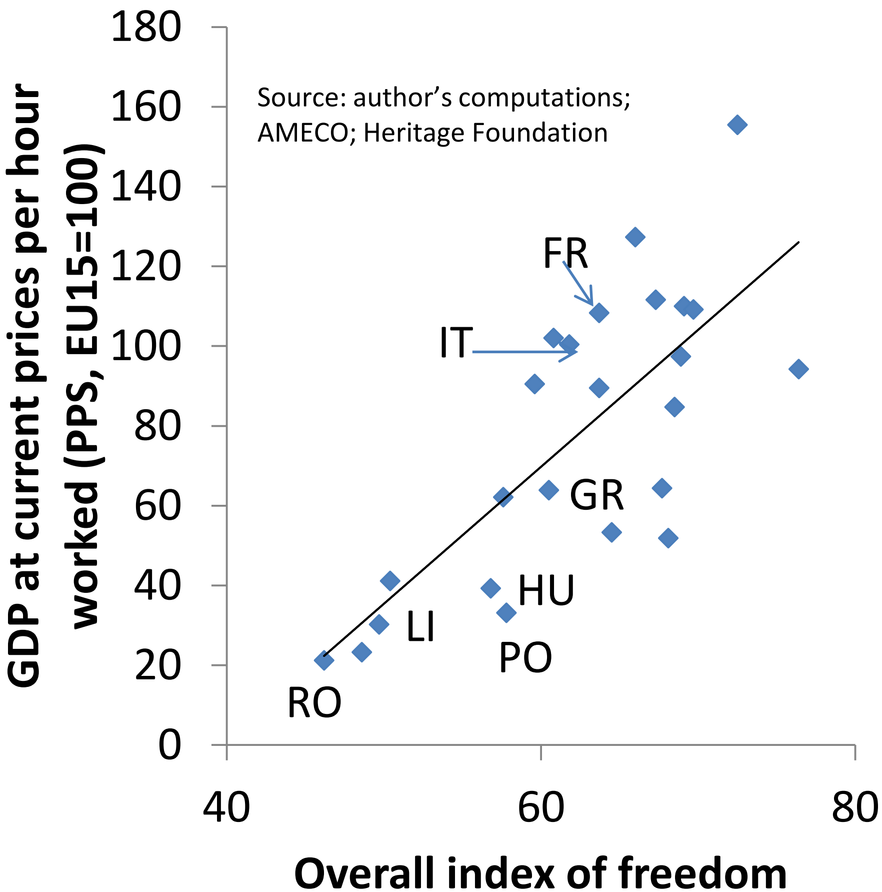
Outlook for 2015 and beyond

- Expected economic outcomes in 2015 if fiscal plans receive approval:
  - ✓ GDP growth estimated at 4.4% in 2015 and 4.1% in 2016 (beyond potential in both cases)
  - ✓ O-Y-A inflation estimated at - 0.2% in December 2015 and 0.7% in December 2016. Annual average inflation of -0.2% in 2015 and -0.8% in 2016
  - ✓ The CA deficit, expected to deepen to -1.5 percent of GDP
  - ✓ Budget deficit moves at 4 percent in 2016 and 5 percent in 2017 if both the Fiscal Code and the wage bill are approved
- Weakened macroeconomic fundamentals would not support strong growth and would lead to further delayes in joining the Banking Union and the euro area

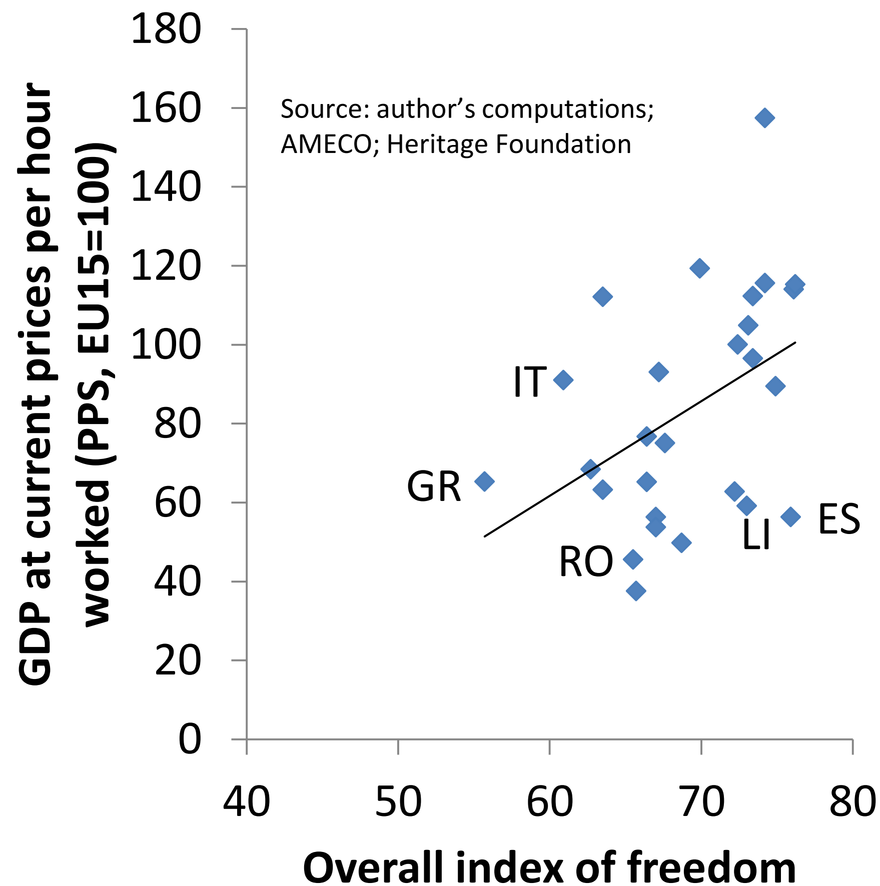
II. Economic freedom and real convergence

EU economies became more liberal in 2014 as compared to 1996 (see detailed charts at the end of the presentation)

Economic freedom in 1996

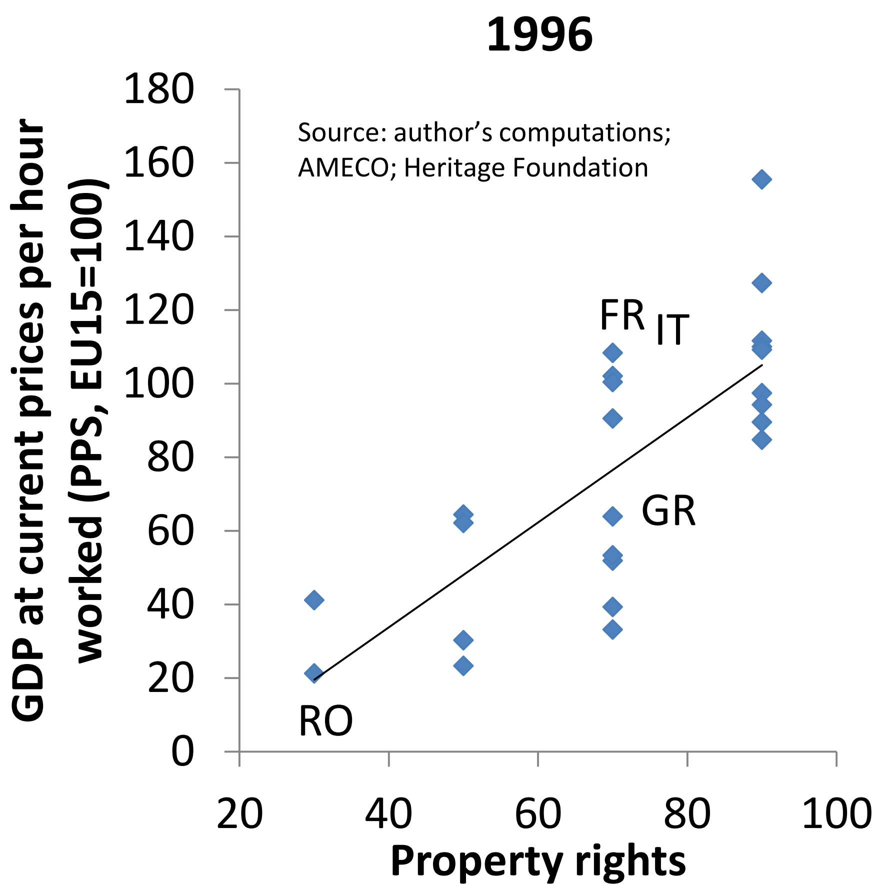


Economic freedom in 2014

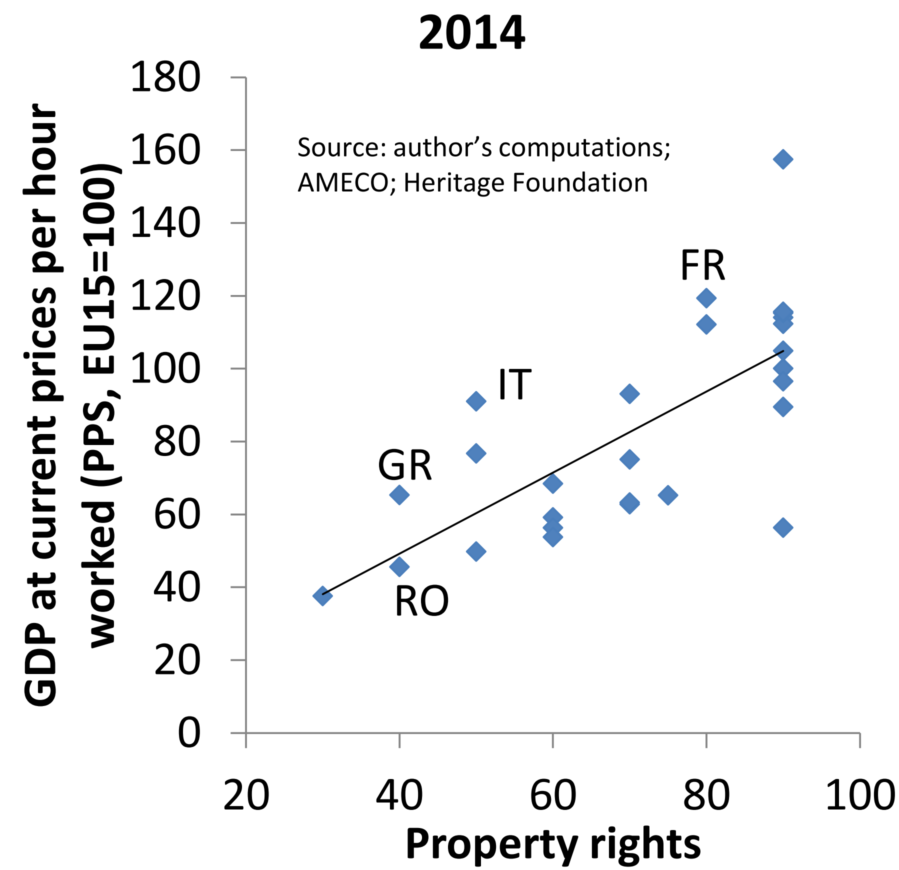


EU countries migrate to upper clusters as regards property freedom. Slow progress for Romania

Unclear property rights in Romania in 1996

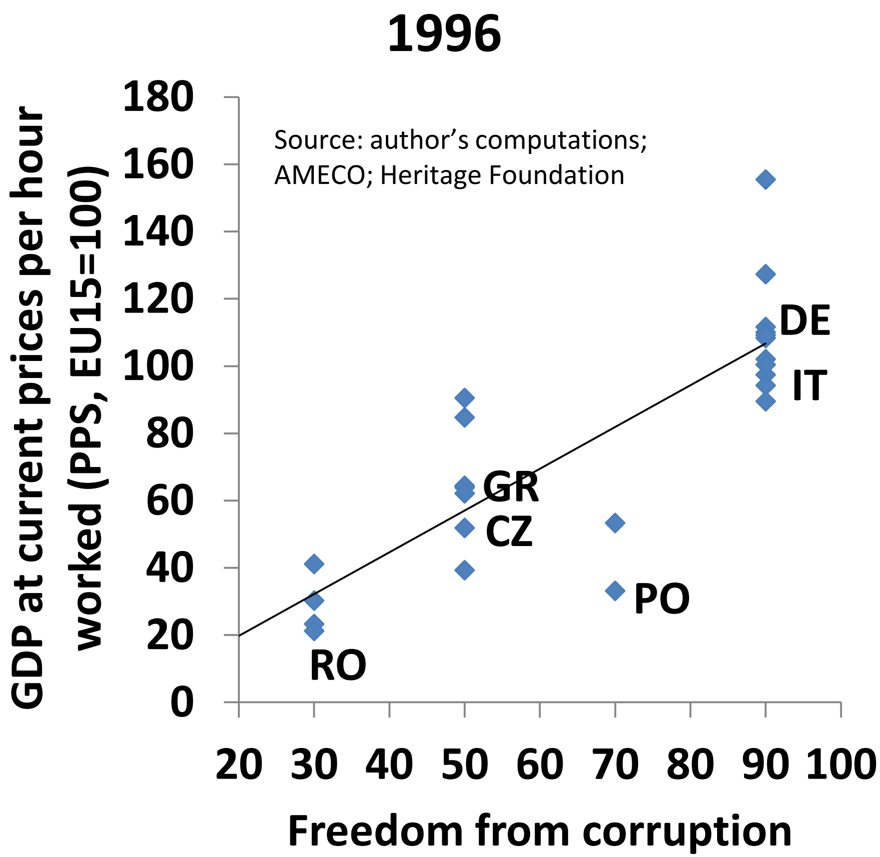


Romania has made little progress until 2014; Italy and Greece show regression

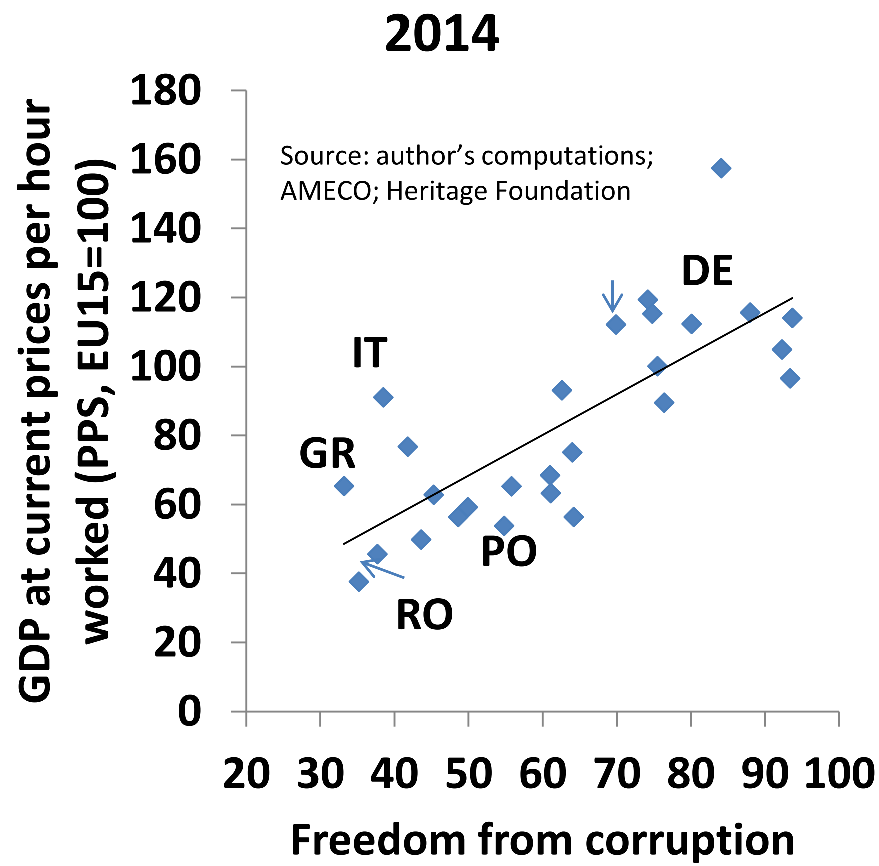


Some developed countries have lost part of their freedom from corruption

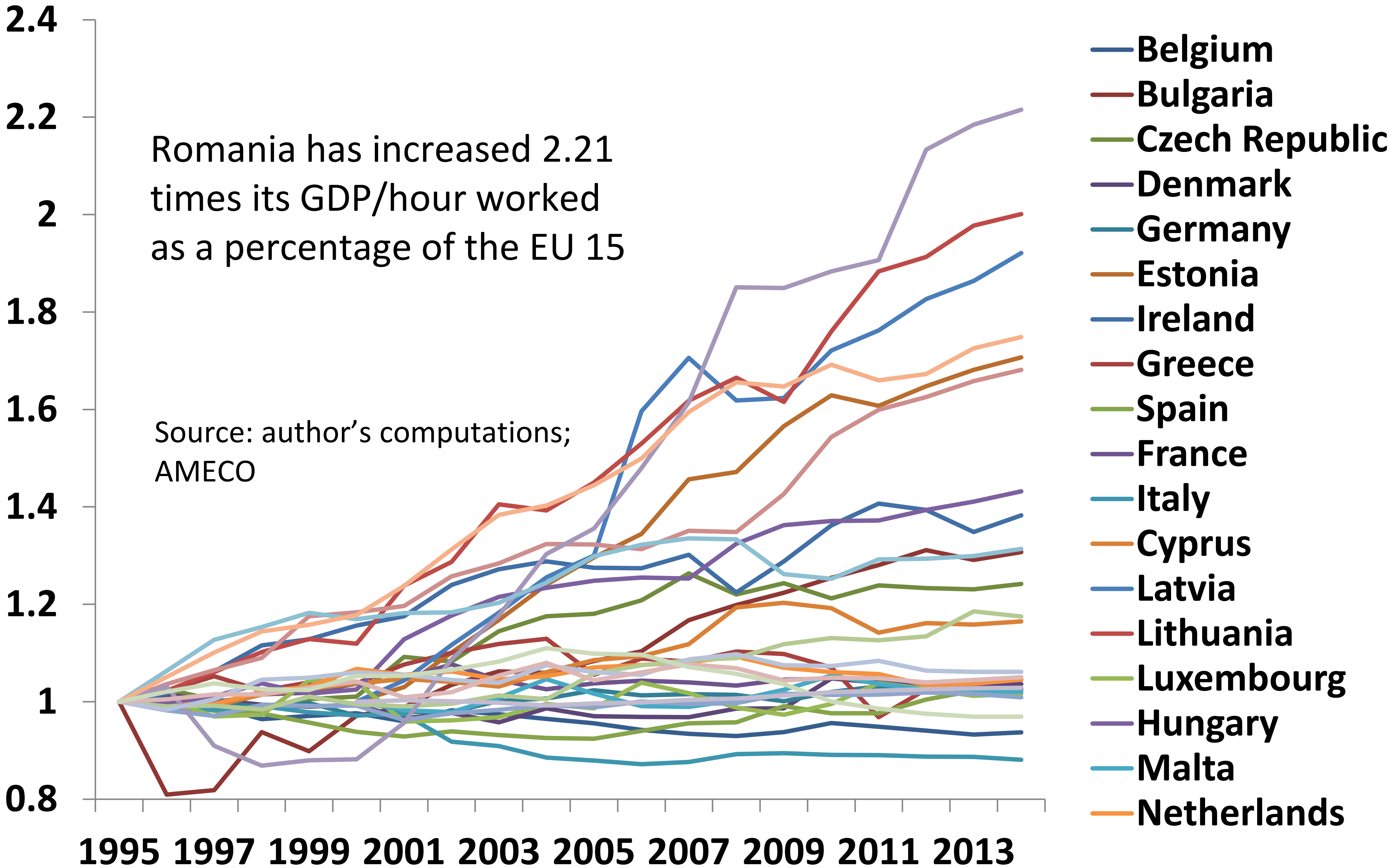
Romania was among countries with the lowest freedom from corruption in 1996

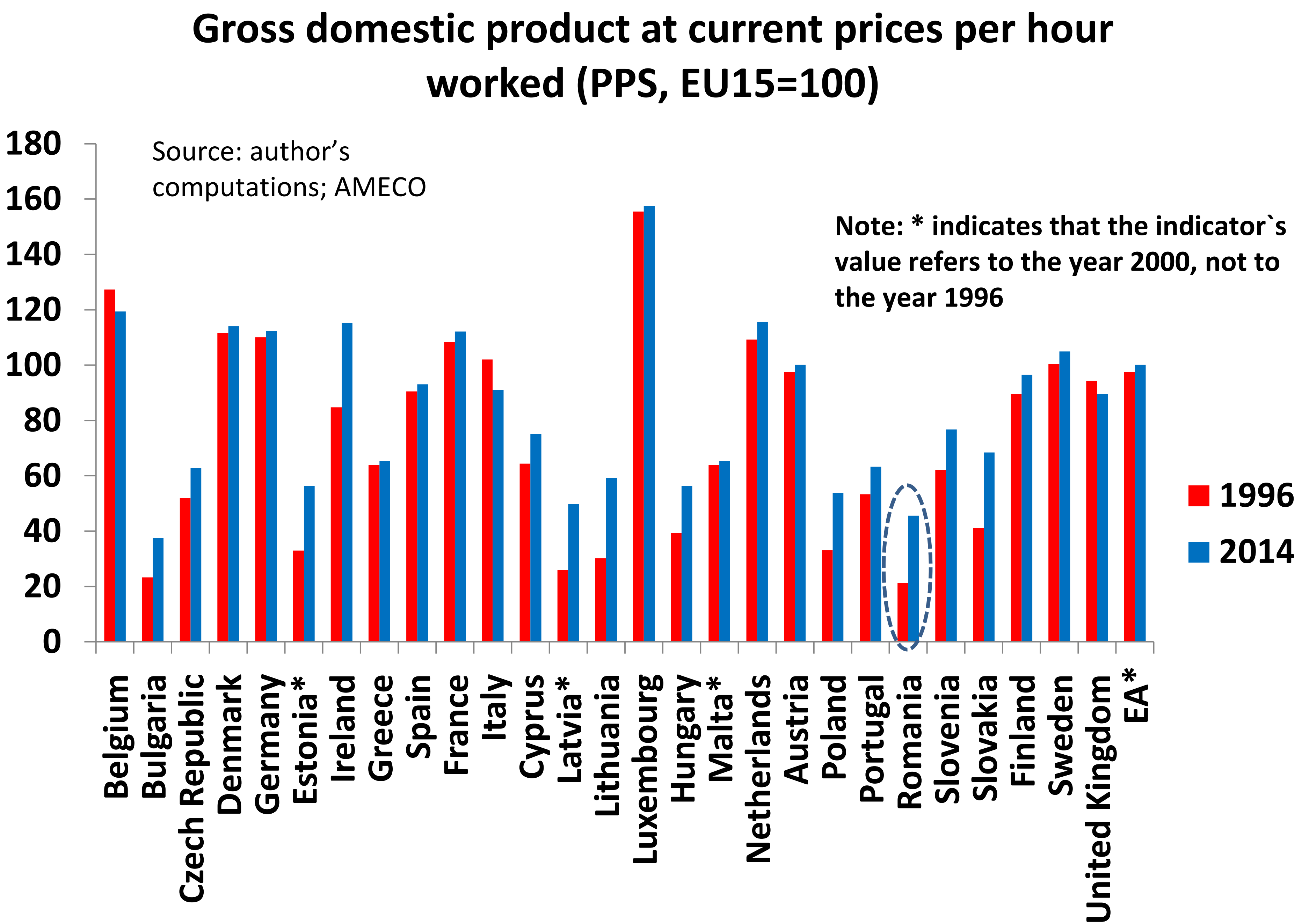


Greece and Italy have the lowest freedom from corruption in 2014 among EA countries



Gross domestic product at current prices per hour worked (PPS, EU15=100): Change in positions (index)




Gross domestic product at current prices per hour worked (PPS, EU15=100)
Source: author's computations; AMECO
Note: * indicates that the indicator`s value refers to the year 2000, not to the year 1996
180
160
140
120
100
80
60
40
20
0
1996
2014
Belgium
Bulgaria
Czech Republic
Denmark
Germany
Estonia*
Ireland
Greece
Spain
France
Italy
Cyprus
Latvia*
Lithuania
Luxembourg
Hungary
Malta*
Netherlands
Austria
Poland
Portugal
Romania
Slovenia
Slovakia
Finland
Sweden
United Kingdom
EA*

Romania`s scoreboard indicators in 2013

- **Public debt**: 37.9 % of GDP
- **Curent account (CA) deficit** (average over the past 3 years): 1.9 % of GDP
- **Net international investment position**: **-61.5** % of GDP
- **Real effective exchange rate** (percentage change over the past 3 years): 0.3
- **Market share of exports of goods and services** (percentage change over the last 5 years): 16.4
- **Unit labor cost** (percentage change over the past 3 years): 0.7
- **Houses price index** (annual percentage change): -4.6
- **Private sector debt**: 66.4 % of GDP
- **Credit flow to the private sector**: -1.5 % of GDP
- Unemployment rate: 7 %
- **Financial sector total liability** (annual change): 3.1 %

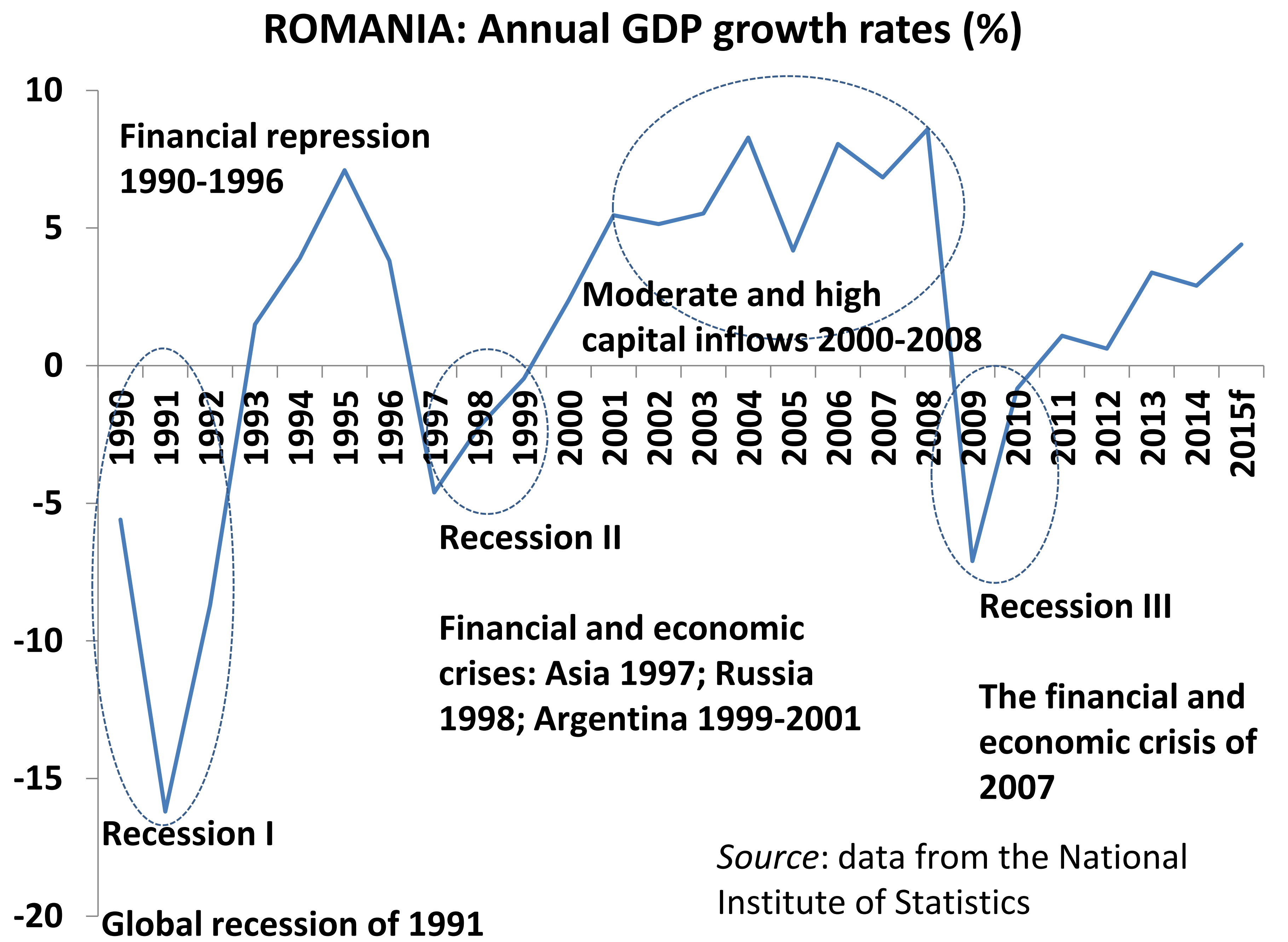
Romania's indices of economic freedom for 2015 compare well to those of Germany, except for property rights, freedom from corruption, and financial freedom

Indicator	**Romania** (66.6; ranks 57)	**Germany** (73.8; ranks 16)
• Property Rights (RoL)	**40.0** ~	90.0 ~
• Freedom From Corruption (RoL)	**43.0 +**	78.0 -
• Business Freedom (RE)	69.8 -	88.2 -
• Labor Freedom (RE)	68.6 +	51.2 +
• Monetary Freedom (RE)	77.3 +	81.5 +
• Government Spending (LG)	62.3 +	40.1 +
• Fiscal Freedom (LG)	86.9 -	60.8 -
• Trade Freedom (OM)	88.0 +	88.0 +
• Investment Freedom (OM)	80.0 ~	90.0 ~
• Financial Freedom (OM)	**50.0 ~**	70.0 ~

Source: Heritage Foundation

RoL=rule of law; **RE**=regulatory efficiency; **LG**=low government; **OM**=open markets; **-** indicates a decrease as compared to the previous year; **+** indicates an increase as compared to the previous year; **~** = stable

III. GDP dynamics and its features


ROMANIA: Annual GDP growth rates (%)
10
5
0
-5
-10
-15
-20
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015f
Financial repression 1990-1996
Moderate and high capital inflows 2000-2008
Recession I
Global recession of 1991
Recession II
Financial and economic crises: Asia 1997; Russia 1998; Argentina 1999-2001
Recession III
The financial and economic crisis of 2007
Source: data from the National Institute of Statistics

Romania’s GDP growth: some features

- High dependency on capital inflows
- Three distinctive periods of positive growth:
  - The financial repression period: 1990-1996
  - **The boom period:** 2000-2008 (high capital inflows fuelled high growth)
  - **The “free” growth period** (no implicit subsidies, no high capital inflows): 2011-until now. GDP growth averaged 2 percent a year

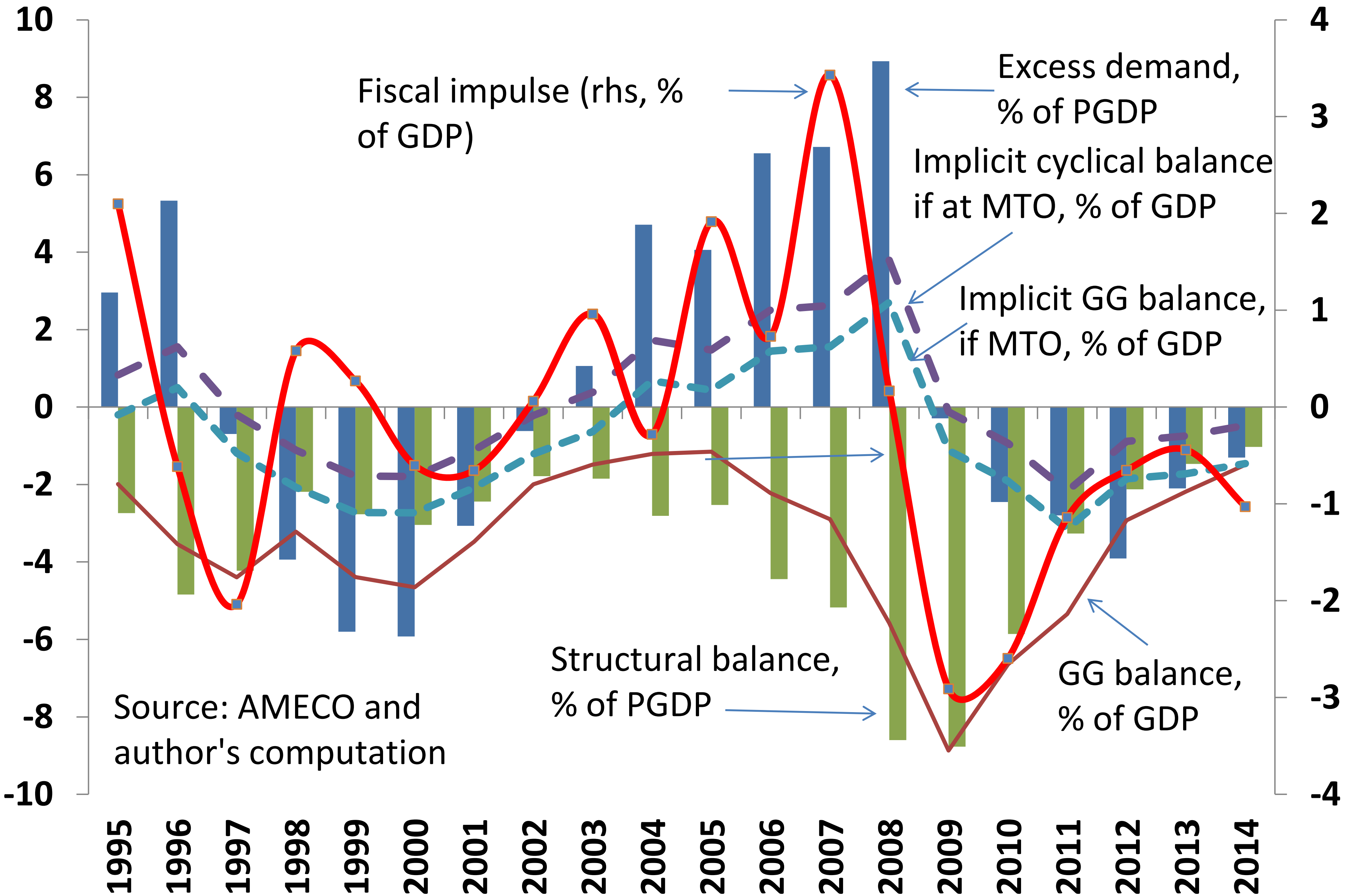
In Romania, GDP growth depends on capital inflows (%) (Source: NIS and author`s calculations)

Period	Average growth rate	Cumulated growth over the period	Comments
1990-1992	-10.7	-27.8*	low private capital inflows
1993-1996	4.08	17.2	low private capital inflows
1997-1999	-2.4	-7.2	low private capital inflows
2000-2004	5.4	29.8**	MODERATE PRIVATE CAPITAL INFLOWS
2005-2008	6.9	30.6	HIGH PRIVATE CAPITAL INFLOWS
2009-2010	-4.0	-7.9	high public external borrowings
2011-2014***	2.0	8.3	low private capital inflows

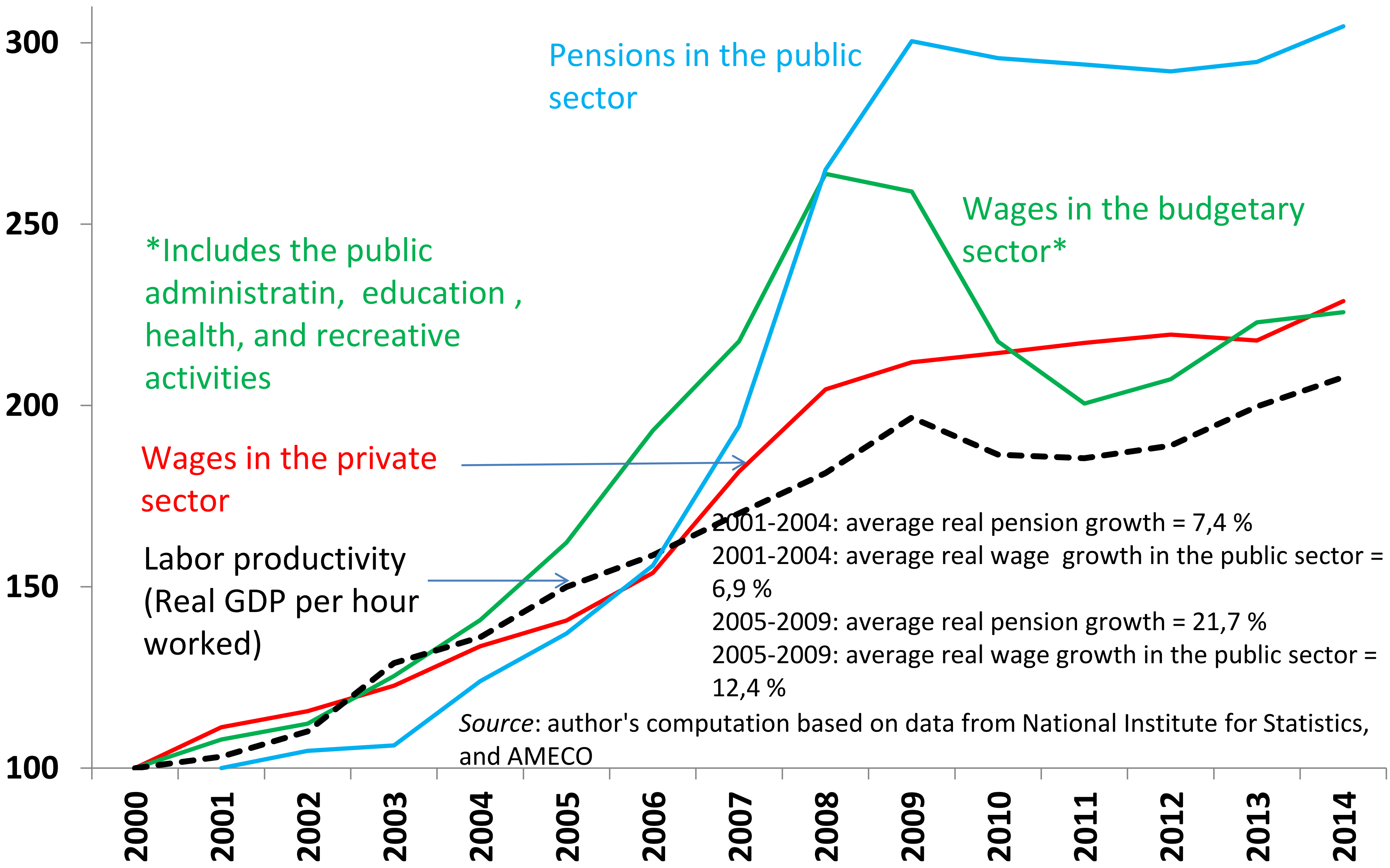
* 3 years; ** 5 years; ***growth for 2014 estimated at 2.9 percent

IV. The fiscal deficit and the cycle

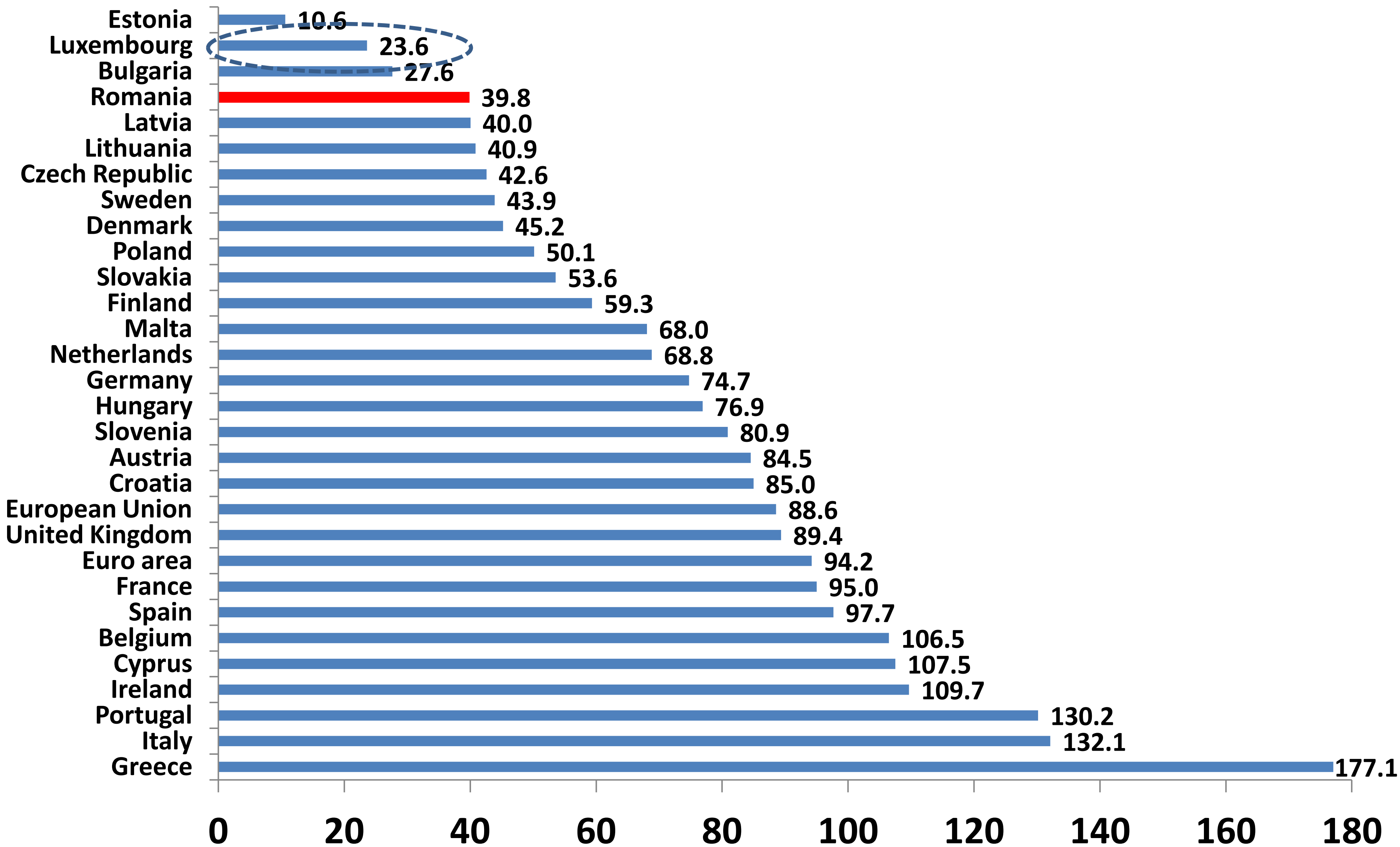
Procyclical fiscal policy before and after the 2008 crisis



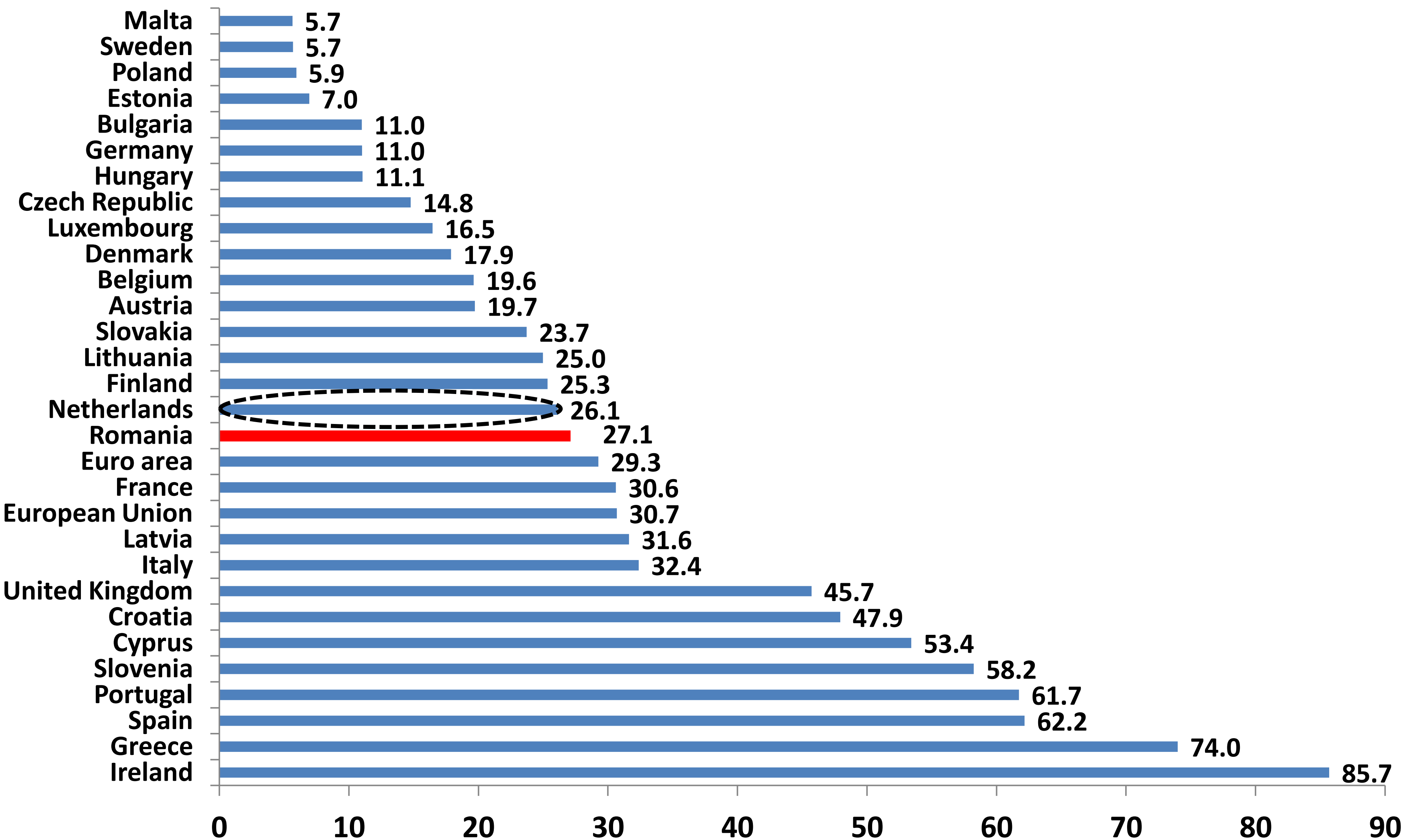
Cumulated percentage growth of wages, labor productivity (2000=100), and public pensions (2001=100)



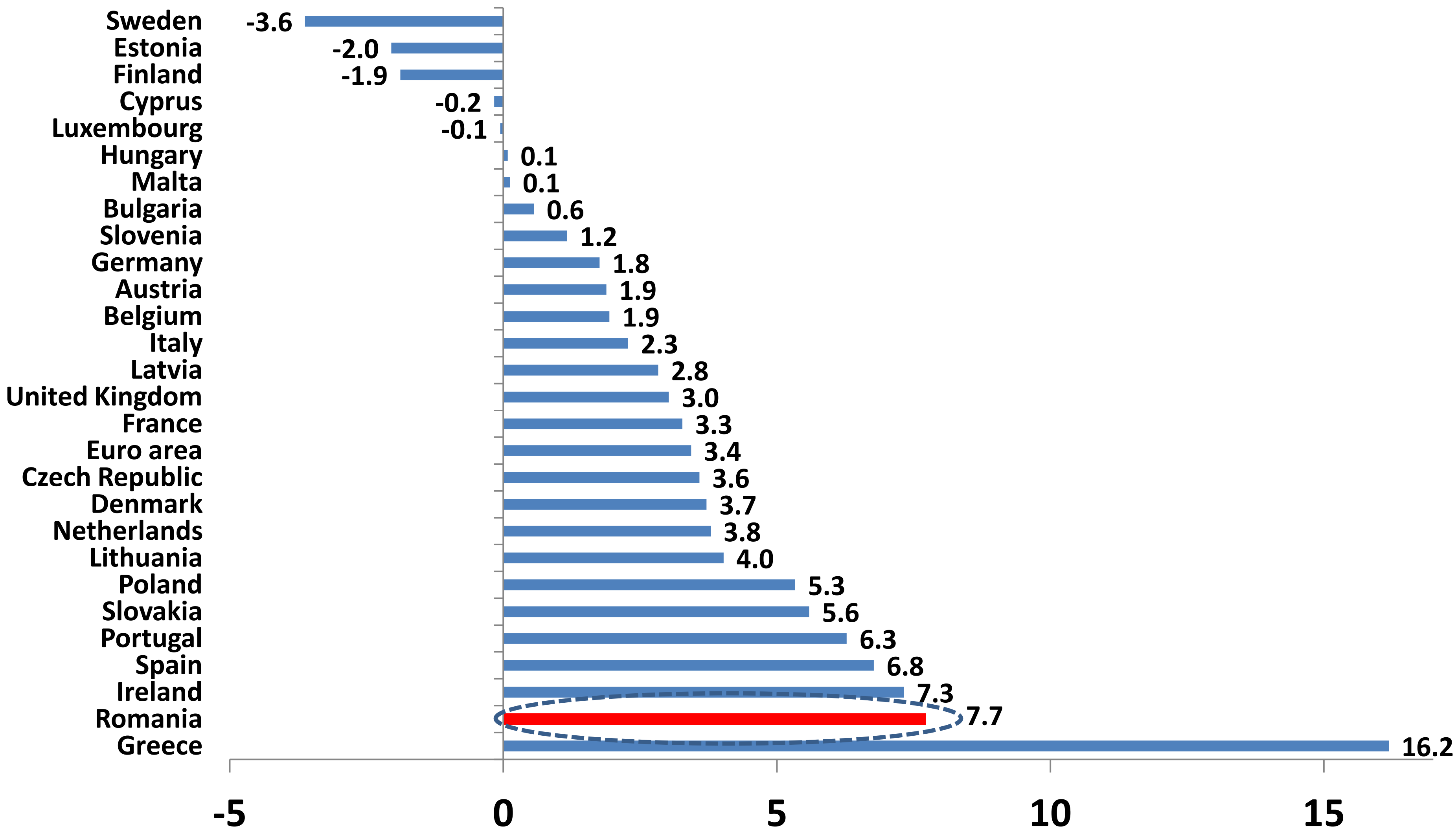
Public debt as a percent of GDP in the EU in 2014. Romania has a enviable position



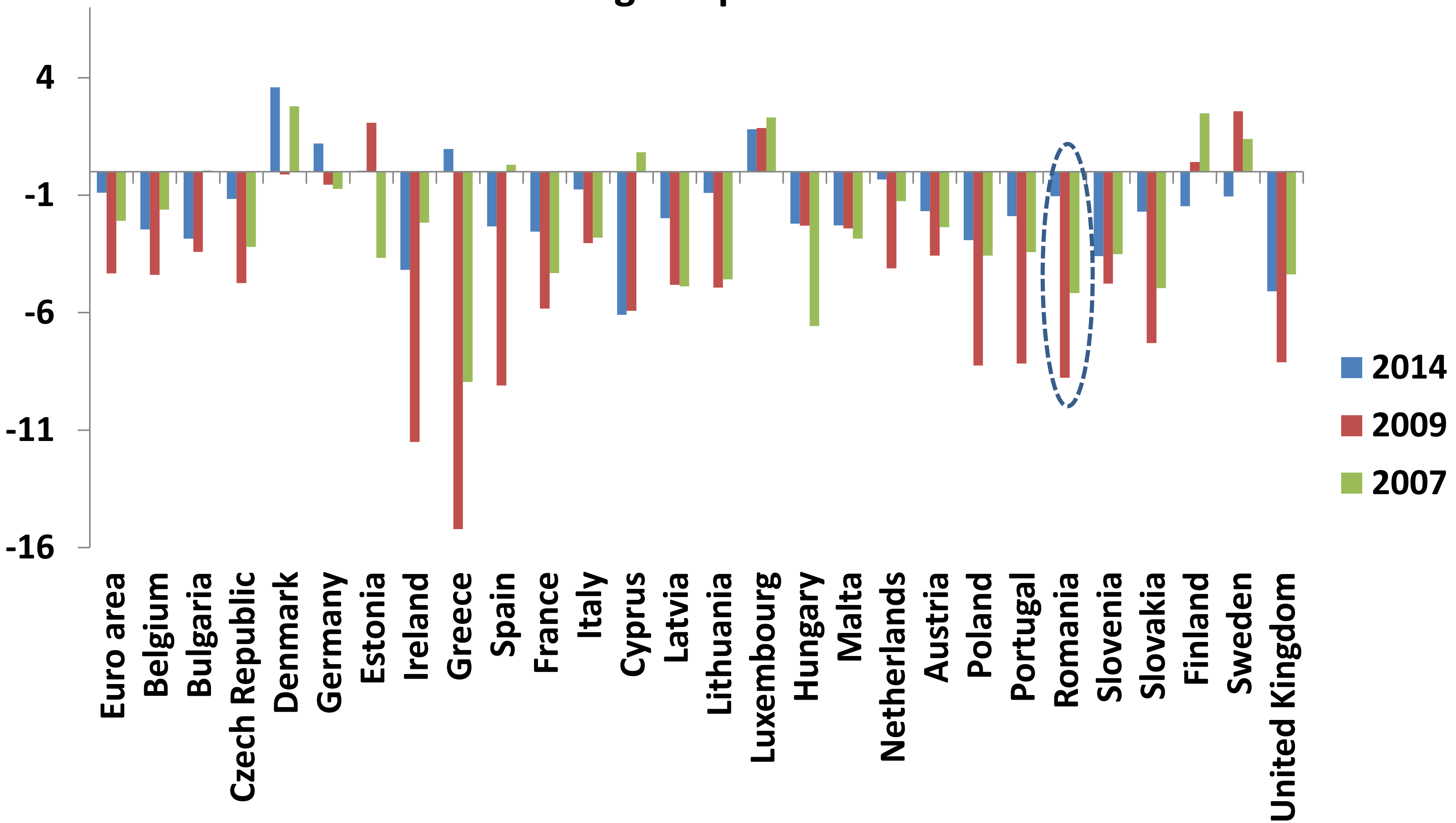
Changes in public debt in the EU from 2007 to 2014 (percentage points). Significant upward adjustment in the case of Romania, but low by comparison to other countries



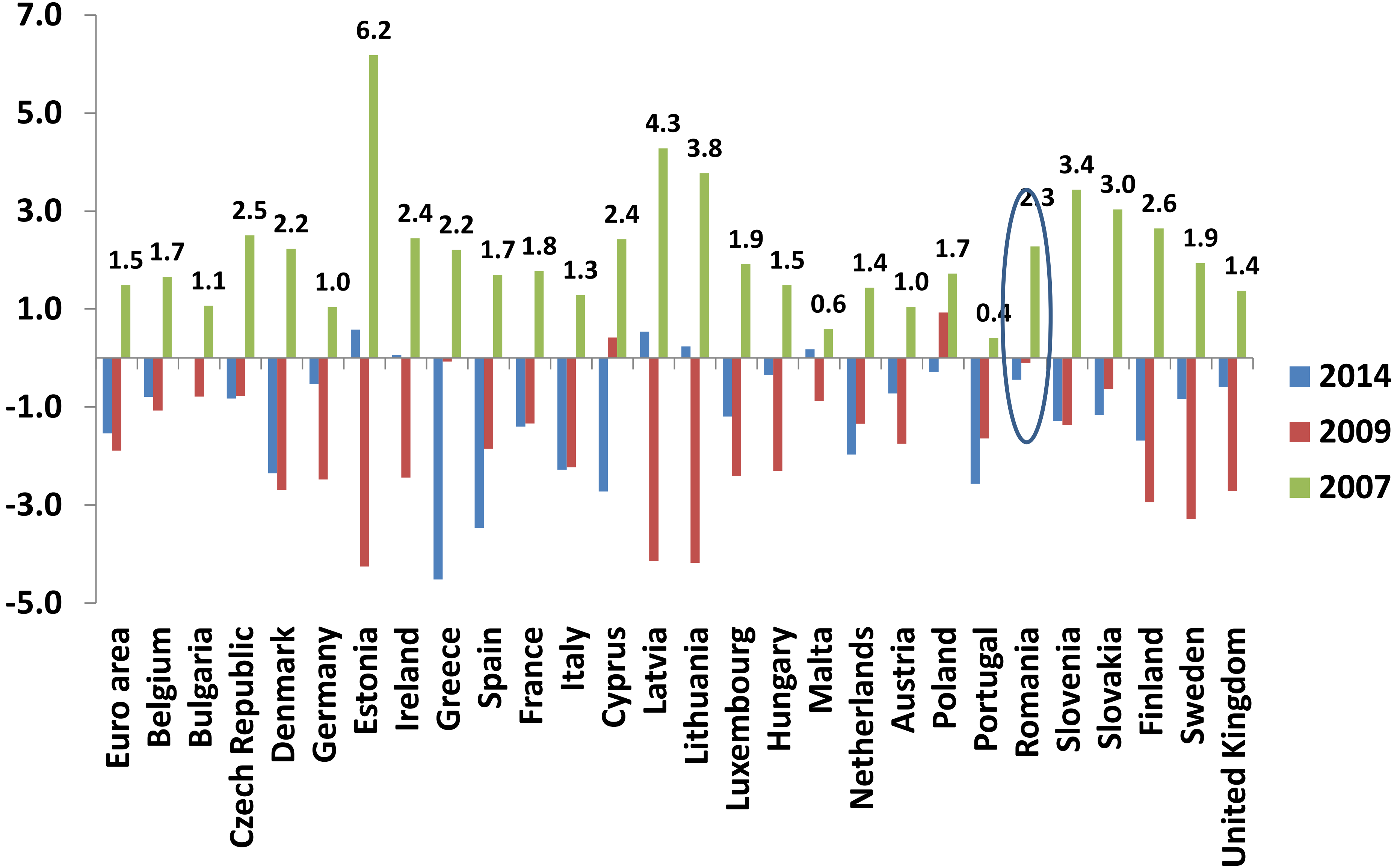
Changes in cyclically adjusted GG balances (percentage points): Roamania performed the second largest adjustment („-” means a increase in the fiscal deficit)



Cyclically adjusted GG balances: Romania compared badly to other EU countries before 2008 and compares well prezently. Adjustments made in 2010 were key to reaching the present good positin

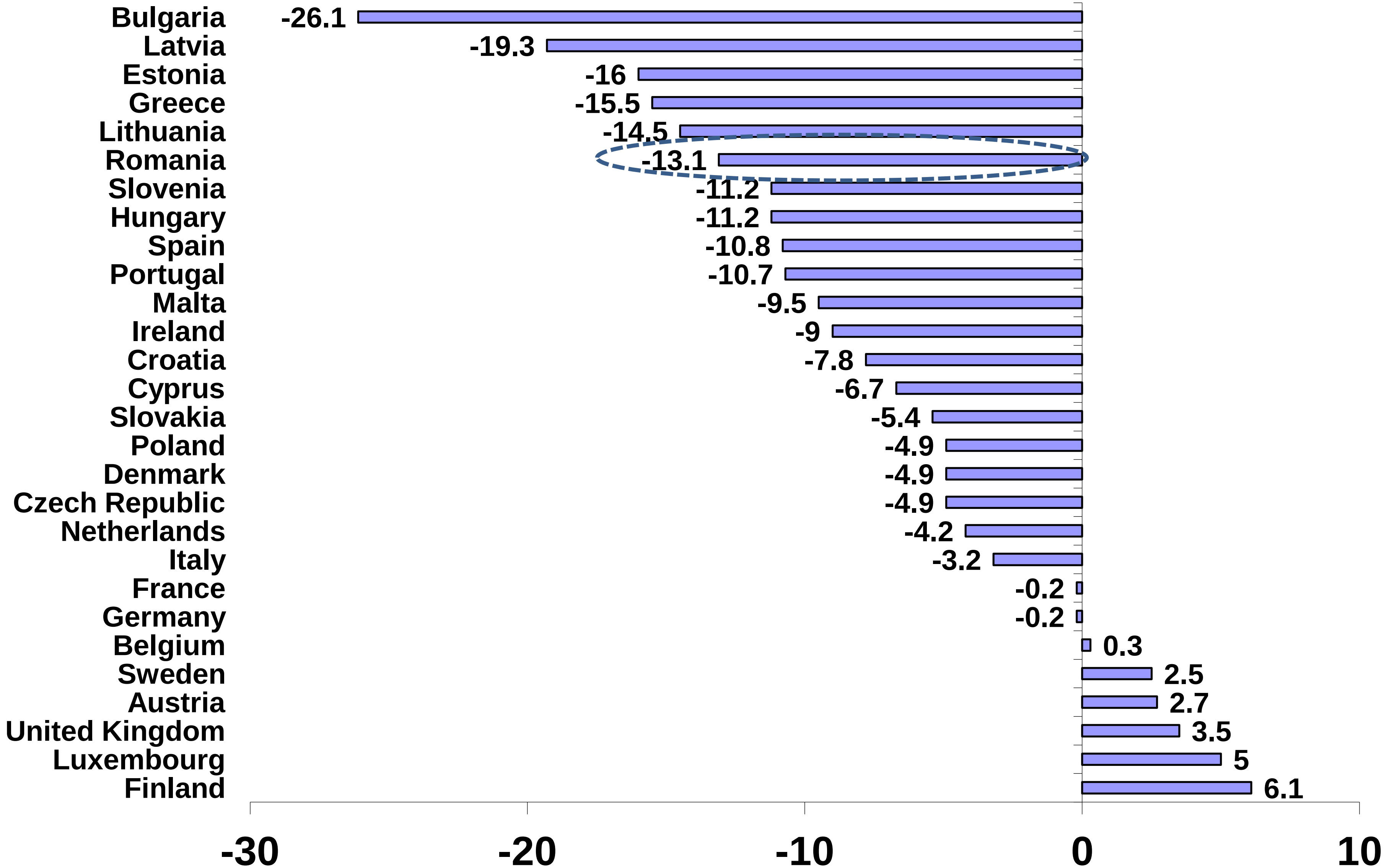


Cyclical fiscal balance in EU countries (% of GDP). Almost each country was imprudently enjoying good times

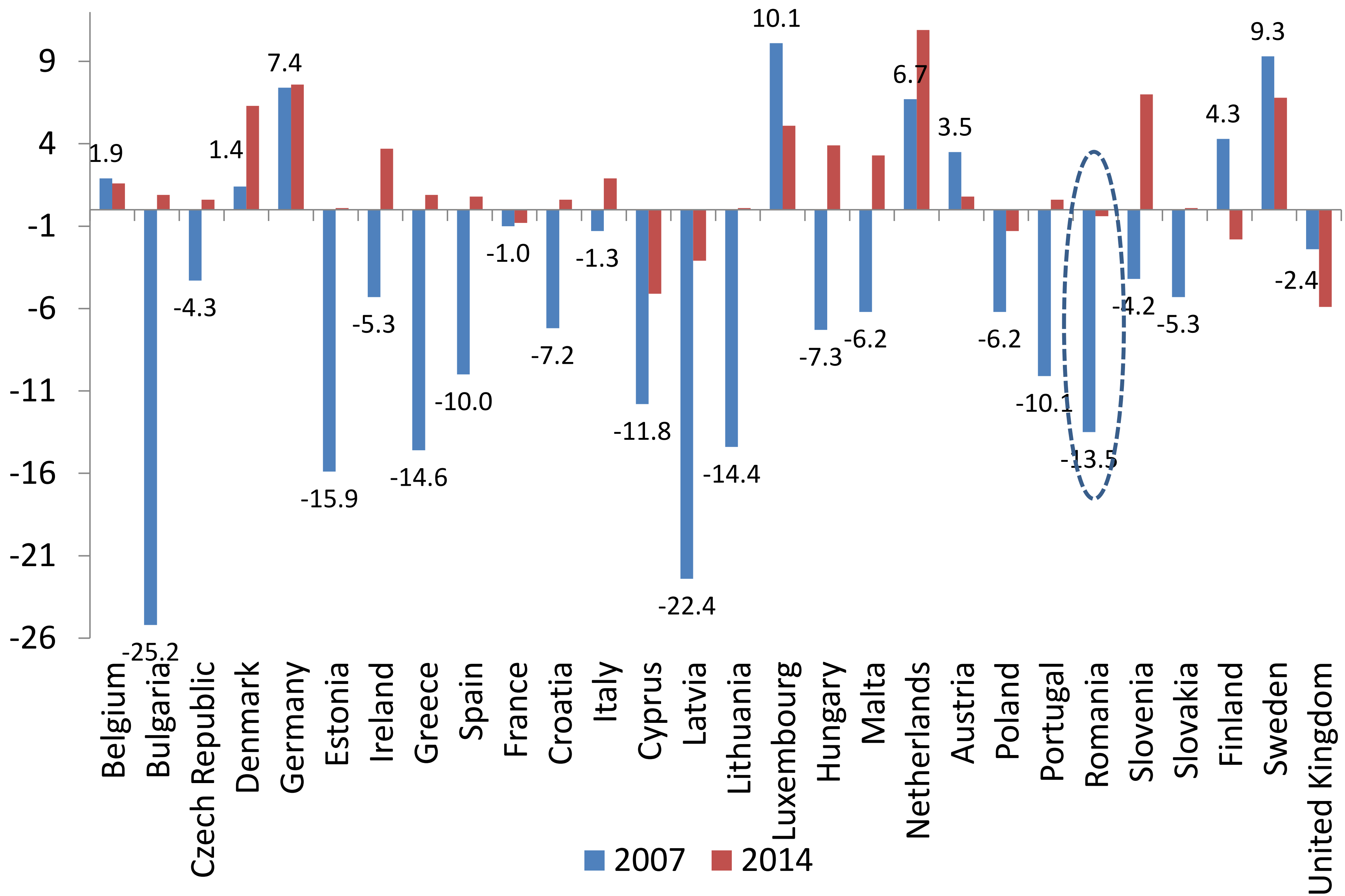


V. The current account

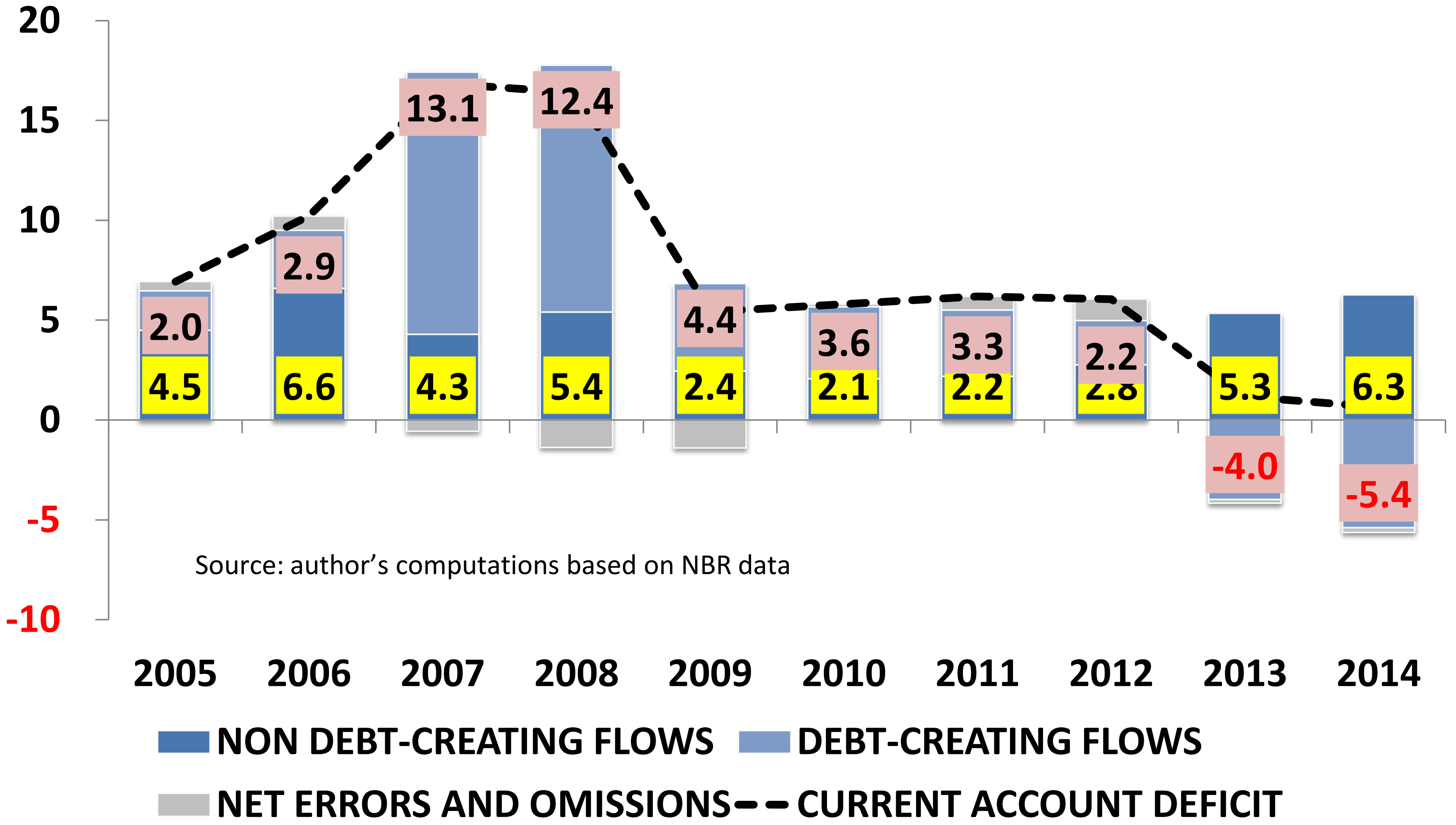
Significant changes in current account balances (percentage points). „-” indicates a reduction in the CA deficit

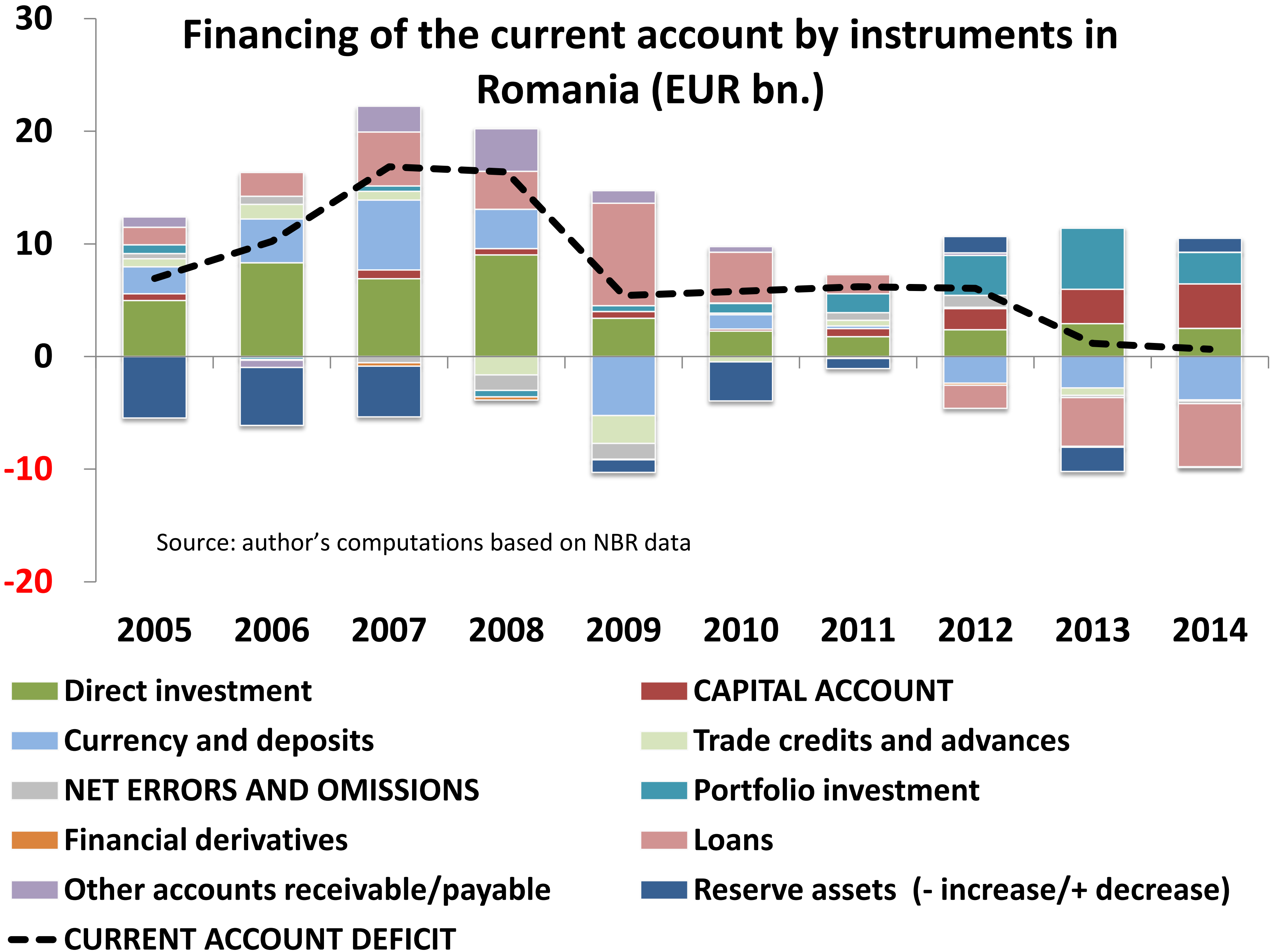


Current account balances in EU countries (% of GDP)

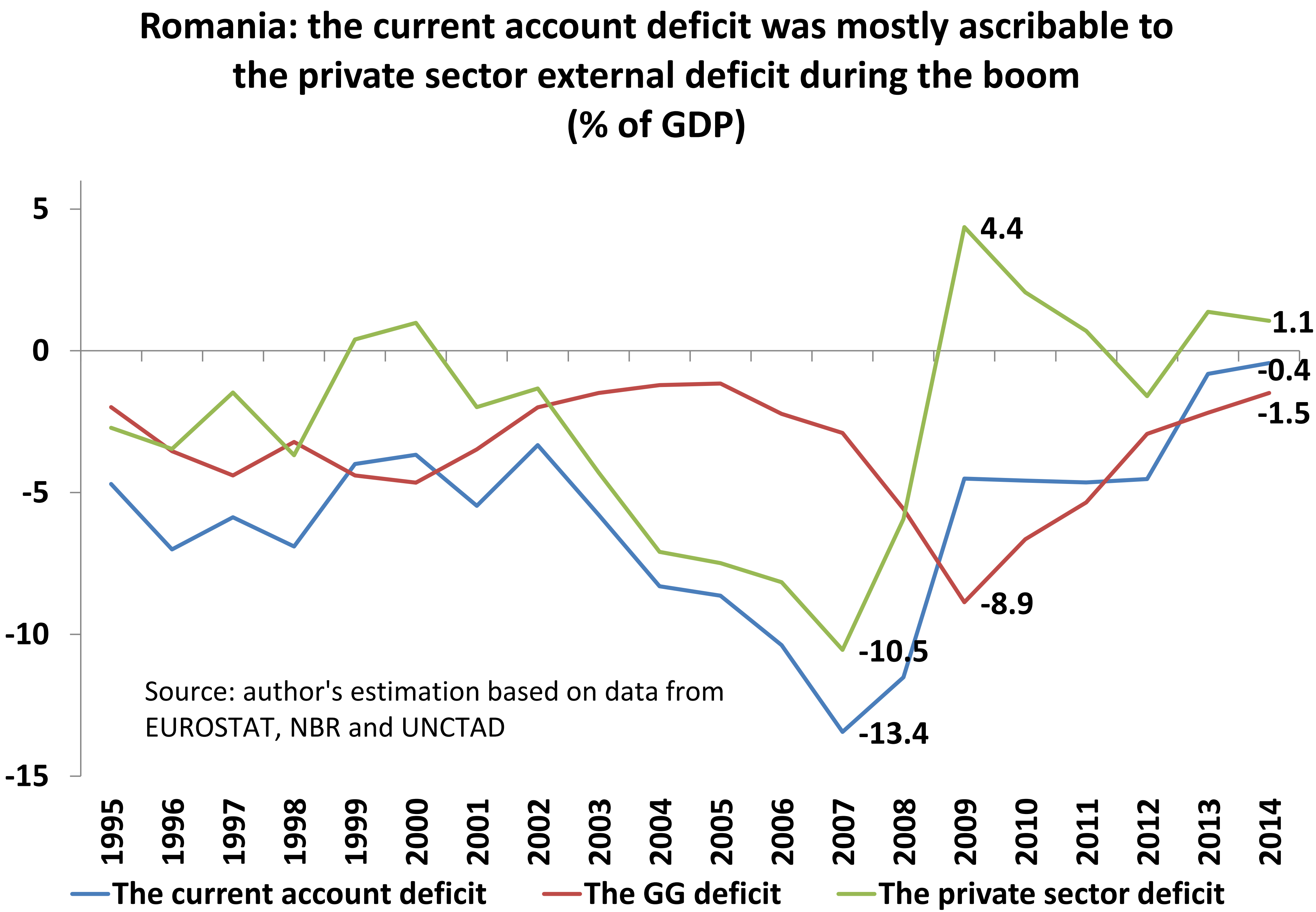


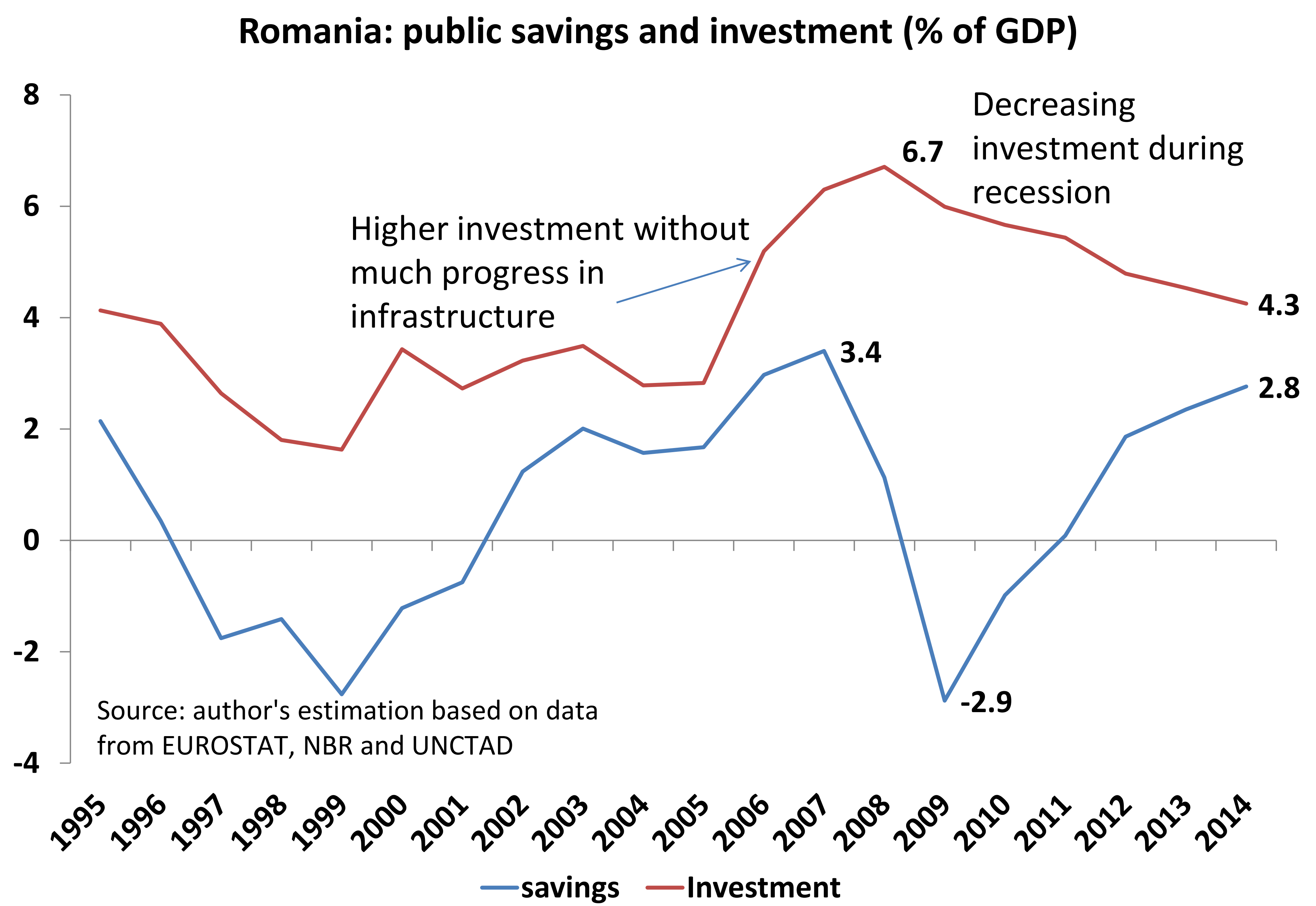
In Romania, the current account was mostly financed by debt creation during the boom phase of the cycle (EUR bn.)

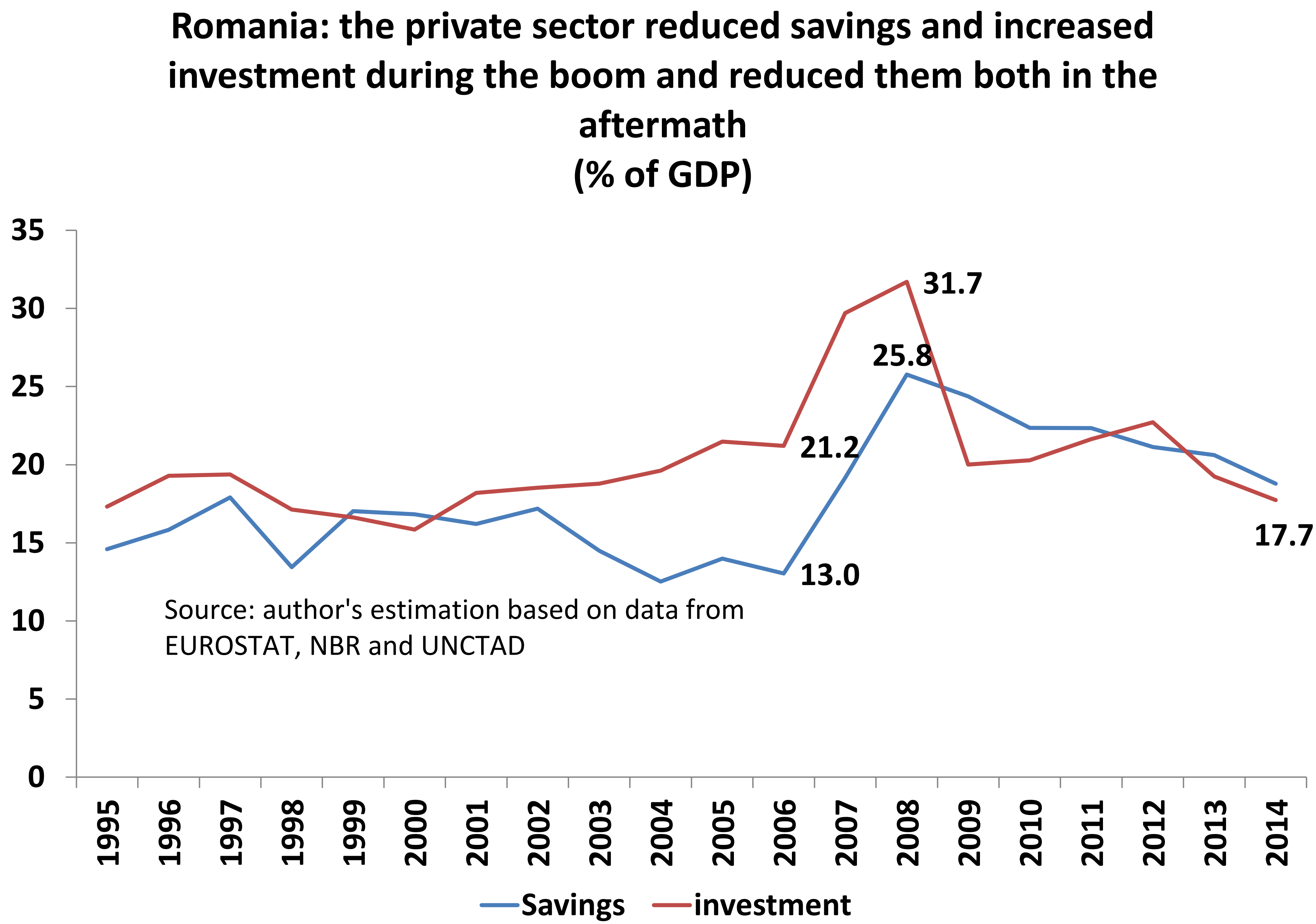




Financing of the current account by instruments in Romania (EUR bn.)
30
20
10
0
-10
-20
Source: author's computations based on NBR data
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Direct investment
CAPITAL ACCOUNT
Currency and deposits
Trade credits and advances
NET ERRORS AND OMISSIONS
Portfolio investment
Financial derivatives
Loans
Other accounts receivable/payable
Reserve assets (- increase/+ decrease)
CURRENT ACCOUNT DEFICIT


Romania: the current account deficit was mostly ascribable to
the private sector external deficit during the boom
(% of GDP)
5
0
-5
-10
-15
4.4
1.1
-0.4
-1.5
-8.9
-10.5
-13.4
Source: author's estimation based on data from
EUROSTAT, NBR and UNCTAD
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
The current account deficit
The GG deficit
The private sector deficit


Romania: public savings and investment (% of GDP)
8
6
4
2
0
-2
-4
Decreasing investment during recession
6.7
Higher investment without much progress in infrastructure
4.3
3.4
2.8
-2.9
Source: author's estimation based on data from EUROSTAT, NBR and UNCTAD
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
savings
Investment

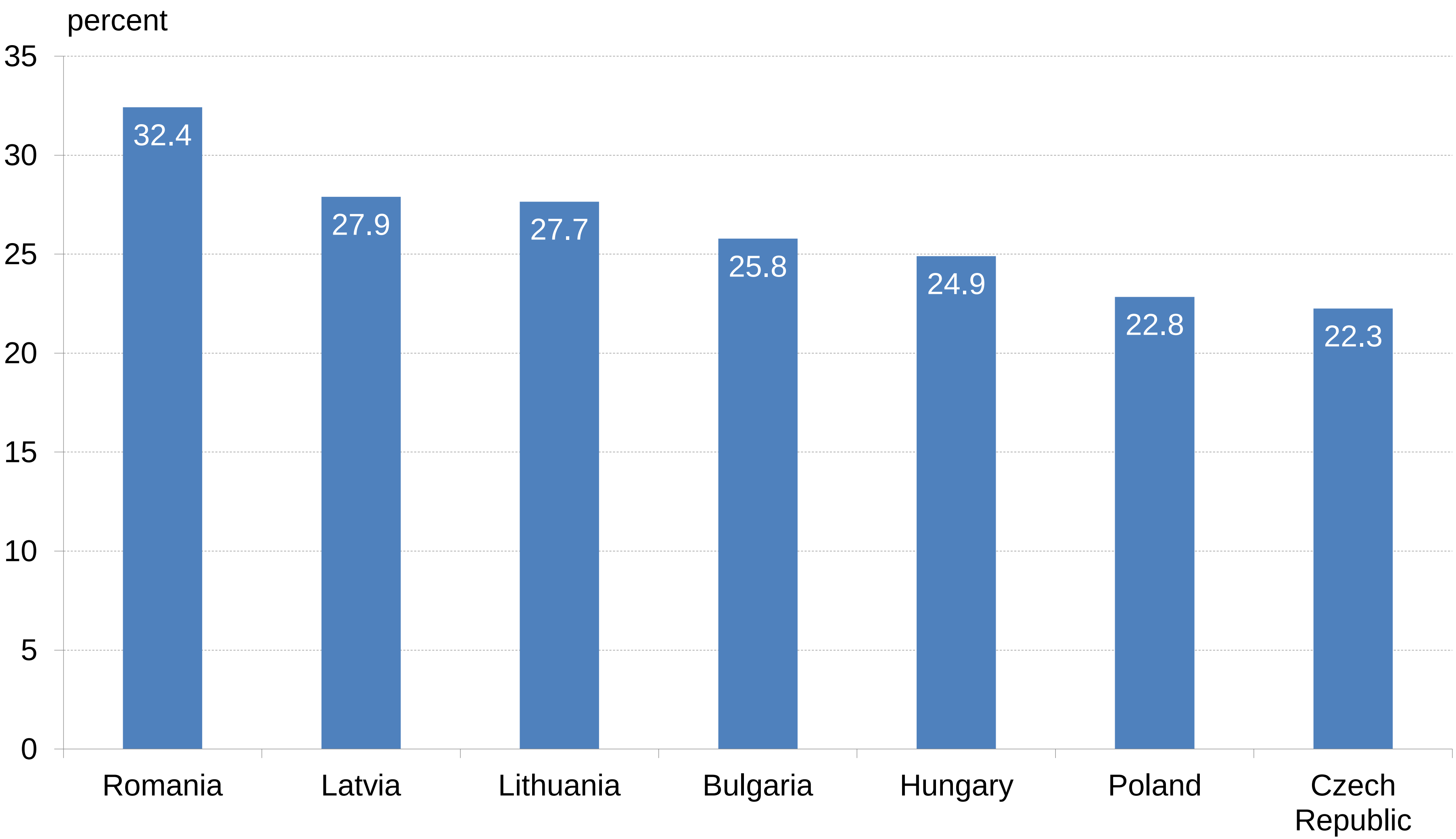

Romania: the private sector reduced savings and increased investment during the boom and reduced them both in the aftermath
(% of GDP)
35
30
25
20
15
10
5
0
31.7
25.8
21.2
13.0
17.7
Source: author's estimation based on data from EUROSTAT, NBR and UNCTAD
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Savings
investment

VI. Inflation developments

A few features of the HICP consumer basket in Romania

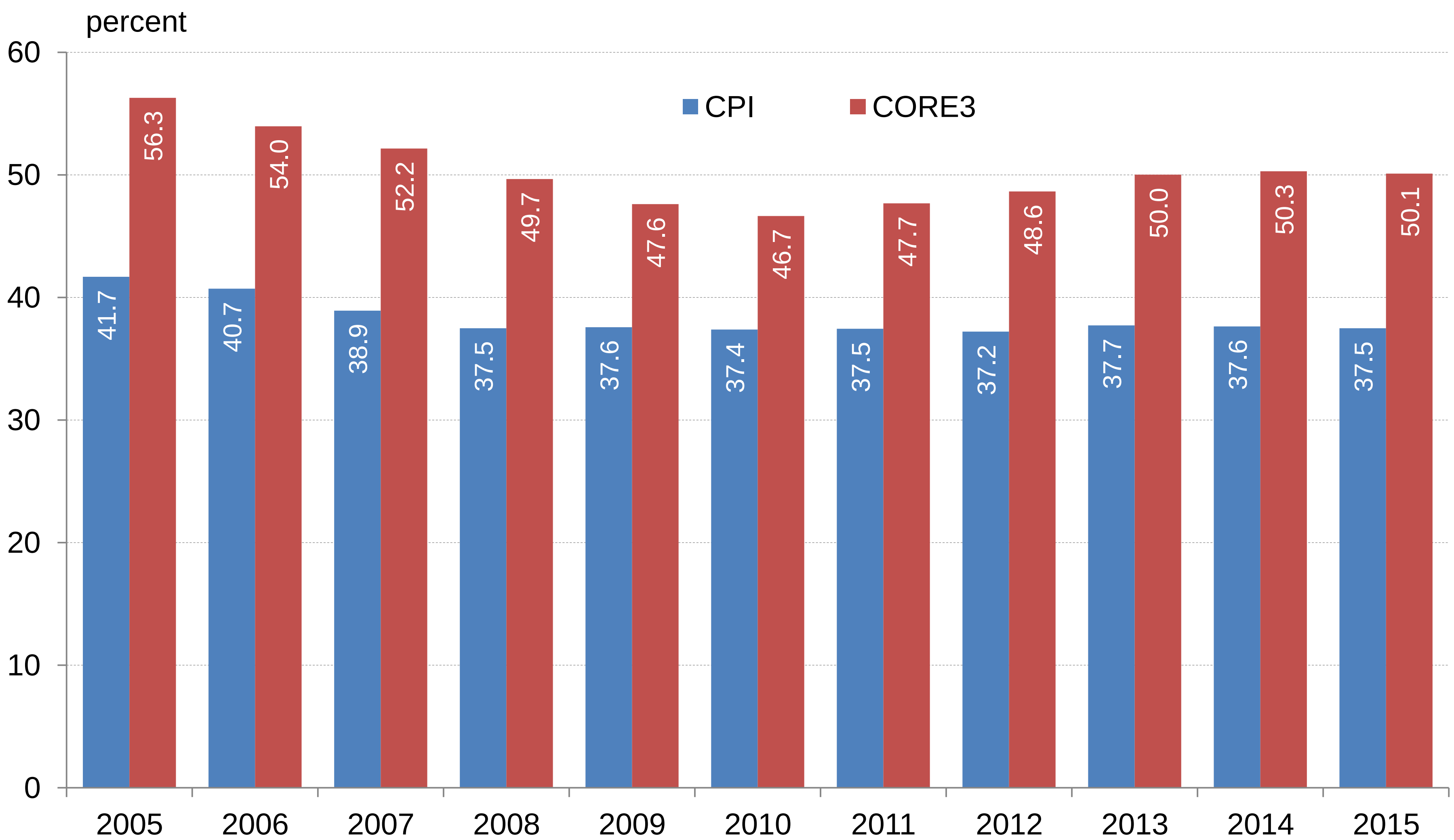
- 32 percent of consumer bascket are given by food and volatile prices
- Had the NBR chosen the core inflation to be targeted, it would have been difficult for the public to understand the concept
- By choosing the headline inflation to be targeted, the NBR exposed itself to the reputational risk of missing the target because of high volatility of too many prices

The share of food items in the HICP consumer basket, 2015

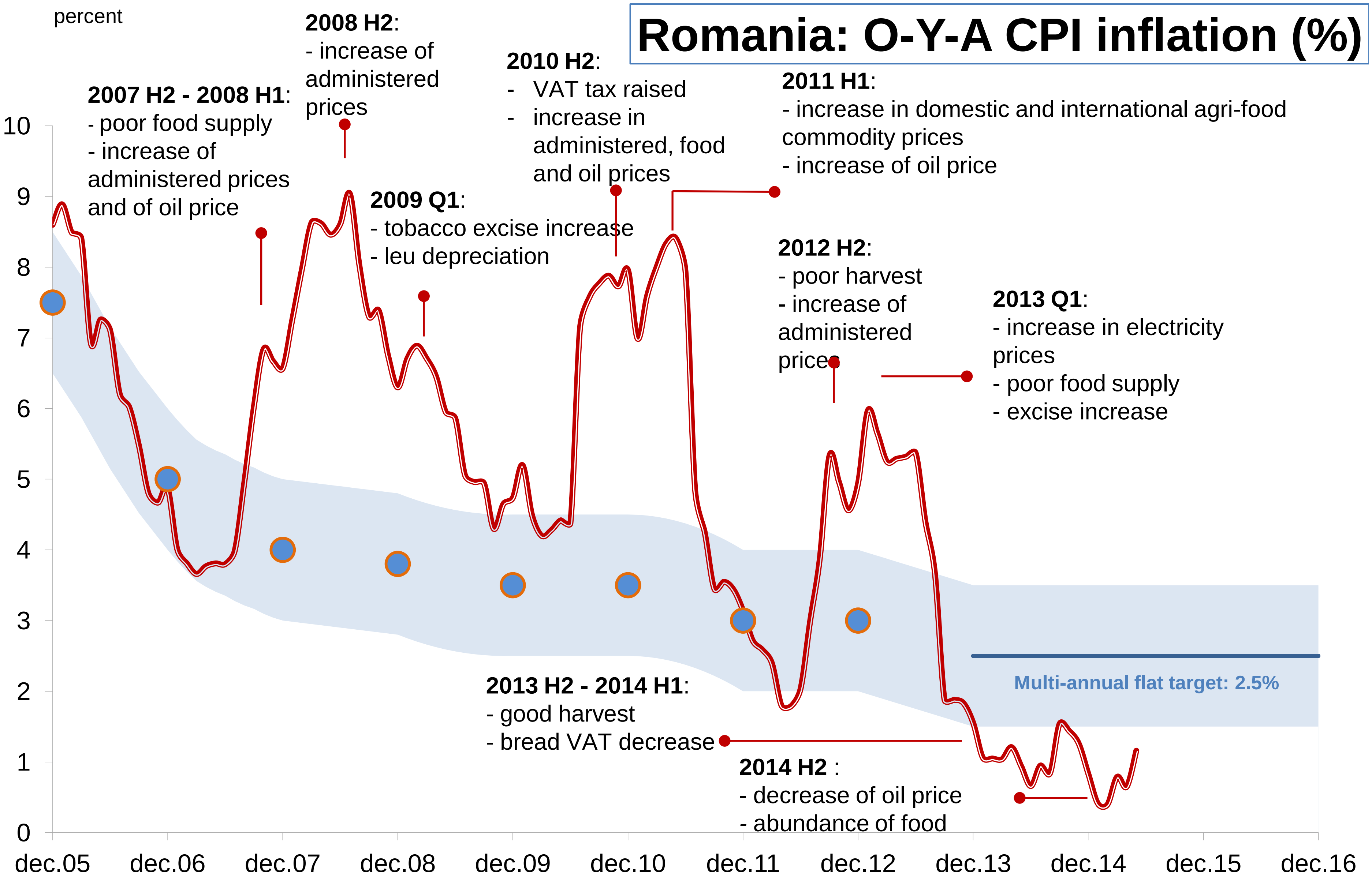


Source: Eurostat

Romania: the share of food items in the consumer basket



Source: NIS



Note: Variation band of the target is ±1 percentage point.

Source: NIS, NBR

VII. Monetary policy

Five distinct periods of inflation deviation from the target prior to the downturn

1. The period up to the closing of the output gap (2003 Q1-2004 Q2);
2. The following period up to the adoption of inflation targeting (2004 Q3-2005 Q3);
3. **The period between the shift to inflation targeting and the surge in capital inflows (2005 Q4-2006 Q3);**
4. **The period of massive capital inflows, up to the outbreak of the global crisis (2006 Q4-2007 Q3);**
5. The period between the global crisis setting in until the domestic economy entered recession (2007 Q4-2008 Q3), when the contribution of CORE3 inflation to the deviation of CPI inflation from the target was positive and relatively high for the first time.

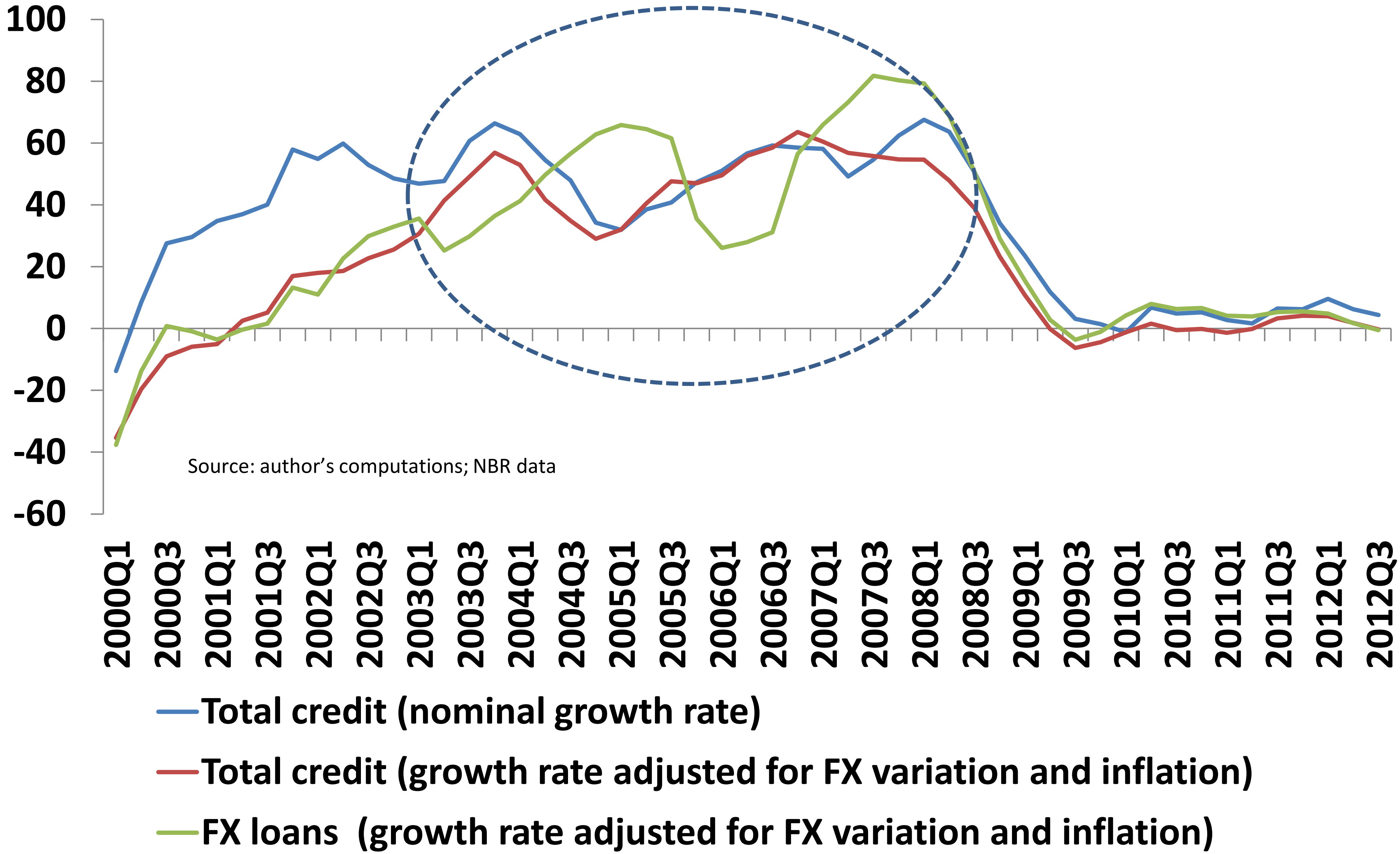
Measures aimed at taming capital inflows before downturn in 2008 Q4. Did they work? NO! (I)

- Capital account liberalization (March 2003; last stage Sep.2006)
- Introduction of restrictions on mortgage lending (February 2004)
- Stricter eligibility criteria for consumer loans (February 2004)
- Larger exposures to one debtor from 20% to 25% (July 2004))
- MRR on fx liabilities, from 25% to 30% (August 2004)
- MRR lei from 18% to 16% (August 2005)
- MRR on fx liabilities from 30% to 35% (January 2006)
- MRR on fx liabilities from 35% to 40% (March 2006)
- MRR lei, from 16% to 20% (July 2006)

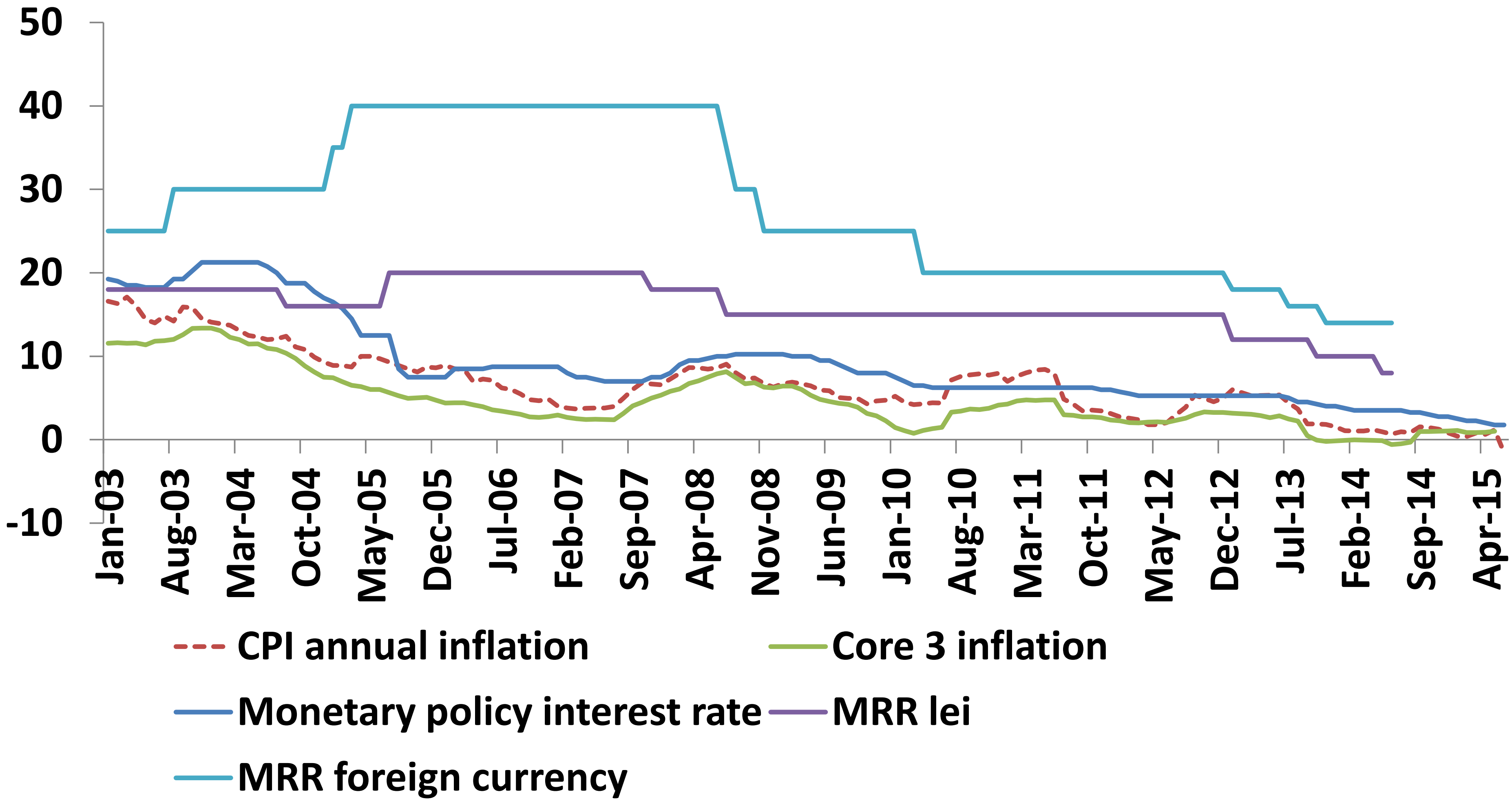
Measures aimed at taming capital inflows before downturn in 2008 Q4. Did they work? NO! (II)

- Stricter criteria for household lending (LTV and Debt Service To Income)
- Forex exposures limited to three times own funds (September 2005)
- Unhedged borrowers (natural persons) cannot be classified into the top grade (A) of financial performance (October 2005)
- Regulation and supervision of non-bank financial institutions (February 2006)
- Higher capital requirements since January 2007
- Stricter eligibility criteria for the components of own funds (January 2007)
- Loosening of credit standards for lending to households (March 2007)
- Stricter provisioning requirements for loans to unhedged borrowers (natural persons) (March 2008)
- Exclusion of intermediate profit from own funds calculation (August 2008)
- Adjustment of max DTI within internal procedures approved by the NBR (August 2008)

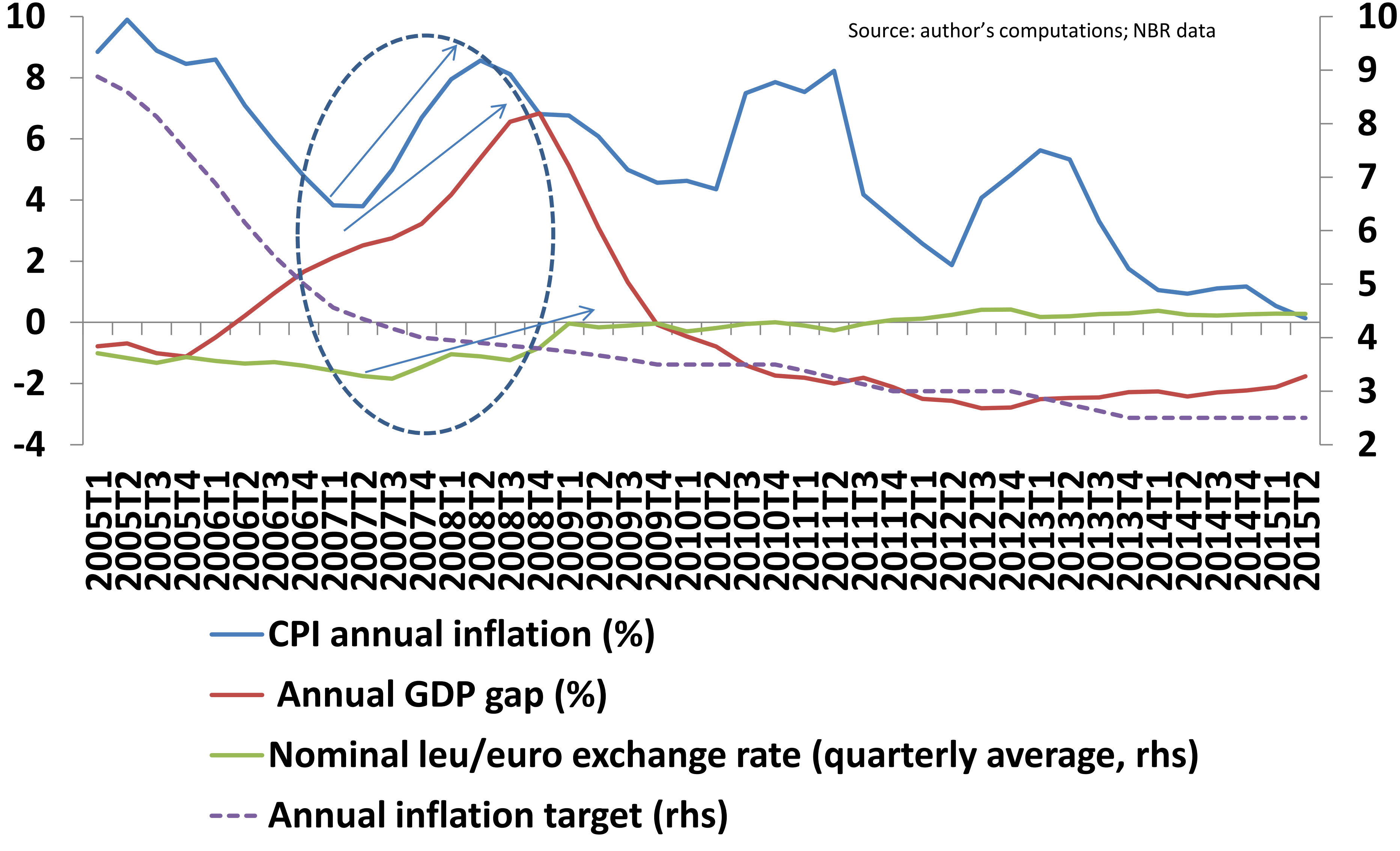
High annual credit growth rates in Romania indicating huge private capital inflows in 2004-2008 (%)

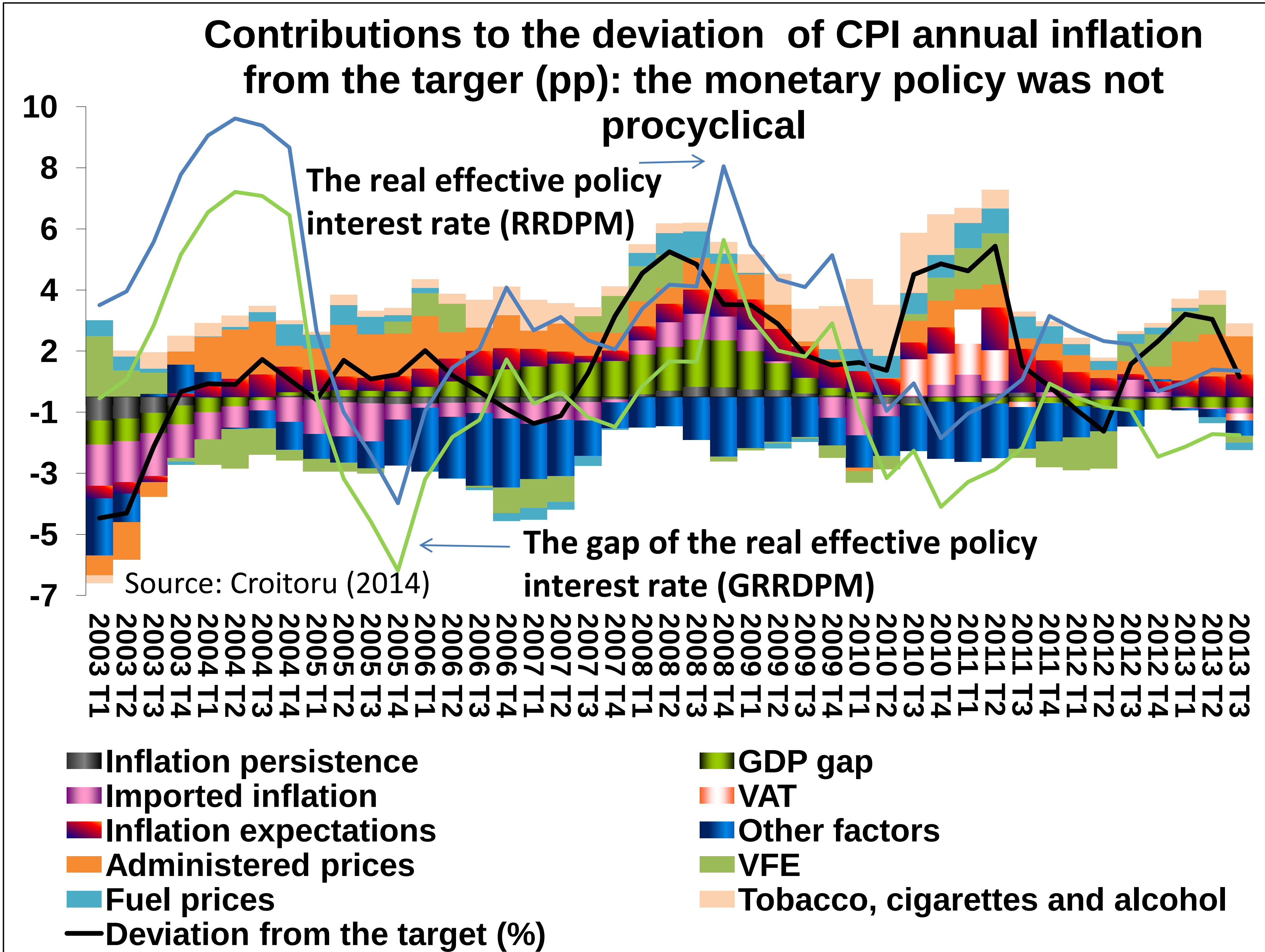


Faced with high capital inflows, the NBR increased minimum reserve requirements (MRR) in Romania (%). When the crisis hit Romania, the NBR reduced the MRR

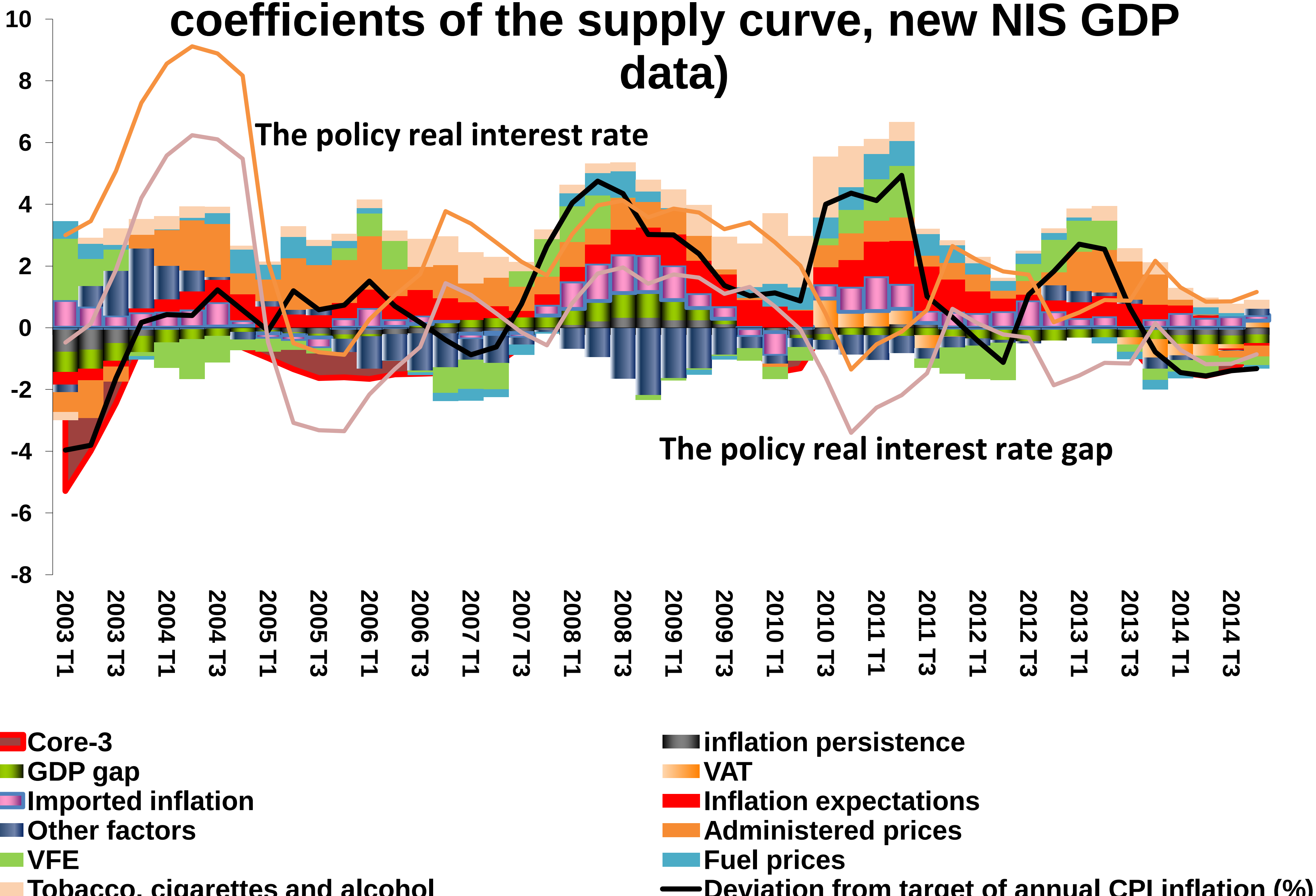


A policy interest rate dilemma emerged late in 2006: should the NBR increase the interest rate to curb inflation or lower it to tame capital inflows?




Contributions to the deviation of CPI annual inflation from the targer (pp): the monetary policy was not procyclical
The real effective policy interest rate (RRDPM)
The gap of the real effective policy interest rate (GRRDPM)
Source: Croitoru (2014)
10
8
6
4
2
-1
-3
-5
-7
2003 T1
2003 T2
2003 T3
2003 T4
2004 T1
2004 T2
2004 T3
2004 T4
2005 T1
2005 T2
2005 T3
2005 T4
2006 T1
2006 T2
2006 T3
2006 T4
2007 T1
2007 T2
2007 T3
2007 T4
2008 T1
2008 T2
2008 T3
2008 T4
2009 T1
2009 T2
2009 T3
2009 T4
2010 T1
2010 T2
2010 T3
2010 T4
2011 T1
2011 T2
2011 T3
2011 T4
2012 T1
2012 T2
2012 T3
2012 T4
2013 T1
2013 T2
2013 T3
Inflation persistence
Imported inflation
Inflation expectations
Administered prices
Fuel prices
Deviation from the target (%)
GDP gap
VAT
Other factors
VFE
Tobacco, cigarettes and alcohol

The history of contributions to the deviation of CPI annual inflation from the targer (pp)(old coefficients of the supply curve, new NIS GDP data)



An explanation for the criticism that the central bank did not increase the policy rate more aggressively prior to the downturn

$$\pi_t = \beta E_t\{\pi_{t+1}\} + k x_{2_t} \qquad (1)$$

Implications of equation (1) in theory:

(i) inflation should return to its target level relatively fast. There is no impact on growth from sharp moves in the interest rate

(ii) deviations from the inflation target due to supply-side shocks should not be accepted. Supply shocks are working via natural output

(iii) monetary policy has no reason to be concerned over the impact of changes in asset prices (including in the exchange rate) on the competitiveness of the economy or on financial stability

This idea prevailed in theory until mid-2000, and in Romania it still prevails or at least prevailed until recently.

Critics were ignoring:

- “Distortion”-type shocks in the supply equation, such as variations in taxation rates, changes in markups pursued by firms or “cost-push shocks” (Clarida, Galí and Gertler, 2001; Smets and Wouters, 2003; Benigno and Woodford, 2003 and 2005; Woodford and Cúrdia, 2009)

- Endogenous responses (fluctuations) of the output gap to shocks (Erceg, Henderson and Levin, 2000)

- Endogenous responses of the gap between the natural level and the efficient level of output to supply-side shocks and to preference shocks (Blanchard and Galí, 2007 and 2008)

- Financial frictions, the banking sector (Bernanke, Gertler, Gilchrist, 1998; Woodford and Curdia, 2009) and real wage rigitities (Christiano et al., 2011)

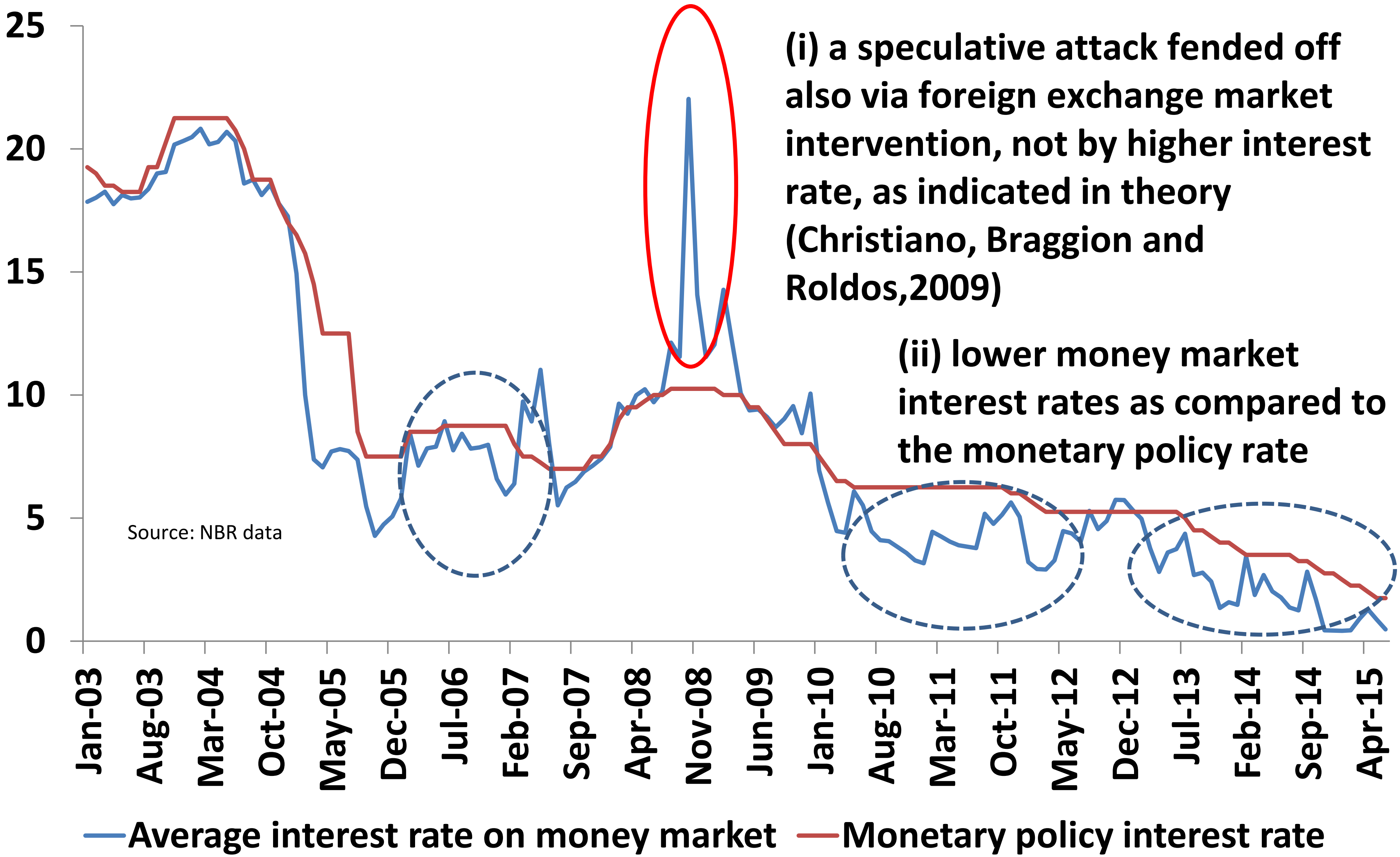
The contribution to inflation of demand-pull inflation became positive in 2007 Q4-2008 Q3

Period	Deviation of annual CPI inflation (pp)	Contribution of non-CORE3 inflation (pp)	Contribution of CORE3 inflation (pp)	Real monetary policy rate (%)	Real monetary policy rate gap (%)	Real effective monetary policy rate gap (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2005 Q4-2007 Q3	0.25	1.58	-1.33	1.78	-0.57	-1.24
2007 Q4-2008 Q3	3.95	2.39	1.56	3.20	0.69	0.42

Table 1: The contributions of non-CORE3 inflation and CORE3 inflation to the deviation of annual CPI inflation from the target and the real monetary policy rate

Source: Macroeconomic Modelling and Forecasting Department, NBR's quarterly forecasting model, and the author's calculations.

“Unconventional” monetary policy in the immediate aftermath of the crisis



Prudential measures implemented during October 2008-December 2012. Will they work? I doubt! (I)

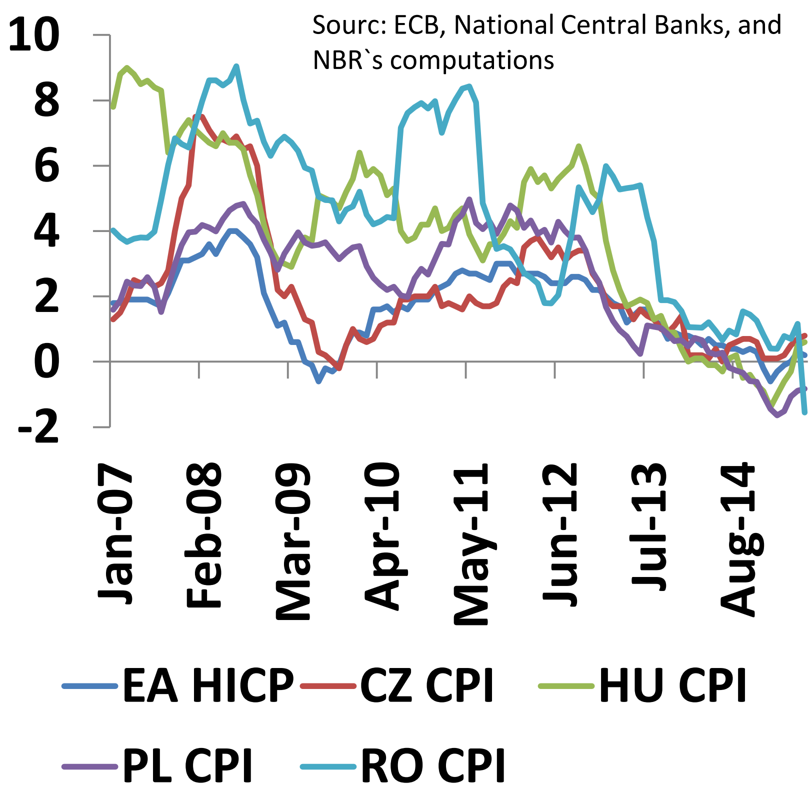
- MRR ratio on lei liabilities, from 20% to 18% (November 2008)
- Reduction of loan loss provisions by considering max 25% of collateral in case of loans classified as Loss 2 (April 2009)
- Introduction of audited intermediate profit within own funds calculation (May 2009)
- Introduction of the “First Home” program (June 2009)
- MRR ratio on lei liabilities, from 18% to15%; MRR ratio on fx liabilities, from 40% to 35% (July 2009)
- Balance-sheet current accounts at accounting value instead of adjusted value (July 2009)
- MRR ratio on fx liabilities, from 35% to 30% (August 2009)

Prudential measures implemented during October 2008-December 2012. Will they work? I doubt! (II)

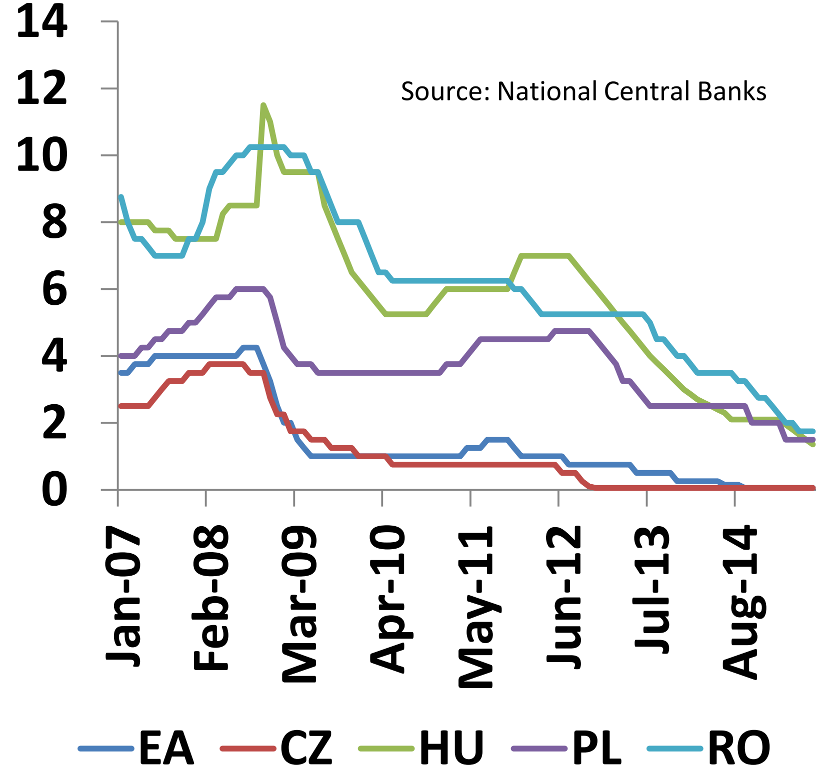
- MRR on fx liabilities from 30% to 25% (Nov. 2009)
- Improvements to the regulatory framework on managing liquidity risk (Dec. 2009)
- Government Emergency Ordinance 50/2010 on consumer lending (June 2010). Removes abusive clauses from loan contracts
- MRR on fx liabilities, from 25% to 20% (Apr. 2011)
- Limits on exposures to unhedged borrowers; higher coefficients for stress-testing fx loans (Oct. 2011)
- From Romanian Accounting Standards to IFRS adoption (Jan. 2012)
- Improvements to the regulatory framework on managing liquidity risk (Jan. 2012)
- Banks' aggregate exposure limits vis-à-vis unhedged non-financial companies (Dec. 2012)

Higher inflation delayed the start of the policy rate-cutting cycle in Romania

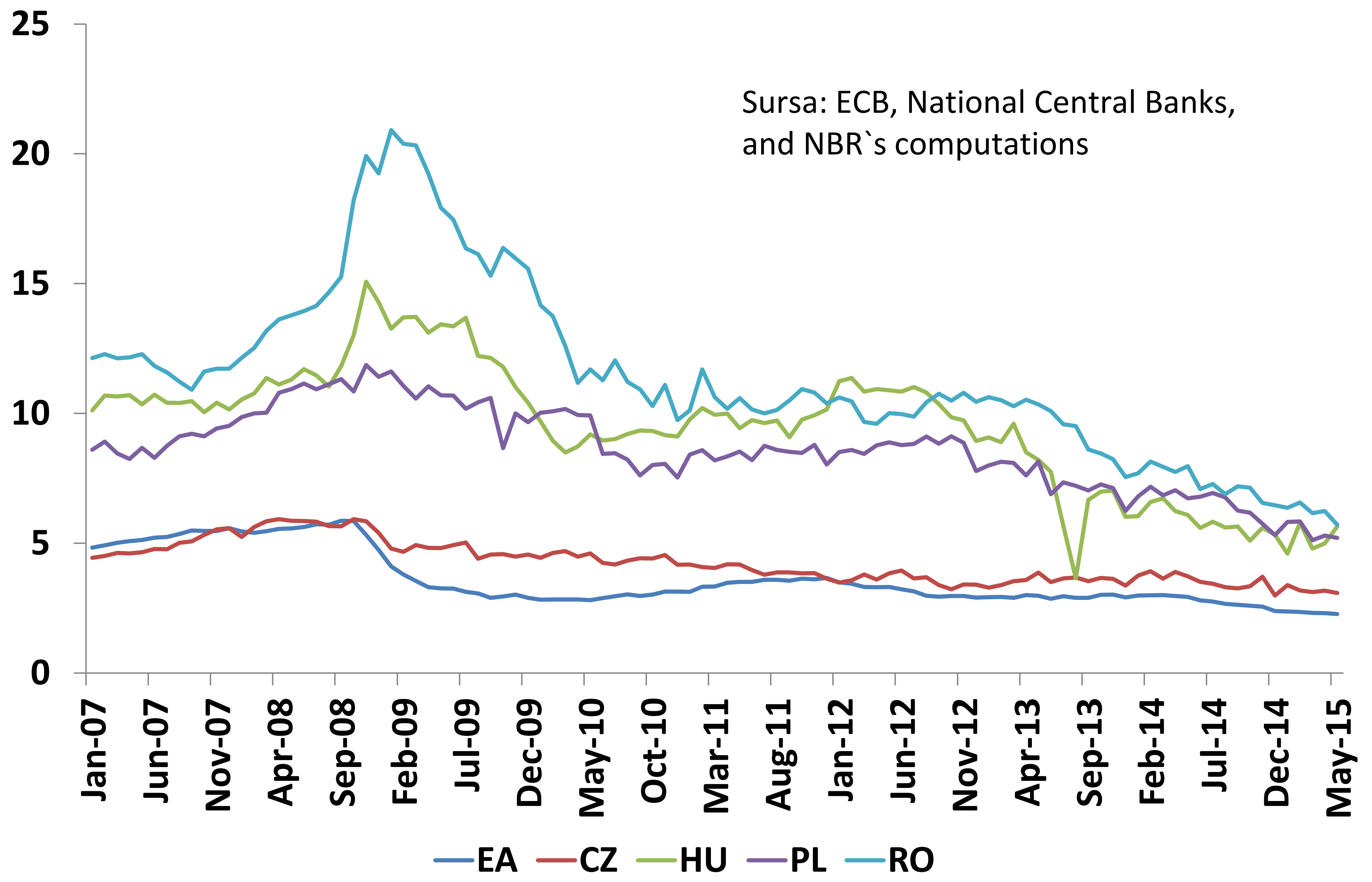
Annual inflation rate



Policy interest rates



Interest rates on newly-extended loans decrease



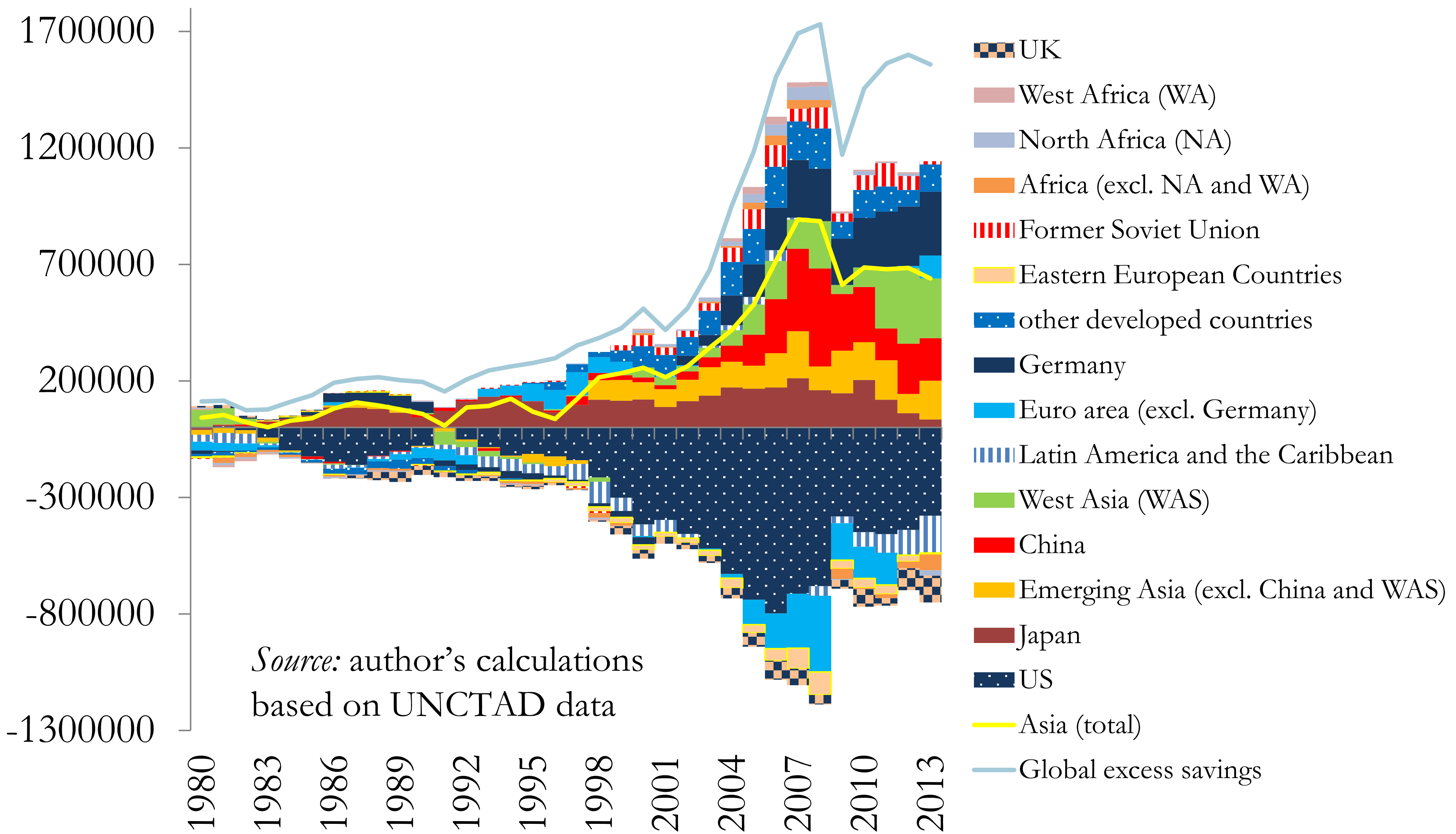
VIII. Is a new monetary policy rate dilemma emerging?

The hypothesis of secondarity and implications for monetary policy in Romania

- **Secondarity**: the global surplus of savings is generated in an increasing number of countries, whereas the overwhelming part of the global deficit of savings is located in the US (Croitoru, 2015b and 2015d)

- The US are far better equipped to accommodate swift capital outflows, currency depreciation, an abrupt decline in domestic asset prices, banking system weakening, and the flagging domestic demand

Illustrated secondarity: the history of savings-investment imbalances across major countries and regions (USD mill., current prices)



The Romanian conundrum (I)

- The current account deficit plunged from 4.5 percent of GDP in 2012 to 0.4 percent of GDP in 2014
- GDP growth accelerated over that period
- How was it possible?
  - One of the implications of shifting to excess savings is the reduction in the natural rate of interest. *Mutatis mutandis*, the plunge in the current account deficit in Romania to almost zero was reflected in the lower natural rate of interest
  - The swift narrowing of the savings deficit suggests that the natural rate has declined at a quick pace as well

The Romanian conundrum (II)

Inflation: a downward path, largely reflecting the fall in inflation expectations. Hence, the NBR cut the monetary policy rate from 5.25 percent in December 2012 to 1.75 percent in May 2015

Thus, it is possible that, during 2013, 2014 and 2015, the nosedive of the current account deficit, the monetary policy rate cuts and liquidity management may have resulted in the money market rate running below the natural rate

A new policy dilemma?

- Actual growth rates above potential will, probably, close the GDP gap in 2016

- GDP growth rates above potential and low global interest rates will pose again a dilemma to monetary policy in Romania (Croitoru, 2015c):

  - ✓ A higher policy rate would be needed to tame inflationary pressure from the positive GDP gap

  - ✓ A lower policy rate would be needed to avoid the leu appreciation

- If a current account surplus emerged, as the secondarity suggests, the policy rate dilemma would not appear

- However, the new Fiscal Code based on tax cuts together with wage increases up to 70 percent would lead to fiscal deficits of 4-5 percent in 2016 and 2017, eliminating the issue of the interest rate dilemma, but creating other serious problems to the macroeconomic stability of Romania

Thank you!

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Fig.1: Labor productivity and the general index of economic freedom in 1996

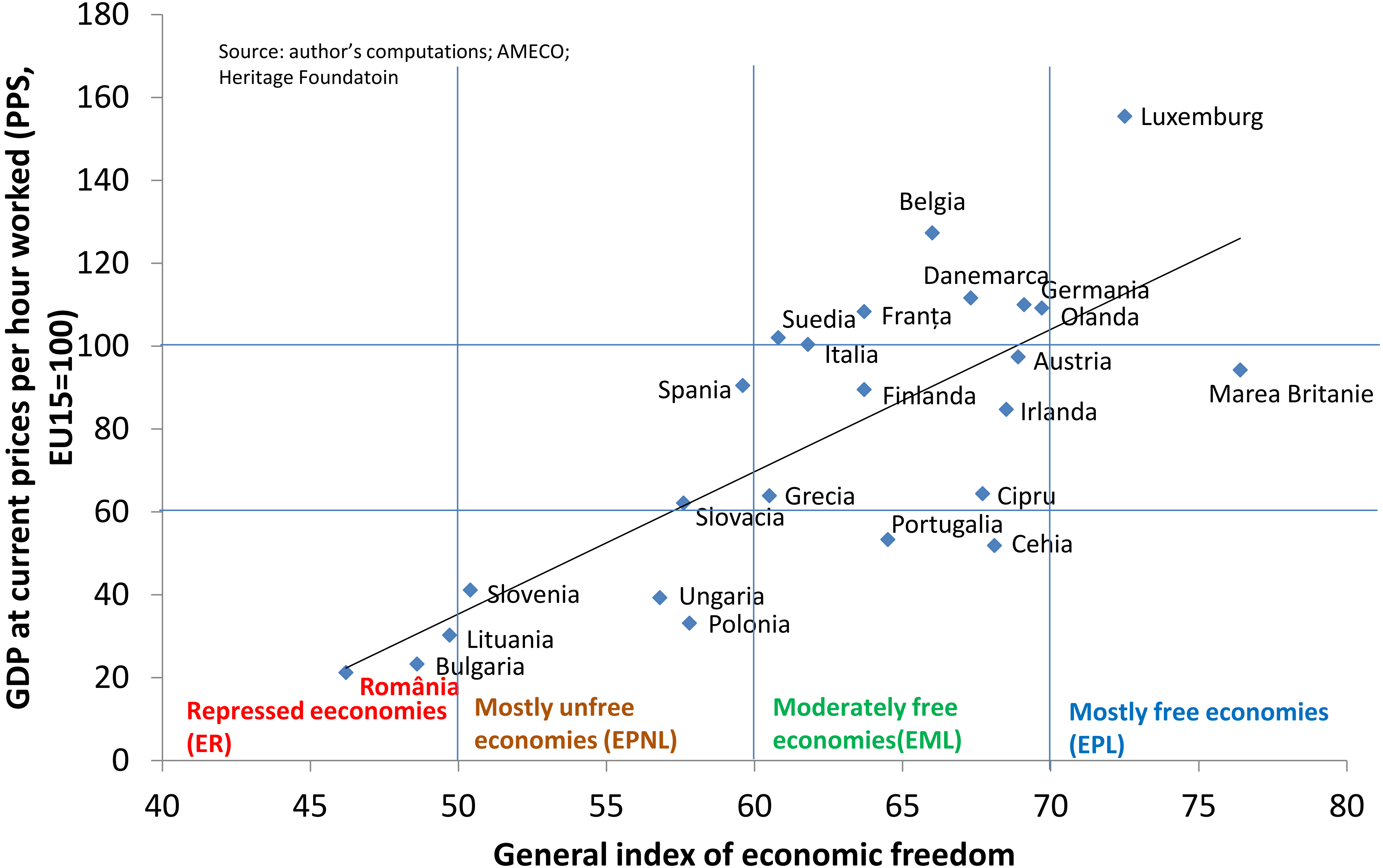


Fig. 2: Labor productivity and the general index of economic freedom in 2014

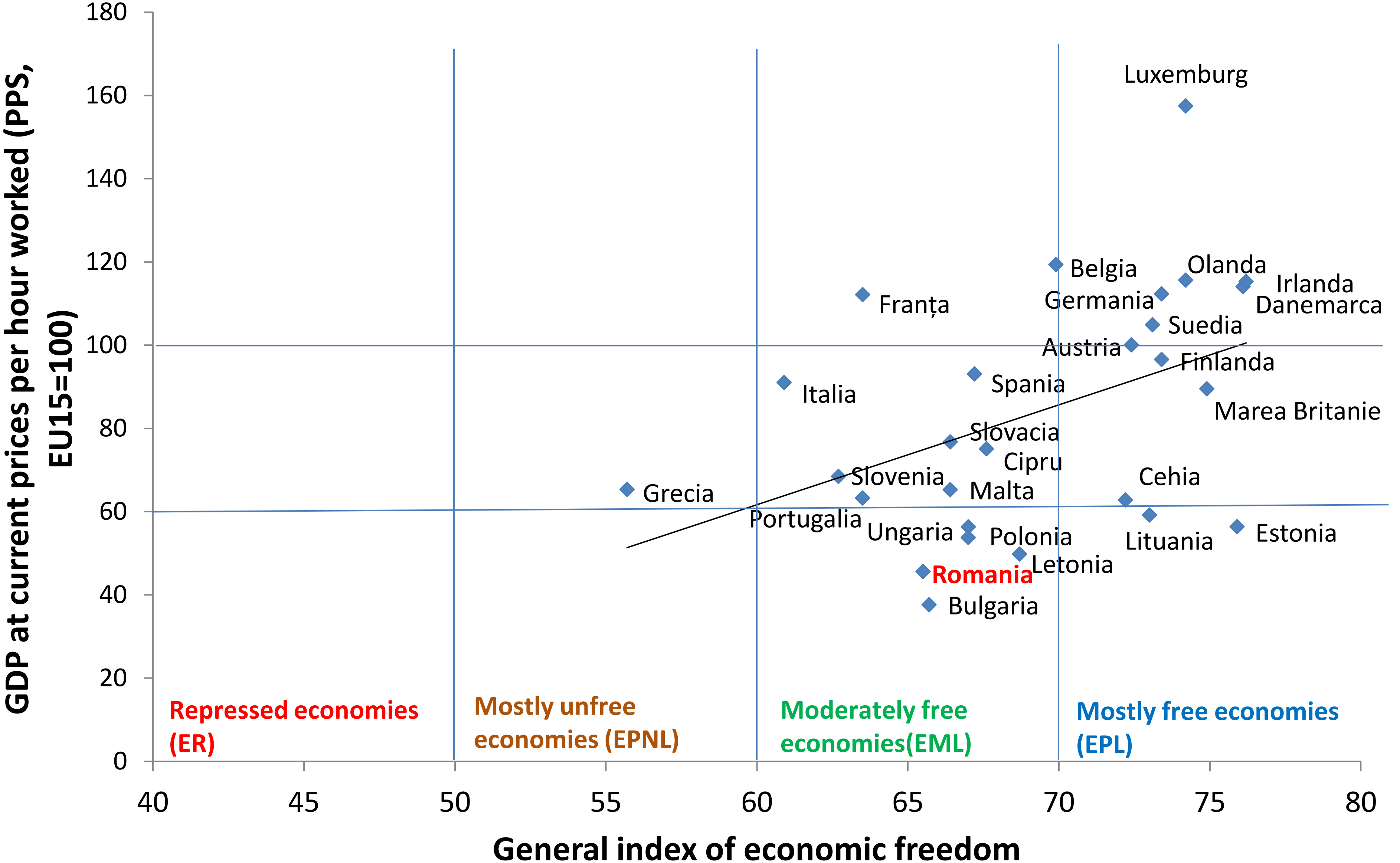


Fig. 3: Labor productivity and property freedom in 1996

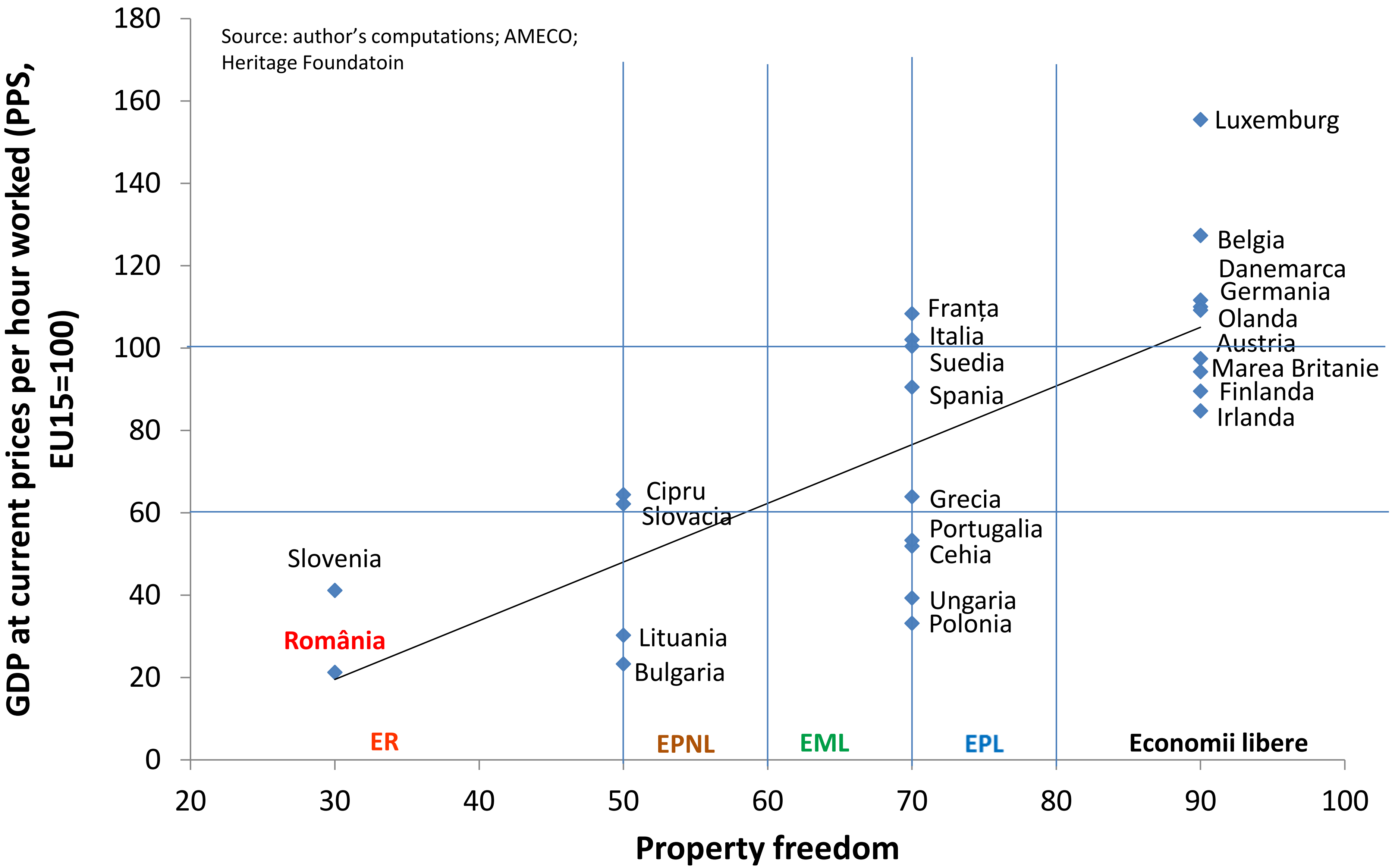


Fig.4: Labor productivity and property freedom in 2014

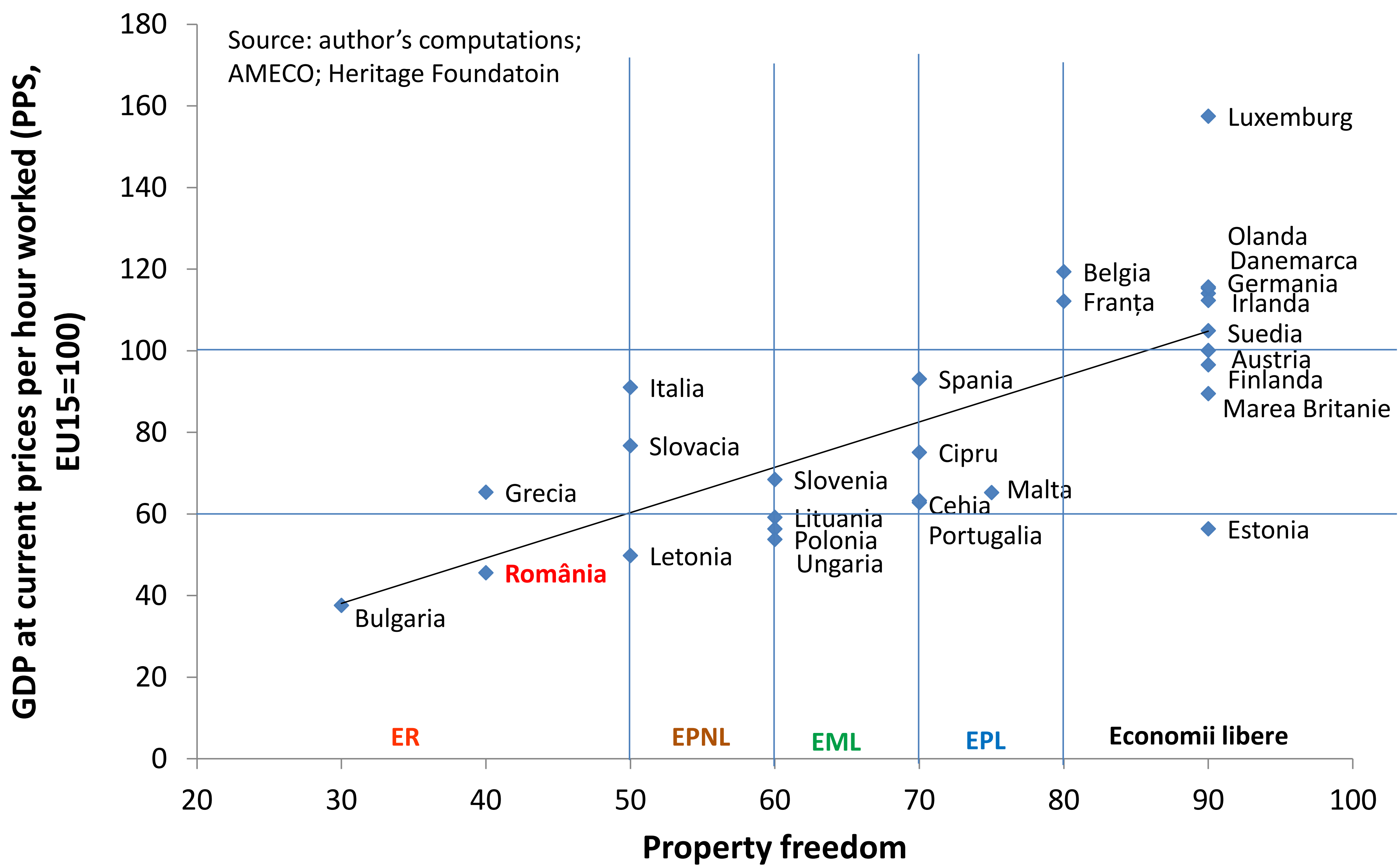


Fig. 5: Labor productivity and freedom from corruption in 1996

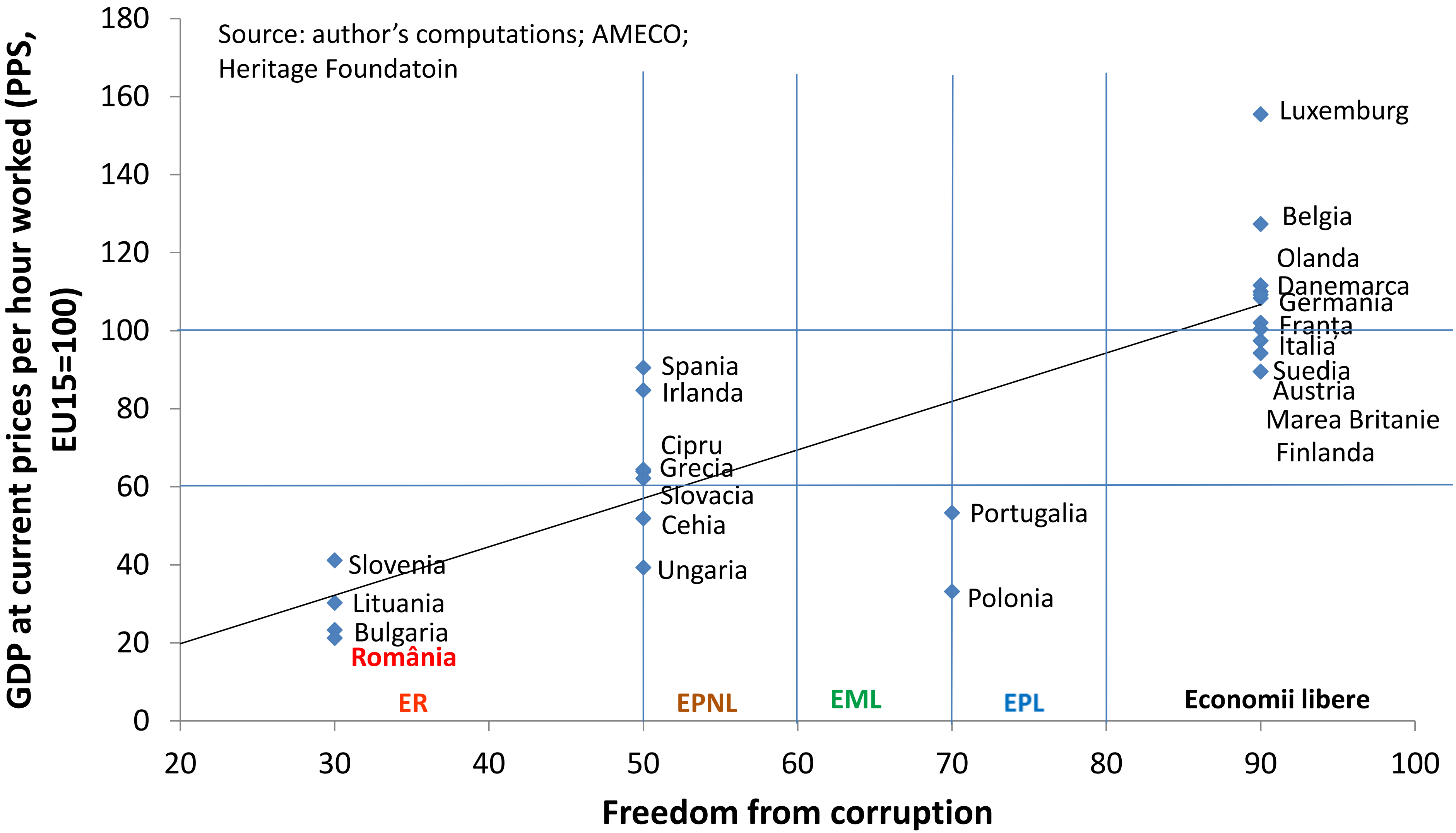
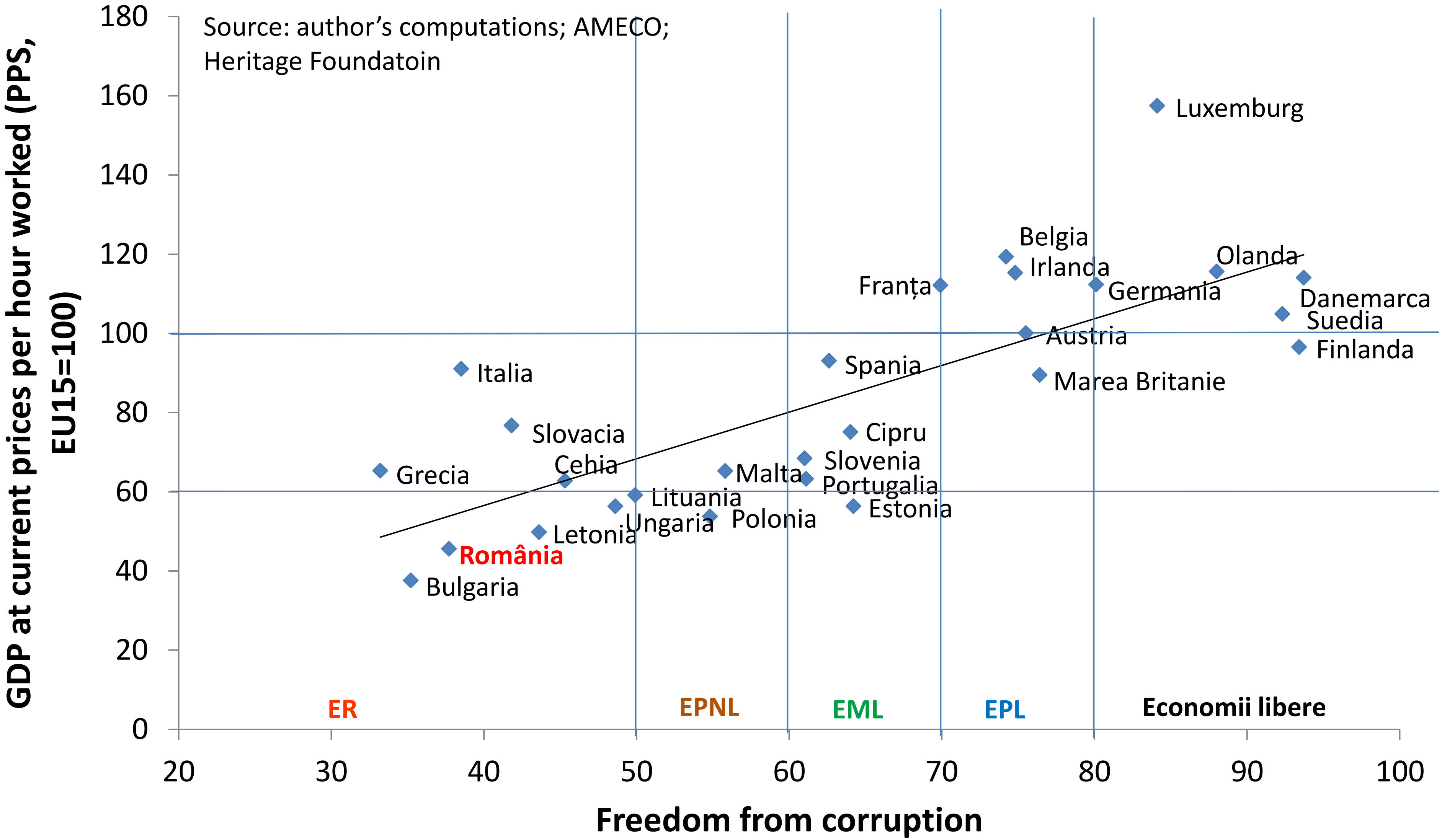
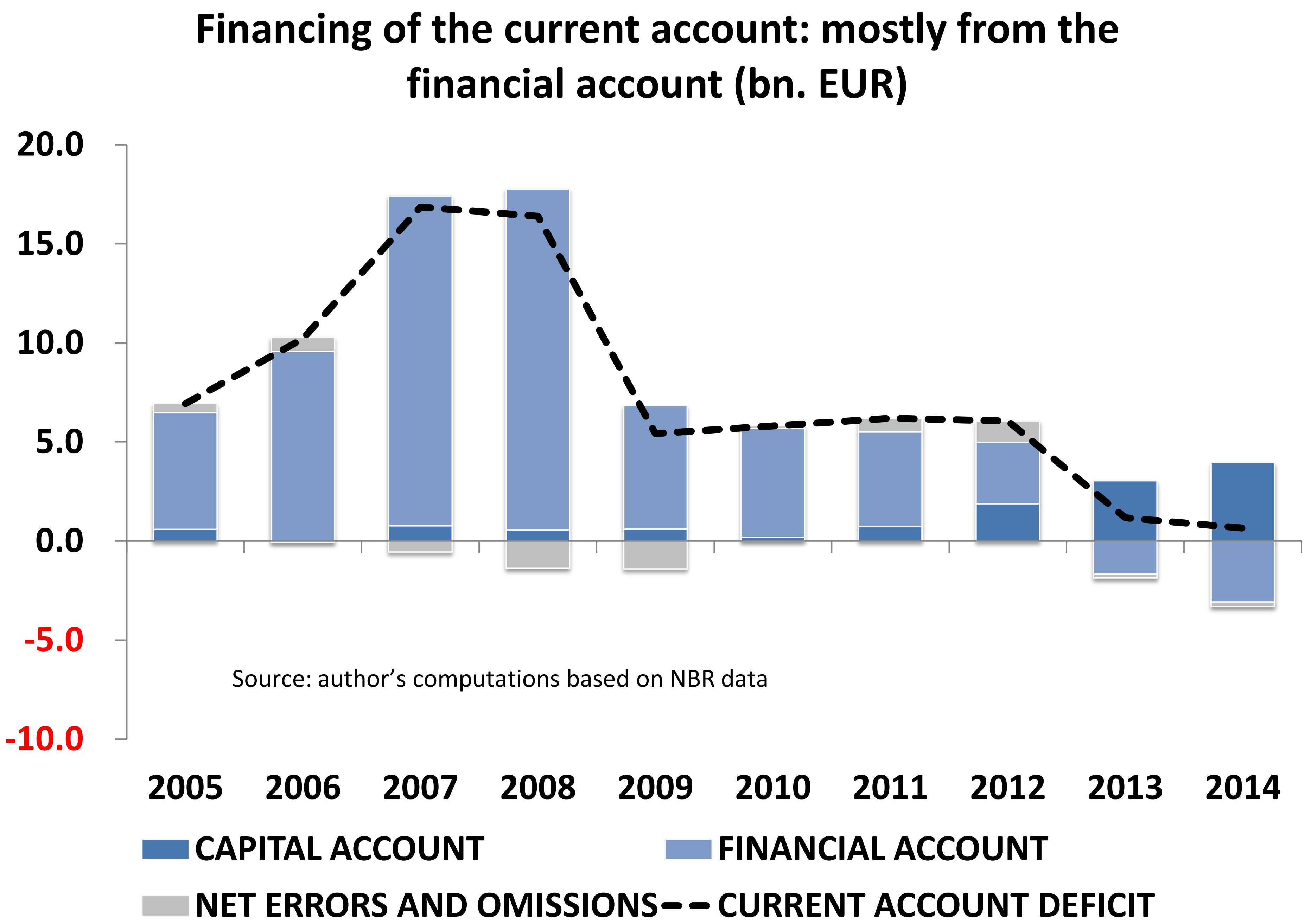


Fig. 6: Labor productivity and freedom from corruption in 2014




Financing of the current account: mostly from the financial account (bn. EUR)
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
Source: author's computations based on NBR data
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
CAPITAL ACCOUNT
FINANCIAL ACCOUNT
NET ERRORS AND OMISSIONS
CURRENT ACCOUNT DEFICIT