

# Poland: External Sustainability and the Financial Account

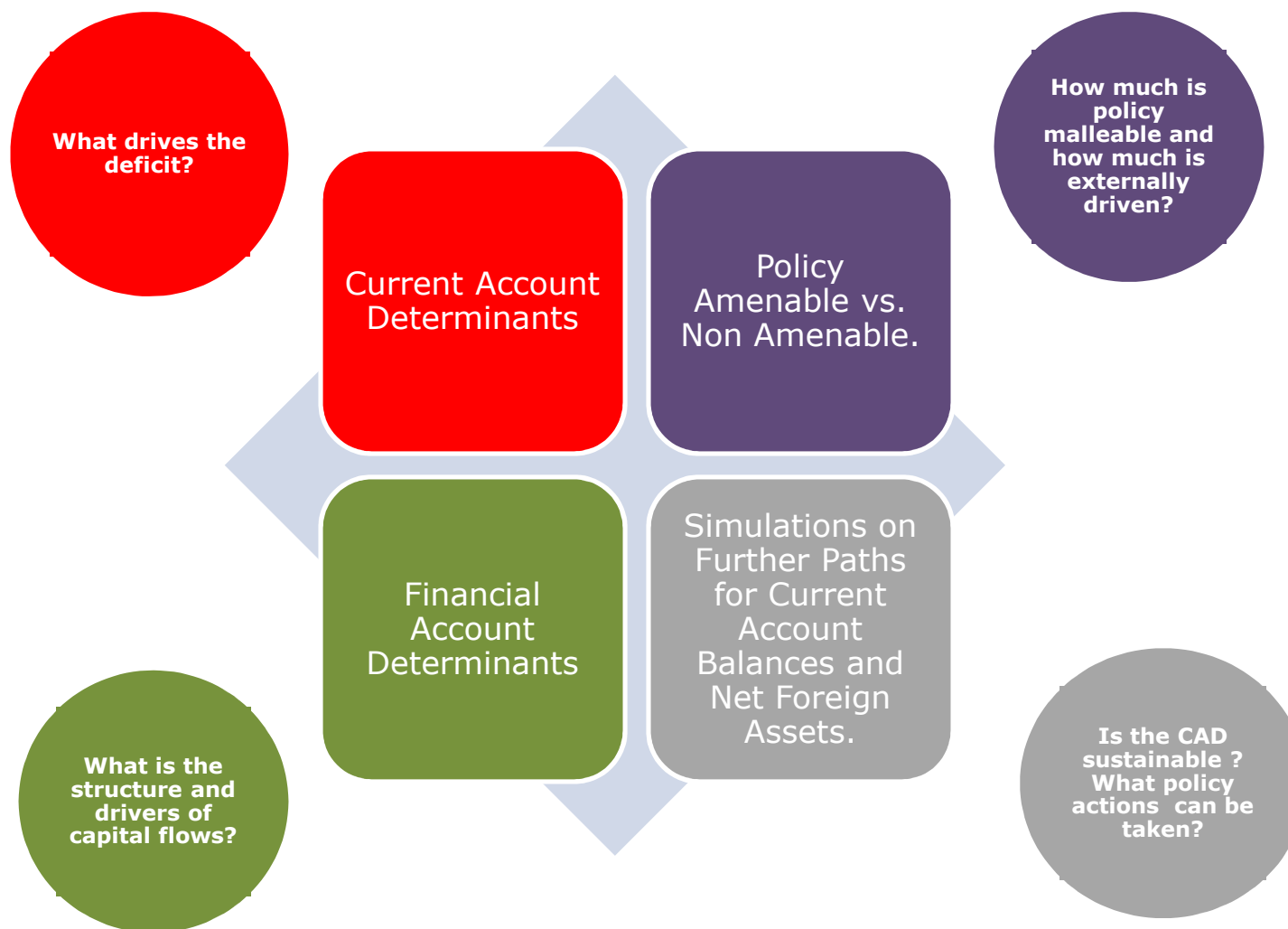
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# Motivation

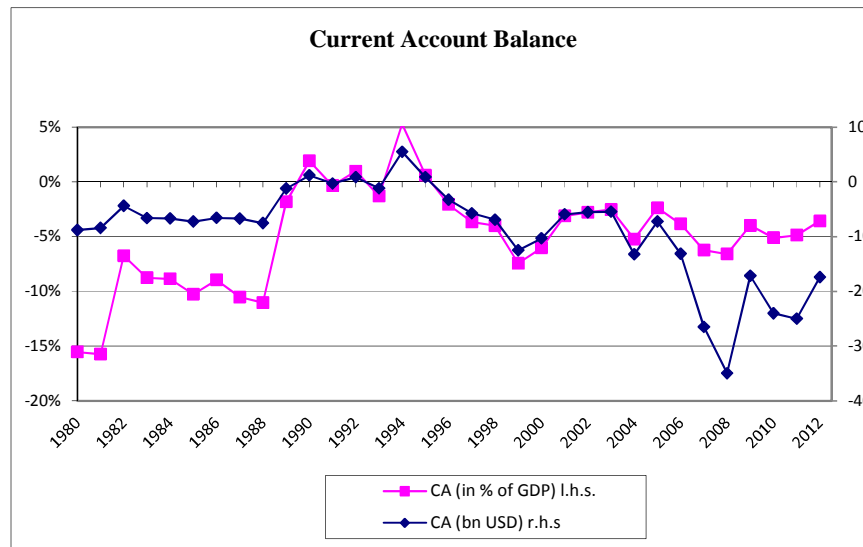
- Recent CA deficit deterioration episodes, NIIP accumulation and Euro adoption criteria.
- Over the past decade Poland enjoyed strong macro fundamentals which allowed the economy to grow fast and attract FDI.
- EU accession-related investment boom resulted in record trade deficits between 2006-08 despite the gain in export market share and strong export growth.
- FDI inflows soared (although dropped substantially in 2013) and recently, as a result, income outflows also increased.
- CAD worsened from the beginning of the crisis reaching a peak of 6.6% of GDP in 2008, followed by CAD of around 5% in 2010 and 2011. It reversed strongly in the last two years.
- NIIP consequently deteriorated from 42% of GDP in 2005 to 66% in 2012. The global crisis also led to a surge in short-term portfolio inflows and a recent decrease in FDI.

# Outline

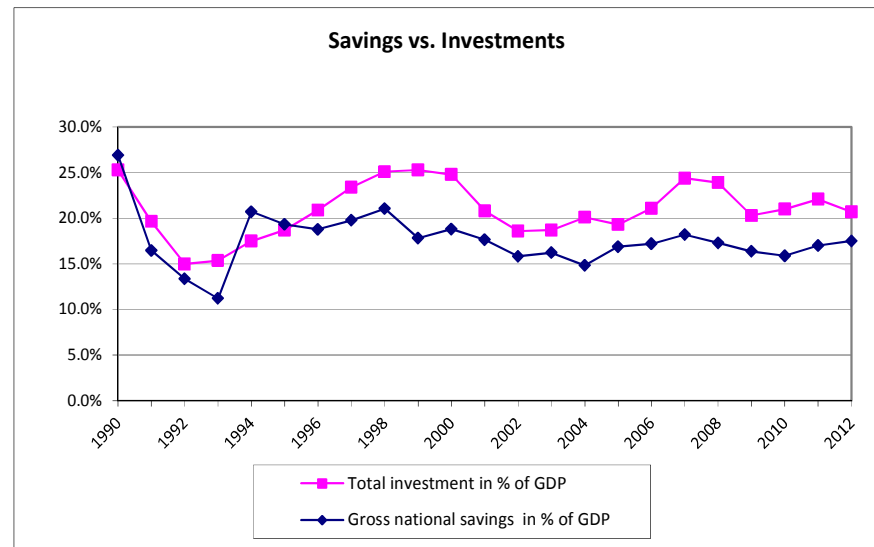


# Current Account Evolution

**CA balance fluctuated over the last two decades with several episodes of deterioration and reversals**



**Savings and investment behavior diverged since 1995 as the CAD increased**



# Methodology

- Model averaging offers preferable solutions under model uncertainty and small samples.

$$CA_t = X_t\beta + u_t$$

$$\tilde{\beta}_m = (X_{t,m}'X_{t,m})^{-1}X_{t,m}'CA_t$$

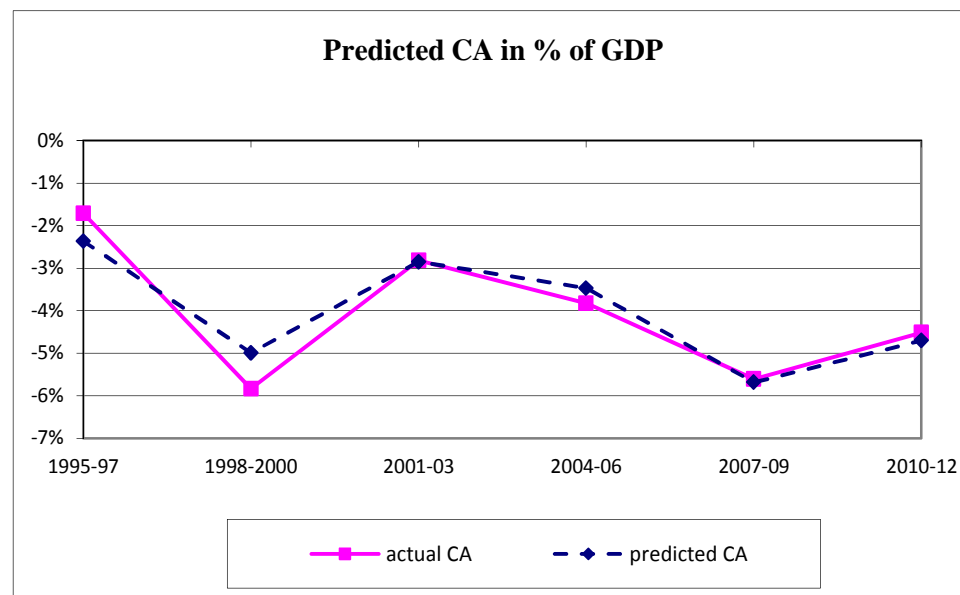
$$\tilde{\beta} = \sum_{m=1}^M w_m \tilde{\beta}_m$$

- The weights are obtained by minimizing a leave-one-out cross-validation criterion (Hansen and Racine, 2012).

# CA Determinants and Estimates

Variable	Expected sign
Current account (lagged)	+
NIIP (lagged)	ambiguous
Oil balance	+
Fiscal balance (% of GDP)	+
Terms of trade (change)	ambiguous
Openness	ambiguous
FX reserves flow (% of GDP)	ambiguous
VXO (log)	ambiguous
Real exchange rate (log, 3 year average)	-
FDI (lagged, % of GDP)	+
Relative income PPP	+
Relative real GDP growth	-
Output gap	-
Credit to GDP (change)	-
Stock market capitalization (% of GDP, change)	-

**The model performs well—the difference between the implied CA and the observed CA is small throughout the period**  
**Model predicted and actual CA in % of GDP, 3-year averages**



# Results

## Which variables matter?

**Past average REER, terms of trade shocks, change in the FX reserves and relative GDP growth received zero weight. All other variables are significant and have expected signs and magnitudes:**

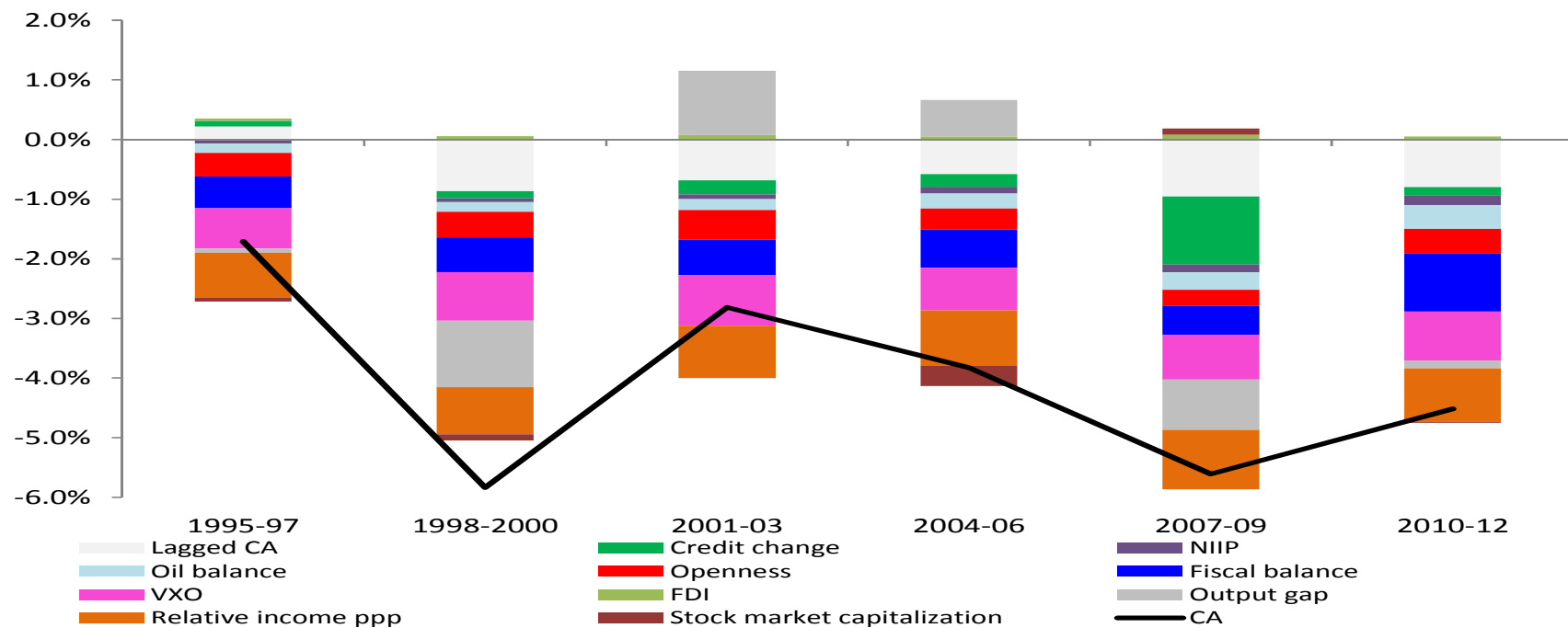
**Coefficient estimates for determinants**  
**TABLE 1**

Variable	Coefficient	Standard Error	P-values
Current account (1 year lag)	0.1717	0.0193	0.112
Credit to GDP (change)	-0.1768	0.0305	0.088
NIIP (1 year lag)	0.0026	0.0080	0.880
Oil balance (in % of GDP)	0.0922	0.0351	0.204
Openness	0.0317	0.0033	0.042
Fiscal balance instrumentalized (% of GDP)	0.1450	0.0229	0.052
VXO (log, 1 year lag)	-0.0025	0.0003	0.068
FDI (% pf GDP, 2 year lag)	0.0171	0.0046	0.188
Output gap	-0.9238	0.0895	0.048
Relative income PPP (1 year lag)	0.0065	0.0008	0.052
Stock market capitalization (% of GDP, change)	-0.0402	0.0067	0.076

# Results

## Contributions of Key Variables on the CAD

**Cyclical dynamics were major contributors to the changes in the CAD over 2007-12.**



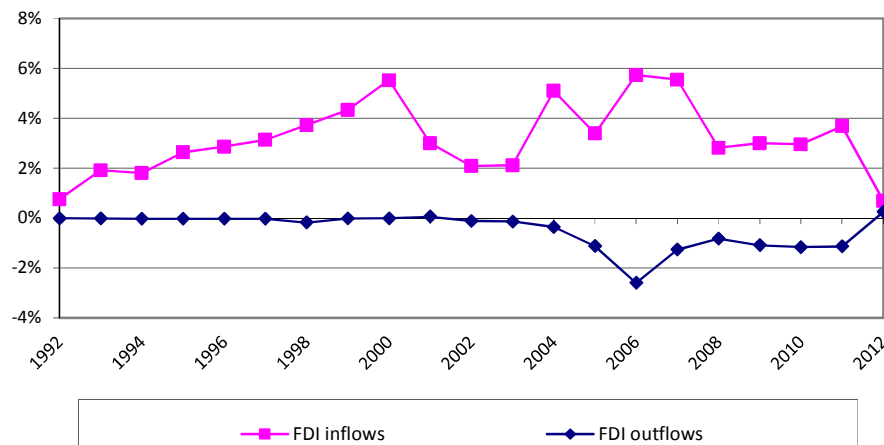


# Evolution of Capital Inflows

**FDI inflows were volatile with several shifts in their level over the last decade**

**FDI inflows and outflows**

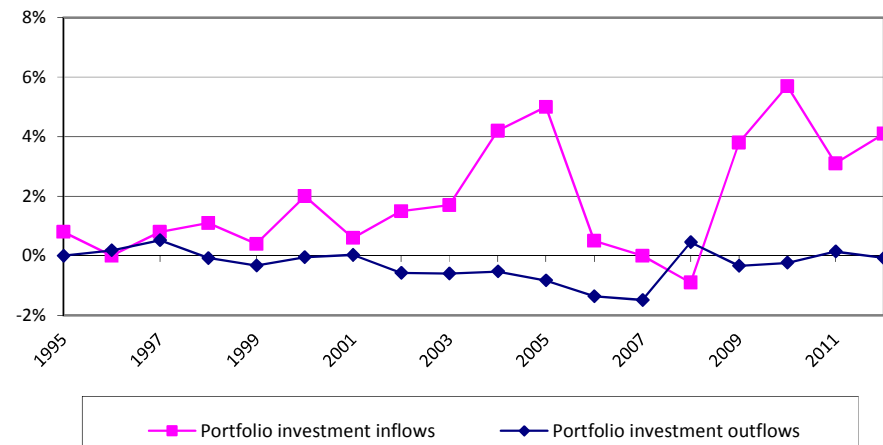
**FDI inflows and outflows (in % of GDP)**



**Portfolio inflows exhibited similar volatility with some differences over the most recent period**

**Portfolio inflows and outflows**

**Portfolio inflows and outflows (in % of GDP)**



# Cyclical & Structural Components

- Push and pull factors:
- Push factors underpin the supply of global liquidity driven by the level of global interest rates, economic performance in advanced economies, global risk aversion, and commodity prices.
- Pull factors depend on local macroeconomic fundamentals, economic policies, institutions, and the degree of market imperfections.
- Differentiate impact of the determinants on structural and temporary component of the flows:

$$Y = Y^s + Y^c + \varepsilon_t$$
$$Y_t^s = \rho Y_{t-1}^s + \delta X_t^s + \varepsilon_t^s$$
$$Y_t^c = \theta Y_{t-1}^c + \beta X_t^c + \varepsilon_t^c$$

- Estimation via Kalman filter.

# Results

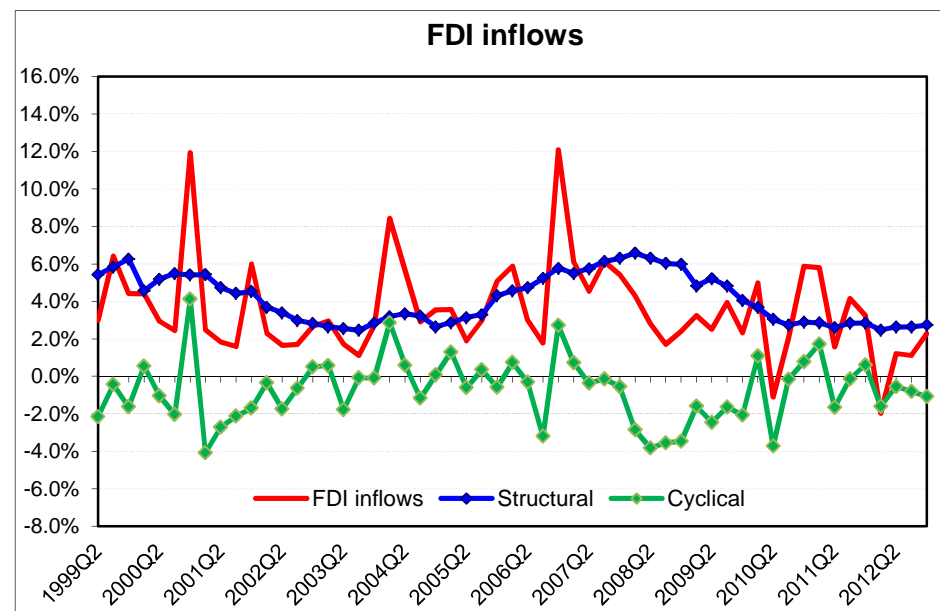
## Which variables matter for FDI?

**Global and local factors impact medium and short-run dynamics of FDI**

### Estimated coefficients

Variable	Stand. Coeff.
<b>Structural component</b>	
Average ICRG composite (1 year lag)	0.042
GDP growth in EU area (cyclically adjusted, 2Q lag)	0.403
Labor productivity growth (1Q lag)	0.212
Global risk (cyclically adjusted, 2Q lag)	-0.602
<b>Cyclical component</b>	
Change in wages	-0.293
Ted spread (2Q lag)	-0.288
Slope of the yield curve (1Q lag)	-0.373
Change in government expenditure	-0.62
Growth of real GDP per capita (1Q lag)	0.465
Privatization dummy	0.0142

### Cyclical & Structural Components of FDI inflows



# Results:

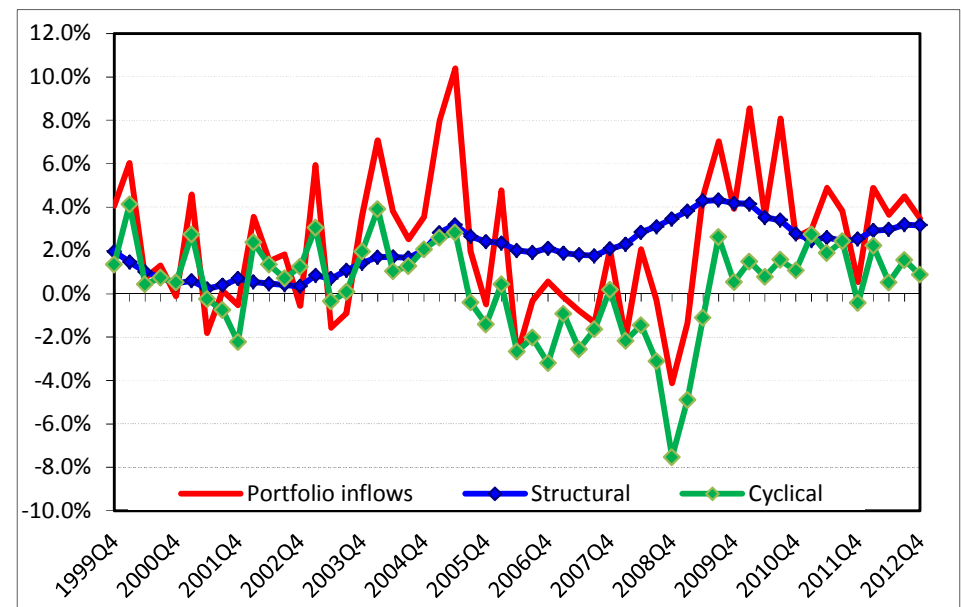
## Which Variables Matter for Portfolio Inflows?

**Global and local factors impact medium and short-run dynamics of Portfolio Inflows**

### Estimated coefficients

Variable	Stand. coeff.
<b>Structural component</b>	
Average ICRG composite (1 year lag)	0.122
Public debt interest payments (3Q lag)	-0.299
Average global long-run interest rate	-0.308
<b>Cyclical component</b>	
Change in commodity price index	0.476
3m interest rate return differential (1Q lag)	0.377
Stock return differential (1Q lag)	0.450
Ted spread (2Q lag)	-0.664
Change in credit spread (1Q lag)	-0.203
GDP growth in EU area	-0.311
Gross portfolio inflows in the region	0.306

### Cyclical & Structural Components of portfolio inflows



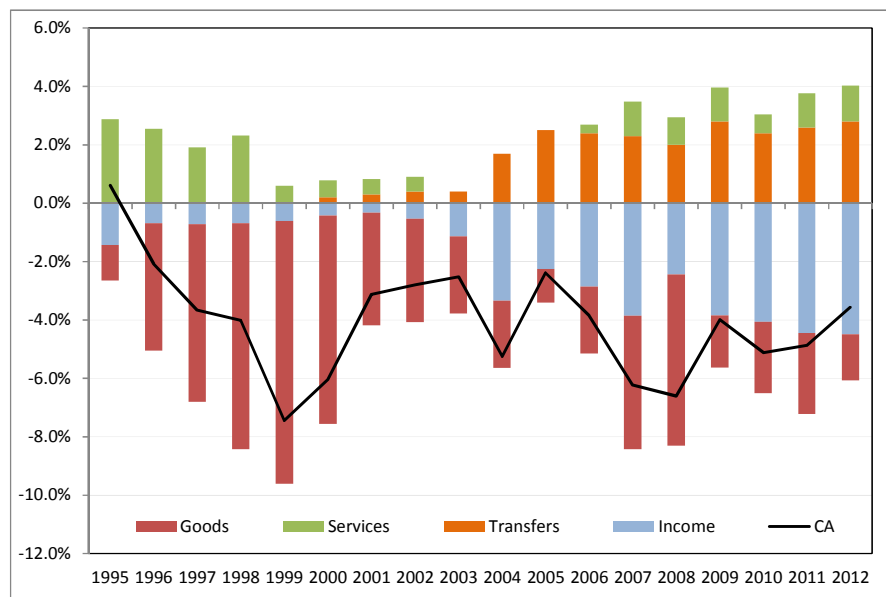
# Looking ahead

- Annual gross FDI inflows are expected to stabilize at a level around 2.5% of GDP:
  - Expected recovery in the EU area and further domestic structural reforms may provide a gradual increase in the structural component of FDI.
  - Expected increases in the global cost of funding may lead to temporary slowdown in FDI.
  - Net FDI inflows are expected to stabilize around 1.3% of GDP in the medium-run.
- Annual gross Foreign Portfolio Investment inflows are expected to decrease from its 2009-2012 level.
  - Slowdown in the global liquidity/low risk cycle is the main driver.
  - Net portfolio inflows are expected to remain at the level below 2% of GDP from 2014 onwards, after a decrease in 2013.
- Bank and corporate deleveraging observed over the last four years is expected to remain in the short-run, generating outflows in the financial account.

# Looking ahead

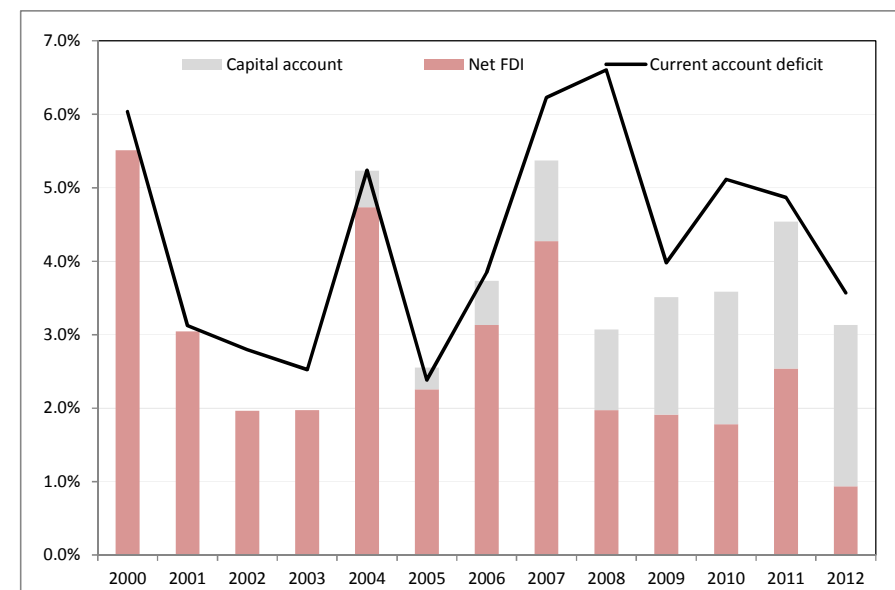
**Income outflows increased over the last 10 years**

**CA balance and its components**



**Official transfers have recently been a significant source of CAD financing**

**CA balance and sources of financing**



# How sustainable is the Polish external position?

- Given i) the identified influences of macro-variables on the current account, ii) projections of the macro determinants and the capital flows and iii) the current stock (end-2012) of the foreign assets and liabilities, what will be the future path of the NIIP under different scenarios?
- In this model, no steady-state assumption on the evolution of the economy is imposed.
- Valuation gains associated with the composition of the NIIP are included directly.
- The current account may be sustainable as long as foreigners are willing to finance it, which is directly connected to the accumulated level of NIIP (also part of the Macroeconomic Imbalance Procedure).



# Scenario design

- Nominal GDP growth rate, oil balance, capital account transfers and projected errors and omissions in the CA are obtained from the IMF's April 2014 WEO forecast data.
- Output gap is calculated using the NBP data for 2013-15 and the WEO projection for 2016-18.
- Annual change in stock market capitalization share of GDP of 0.02 in 2013 and 2014 and 0.025 afterwards, in line with the expected recovery of the economy.
- Growth rate of prices on portfolio equity liabilities and assets equal to 6% and 4%, respectively, in line with the average 10-year local and EU MSCI stock market returns (adjusted for nominal GDP growth).



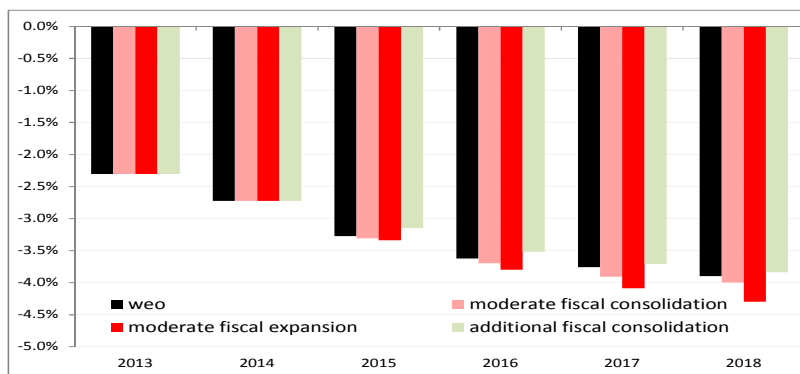
# Benchmark values of determinants

- Nominal growth of credit of 4.1% in 2013, 6% in 2014-15 and 8% in 2016-18.
- IMF WEO forecast of fiscal deficit in % of GDP: [4.3% 3.5% 3% 2.2% 2.3% 2%] over 2013-18.
- IMF WEO forecast for relative openness which implies strong improvement in 2013, followed by gradual improvements afterwards.
- IMF WEO forecast for the relative income which implies relative improvements at the annual rate of 1%.
- Strong increase in the VOX index over 2013-14, and gradual increase afterwards in line with the expected slow recovery and monetary policy tightening in advanced economies: [16.9 13.6 15 16.5 18.2] over 2015-17.

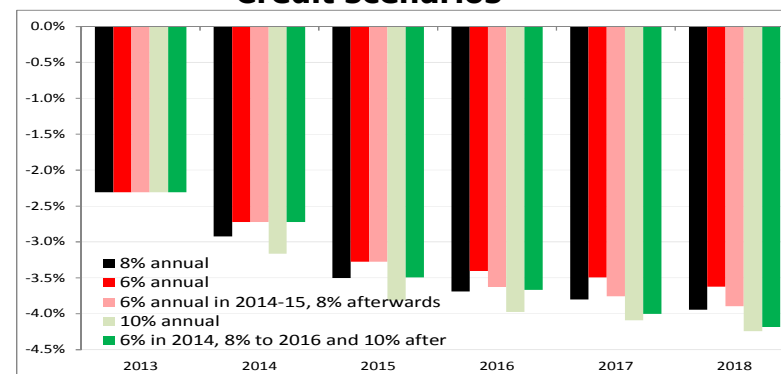
# Faster Credit & Fiscal Expansion

## CAD Increases and NIIP worsens

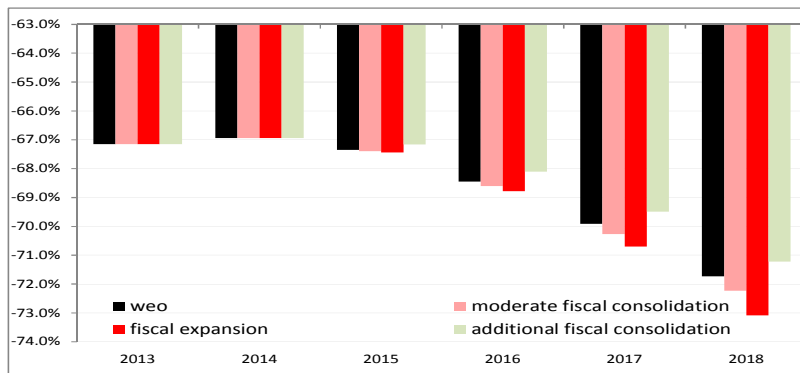
**Fiscal scenarios CA**



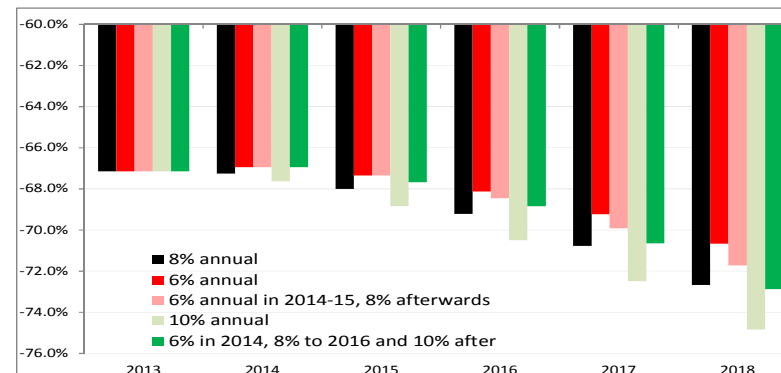
**Credit scenarios**



**Fiscal scenarios NIIP**

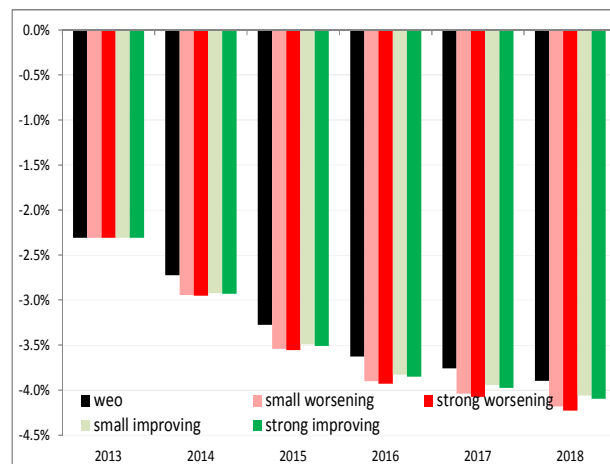


**Credit scenarios NIIP**

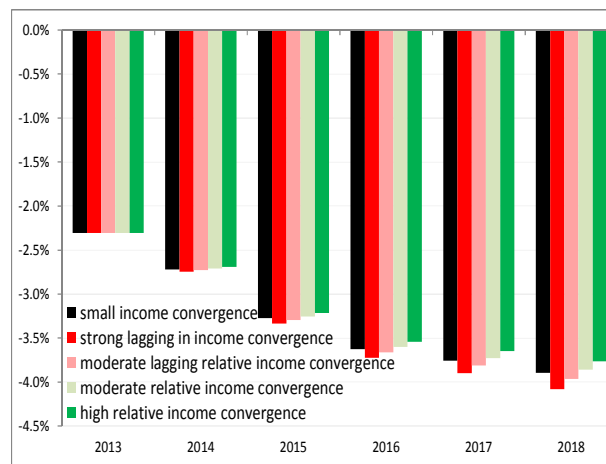


# Slower Trade Integration, Income Convergence & Increased Global Uncertainty CAD Increases & NIIP Worsens

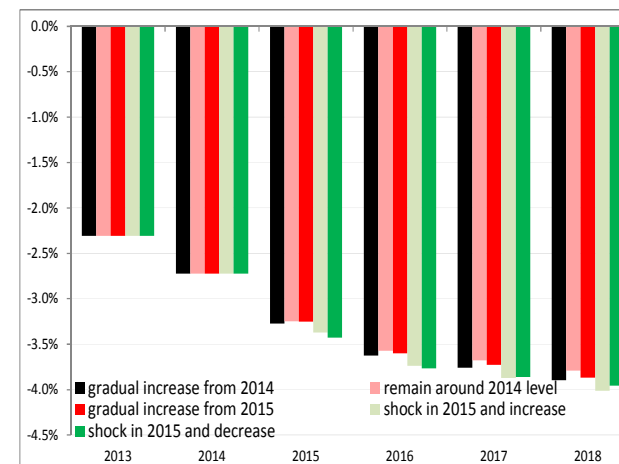
**Trade integration scenarios CA**



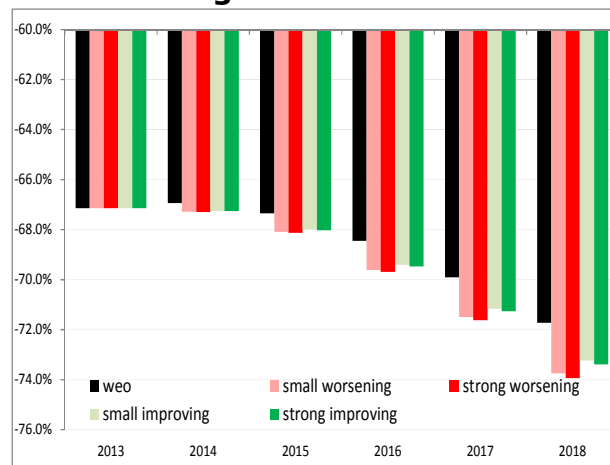
**Income convergence CA**



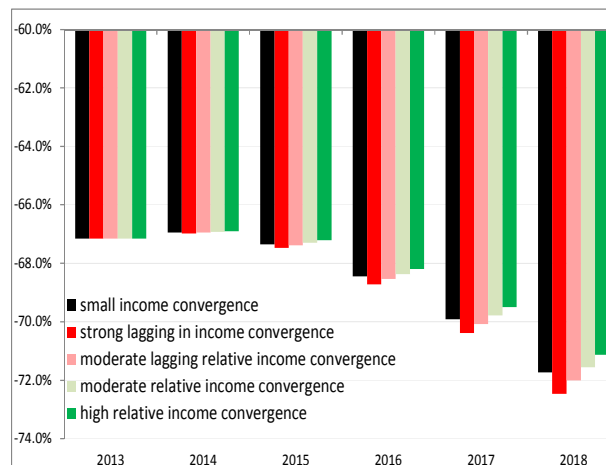
**Global uncertainty CA**



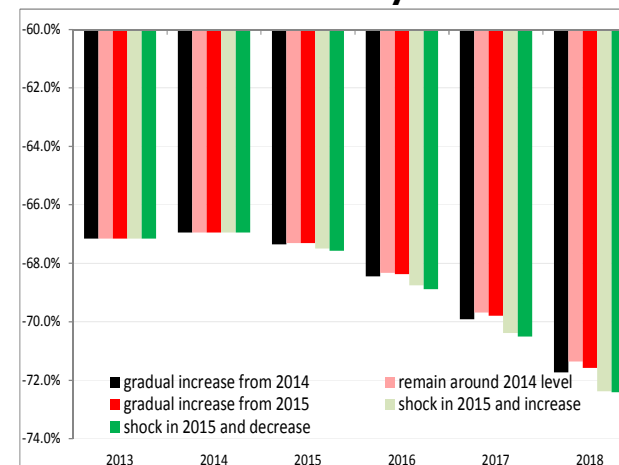
**Trade integration scenarios NIIP**



**Income convergence NIIP**



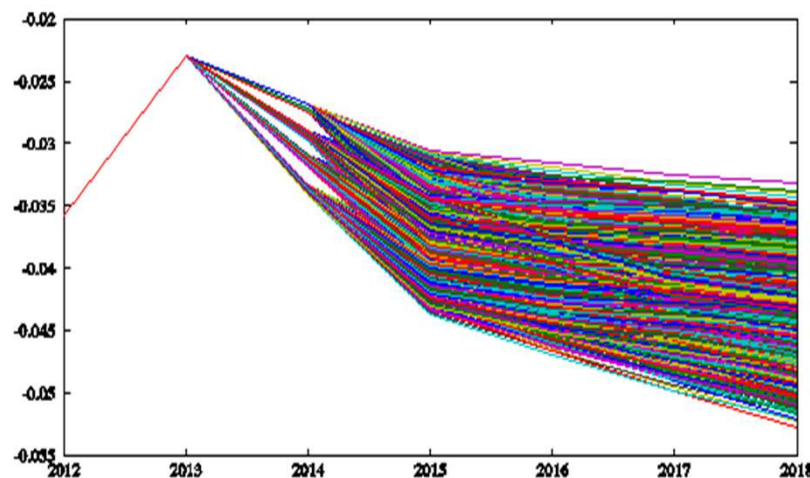
**Global uncertainty NIIP**



# What are the likely paths of Poland's external position?

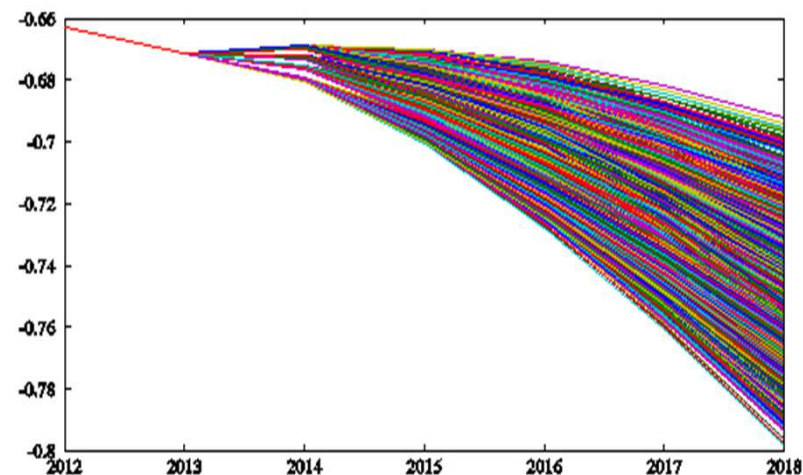
**Assuming fiscal consolidation scenarios and moderate aggregate demand growth, the CAD is expected to gradually increase following the 2013 reversal, to the level between 3.6% and 4% in 2018**

**Predicted CA balance in some scenarios**



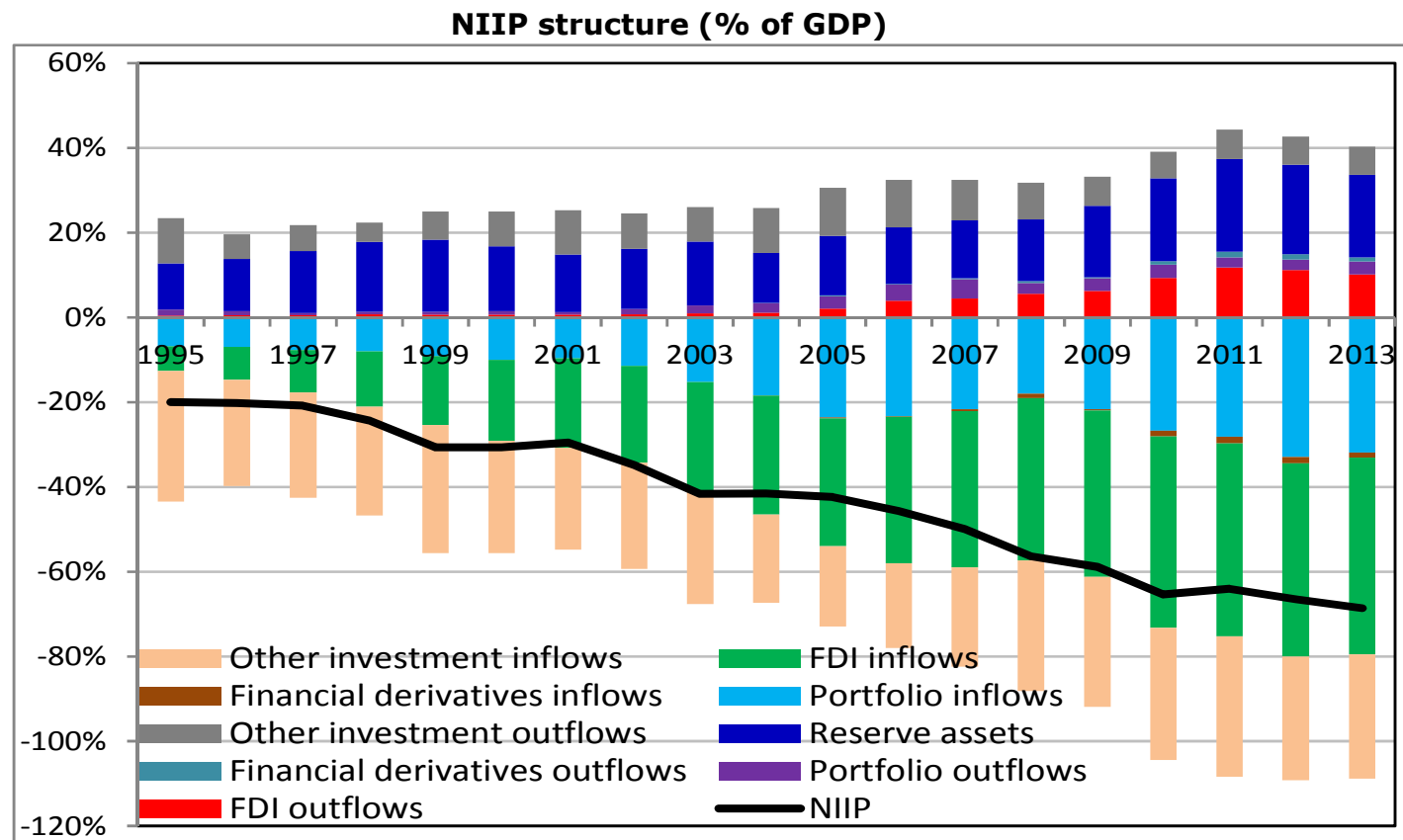
**The NIIP position may stabilize around -71% of GDP, but it may also worsen to -79 percent of GDP.**

**Expected NIIP position in some scenarios**



# Should the level of NIIP be a Source of Concern?

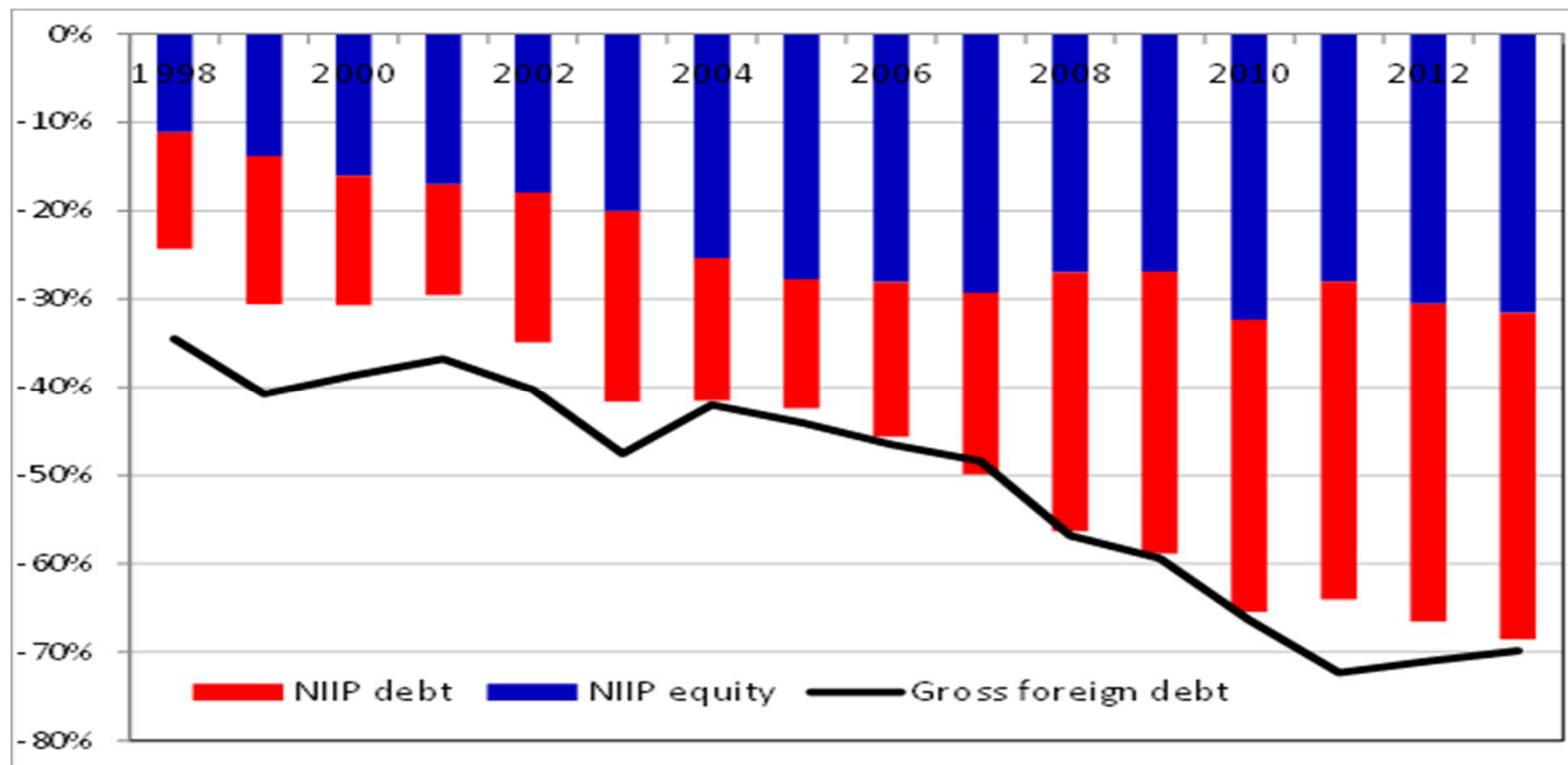
**Both gross and net liabilities increased significantly in nominal value over the last decade**



# And the composition?

Share of net equity liabilities in NIIP increased strongly prior to 2005, while net debt liabilities grew more rapidly over the crises period

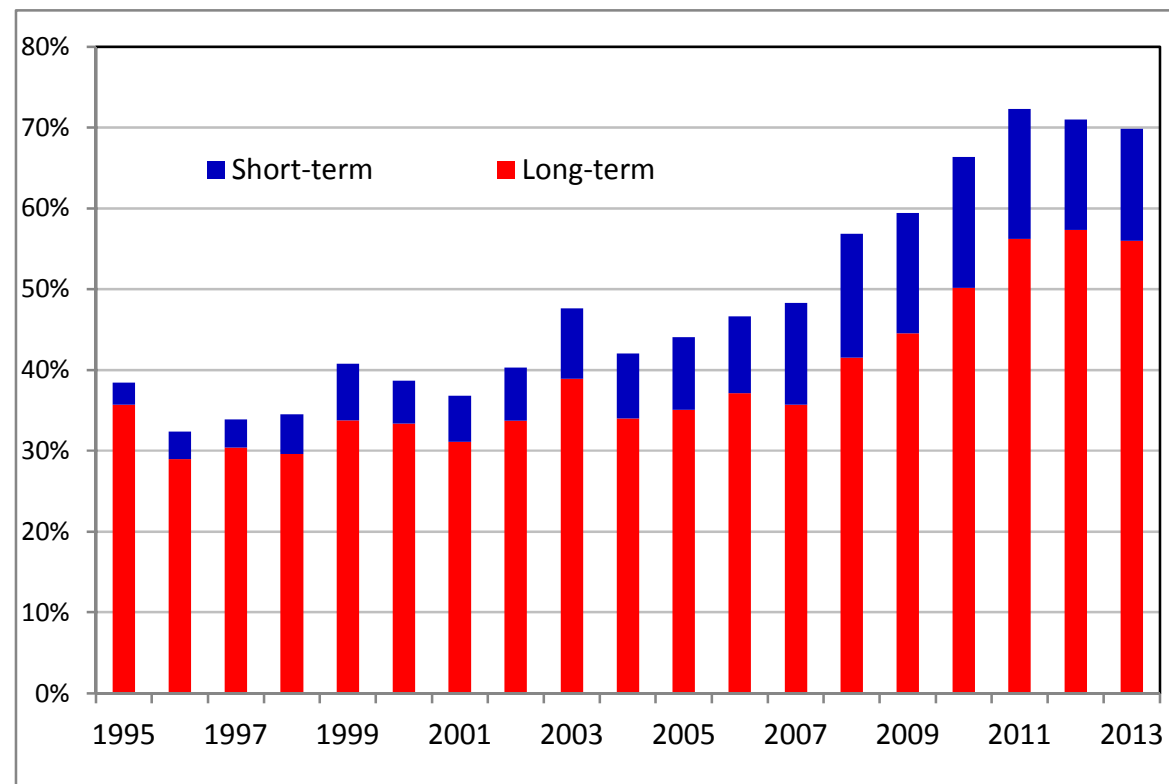
NIIP debt vs. equity (% of GDP)



# And the maturity structure?

**Maturity structure of the NIIP remains positive, although it deteriorated over the global crises period**

**External debt by maturity (% of GDP)**





# The risks associated with the maturity structure of debt are modest

**Increase in the average interest rate on debt liabilities of 100bp increases interest rate costs by 0.14% of GDP per year**

**Rollover risk and interest rate costs projections:**

	2014	2015	2016	2017	2018
Foreign debt financing needs (in % of GDP)	-17.094	-14.14	-14.44	-14.31	-14.183
Foreign reserves to foreign debt financing (FDN)	1.104	1.355	1.378	1.378	1.365
Foreign reserves to sum of FDN and CAD	0.952	1.102	1.104	1.093	1.073
Cost of 1% interest rate shock in a given year (in % of GDP)	-0.171	-0.141	-0.144	-0.143	-0.142
Cost of 1% interest rate permanent shock in 2015 (in % of GDP)		-0.141	-0.427	-0.856	-1.427



# Concluding remarks and implications

- Expected level of the CA balance is subject to limited financing constraints in the medium run.
- Net debt and NIIP accumulation present a potential source of risk in the short and medium run.
  - While the rollover risks are modest due to high reserves, interest rate increases are costly in the absence of policy actions.
- Fiscal consolidation measures (also related to the public debt consolidation) and regulatory policies aimed at restricting rapid credit expansion should have positive impact on the CAD and NIIP dynamics.
- Over the medium term, more structural measures to attract FDI in tradable sector, and to improved export competitiveness are needed given their positive impact on the CAD and NIIP evolution.
- Given the decline in FDI inflows, domestic sources of financing for growth are needed. The stable but low level of national saving is worrisome in this respect.