



Data Needs and Existing Gaps in Economic Research

Timo Vällilä

*Head, Economic Studies Division
Economics Department
European Investment Bank*



- The views expressed are private and do not necessarily reflect those of the EIB or EIB policy.



- **Empirical research questions of interest**
- **Data needs**
- **Case: Transport infra investment in Europe**
- **Micro-macro mismatch**
- **Conclusions: Biggest gaps**

Empirical research questions of interest



- **Productivity of capital (investment)**
 - **Determinants of investment**
 - **Financing of investment**
- **Aim to inform public policy decisions**



- **Stocks and flows (monetary value; quality)**
 - **Asset type (road ≠ grid)**
 - **Where (from where to where ≠ Paris)**
 - **Sufficient sample size**
- **Consistency across geographical units, over time**



- Research questions of interest
- Data needs
- **Case: Transport infra investment in Europe**
- Micro-macro mismatch
- Conclusions: Biggest gaps



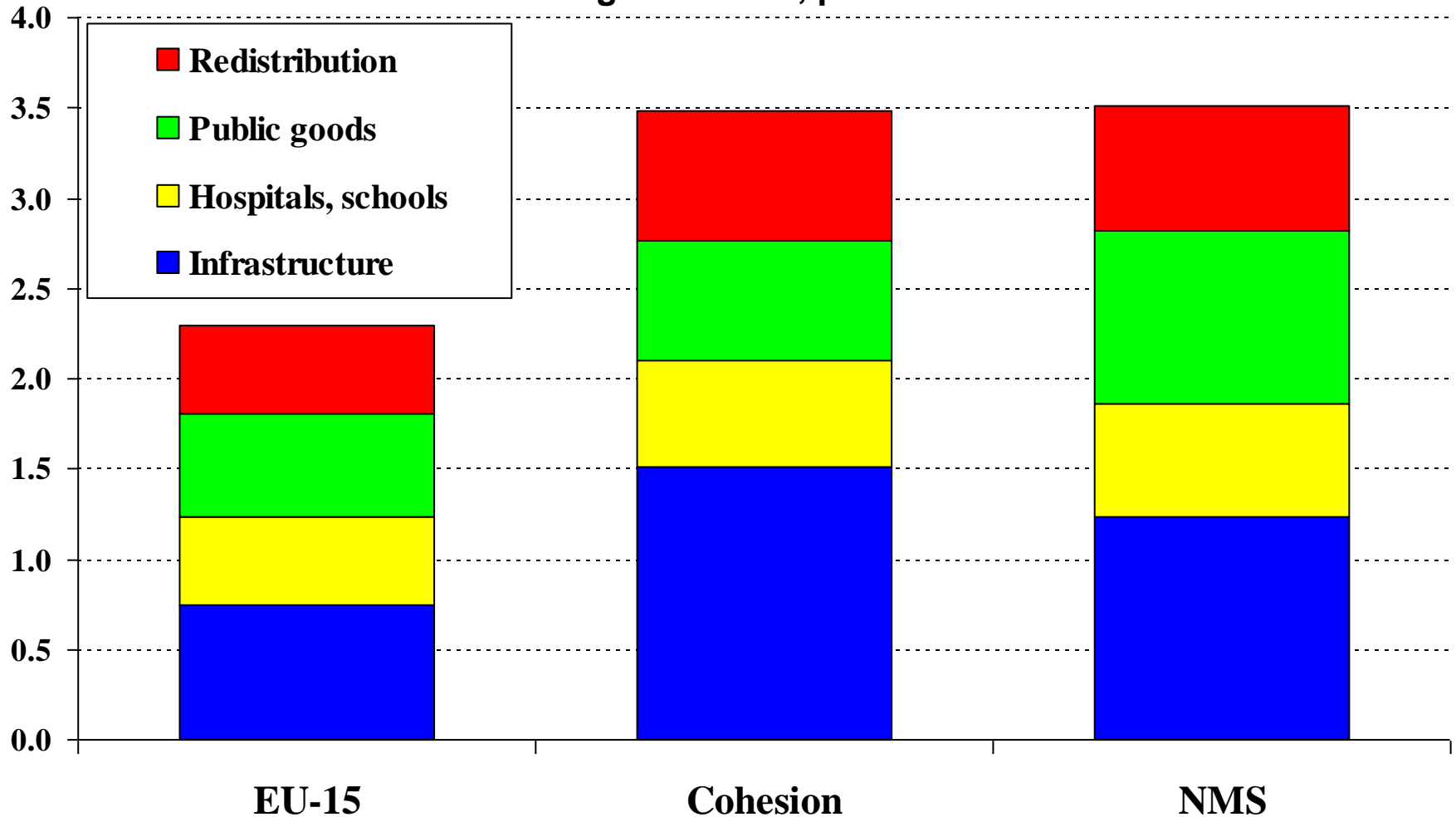
<i>Functions (ESA 95 COFOG)</i>	<i>Aggregation</i>
Economic Affairs	Infrastructure
Health Education	Hospitals and Schools
Defence General Public Services Environment Order and Safety	Public Goods
Housing Recreation Social Protection	Redistribution



Composition of government investment

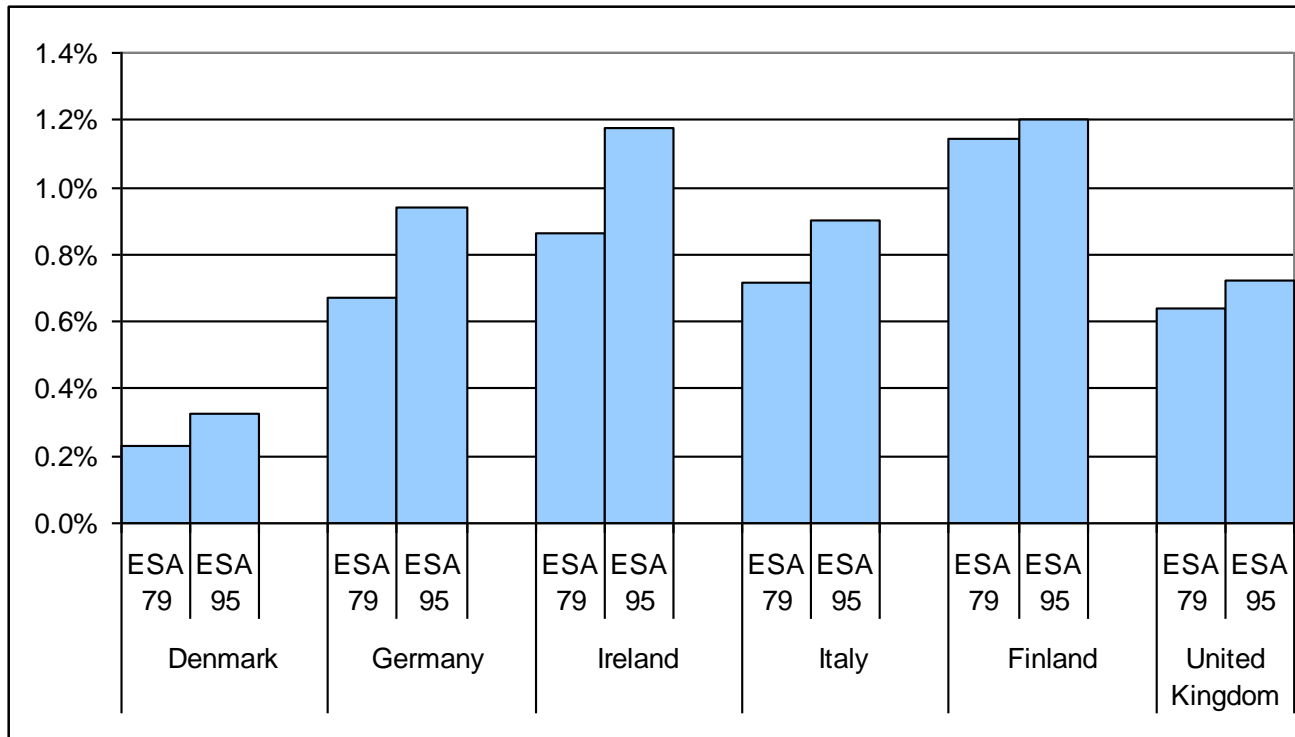


Averages 2000-05, percent of GDP



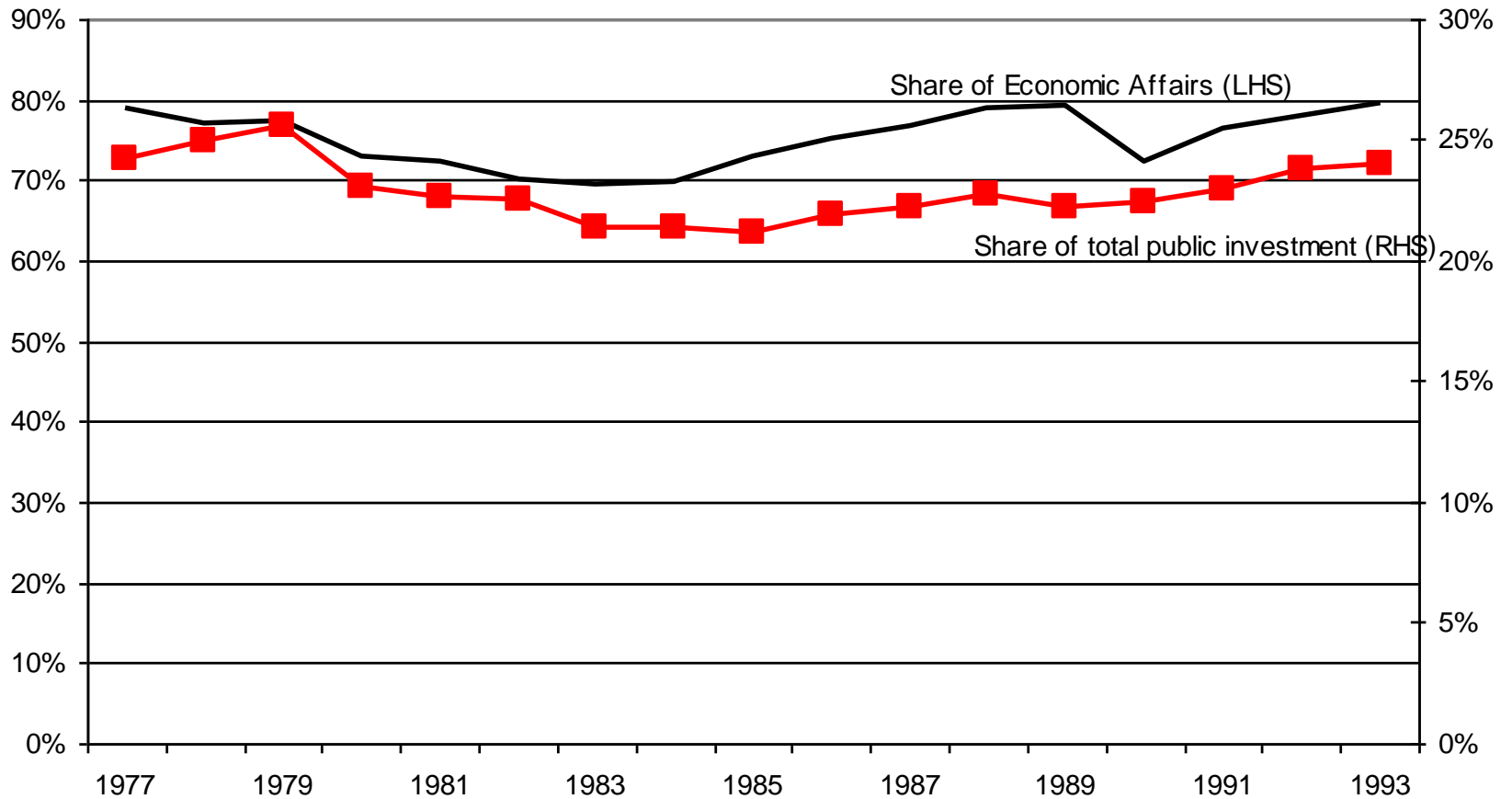
Source: Eurostat; own classification.

Transport (infrastructure) investment



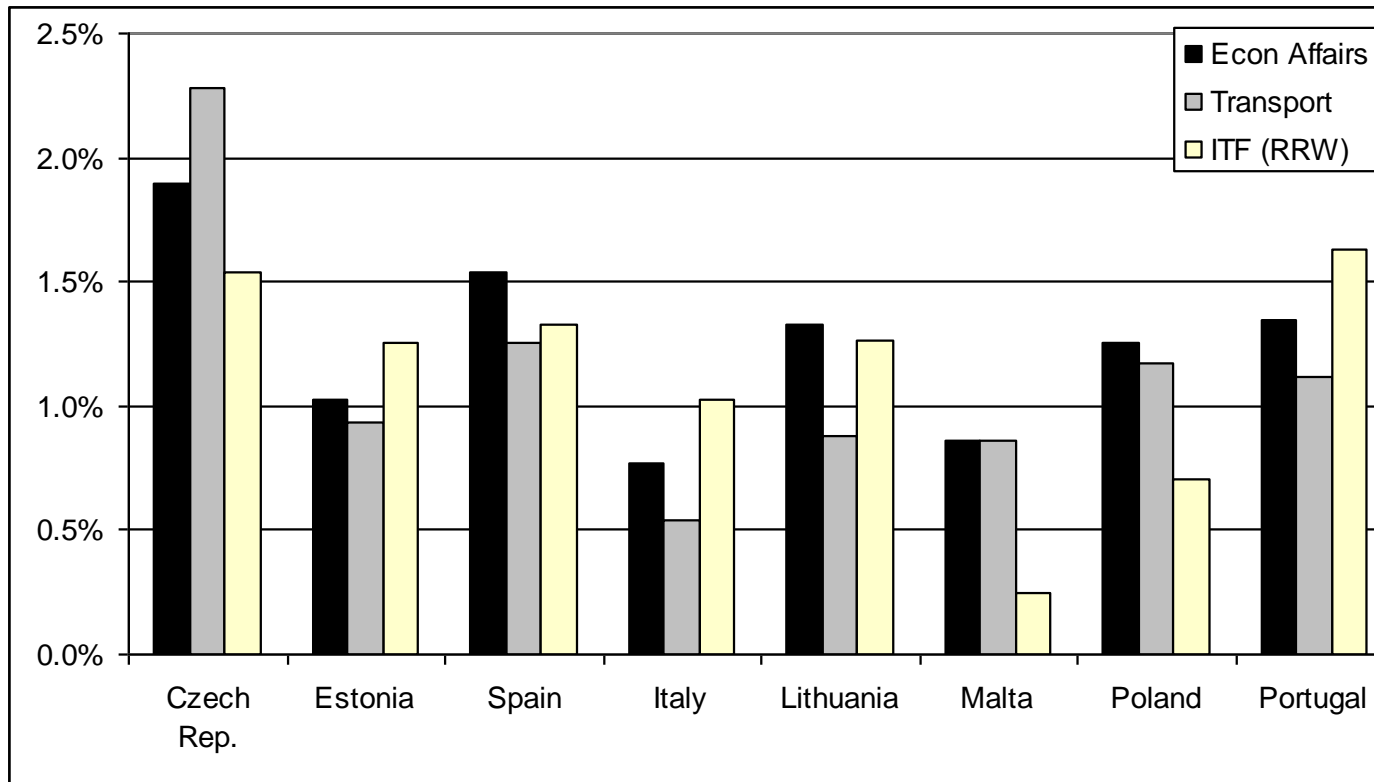
Source: Gonzales Alegre et al. (2008)

Transport (infrastructure) investment



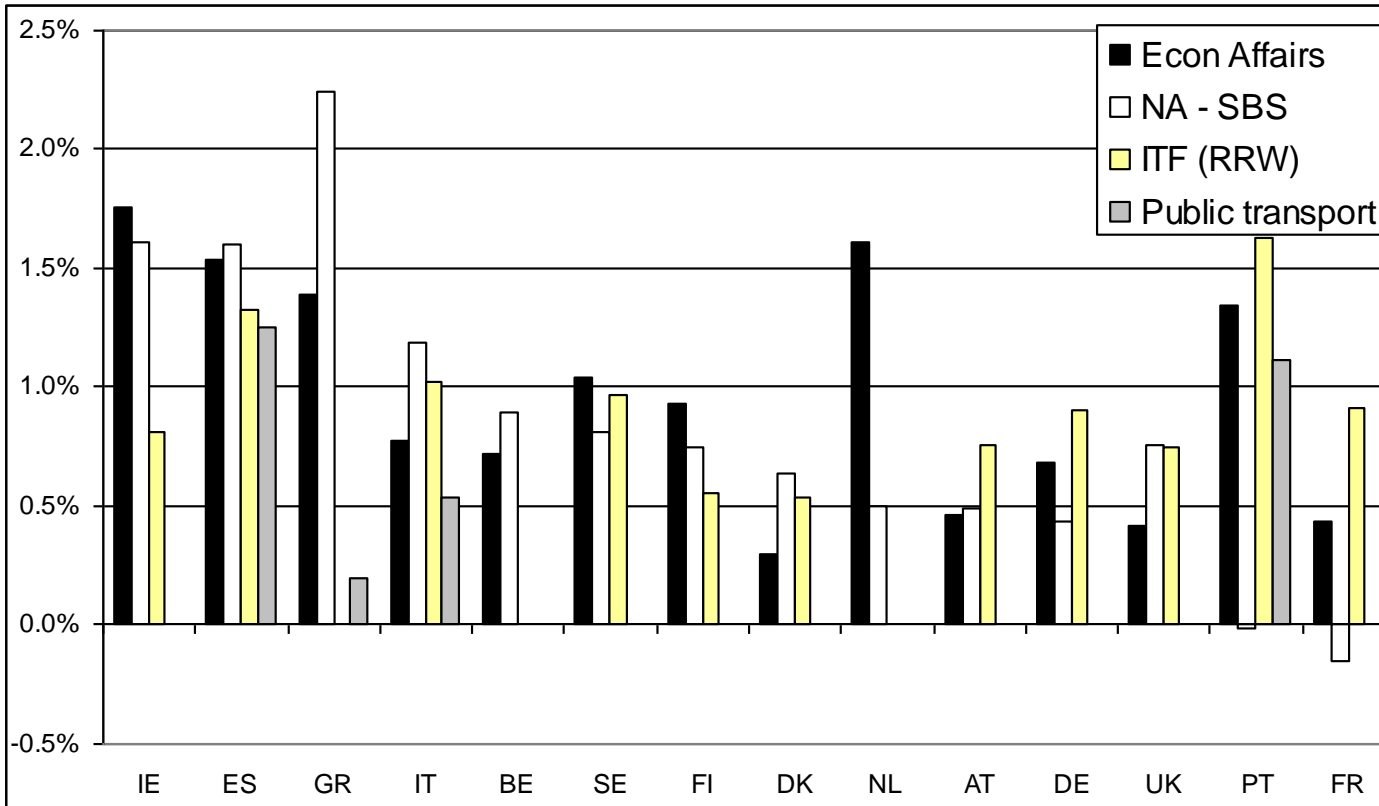
Source: Gonzales Alegre et al. (2008)

Transport (infrastructure) investment



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Transport (infrastructure) investment



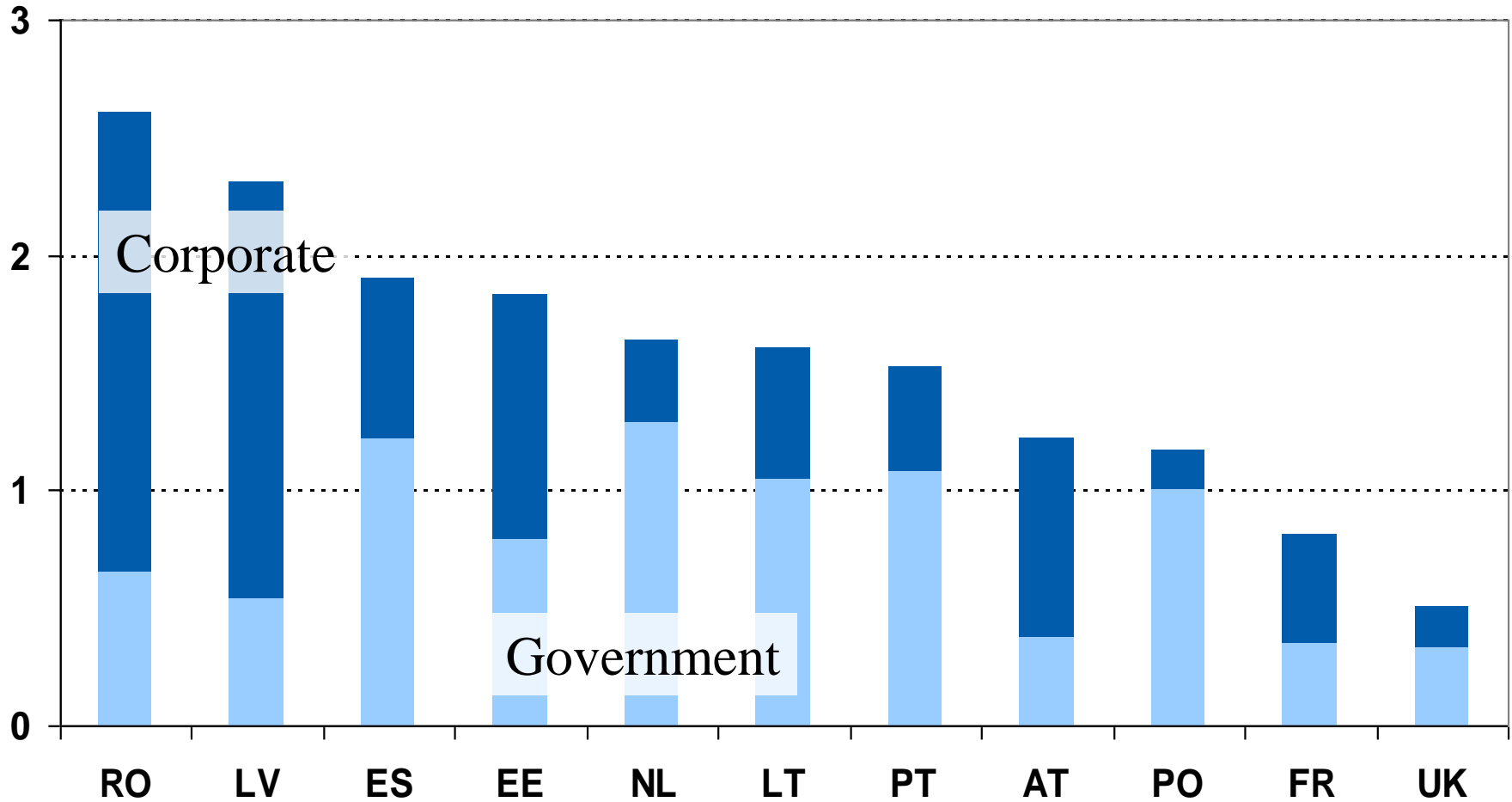
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Transport infrastructure investment



averages 2000-05, percent of GDP

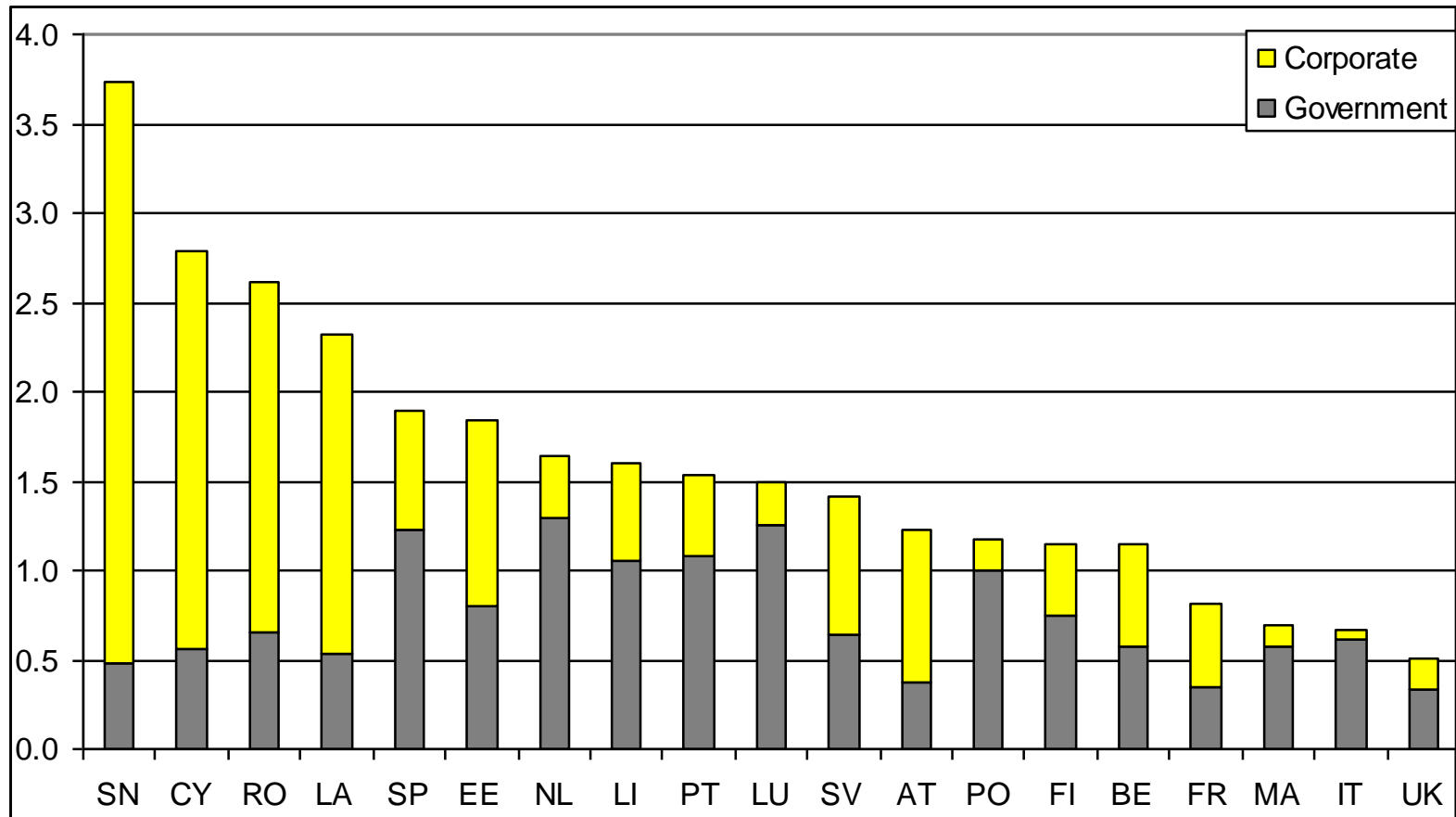


Source: Eurostat, own calculations.

Transport infrastructure investment



averages 2000-05, percent of GDP



Source: Gonzales Alegre et al. (2008)



- **Investment flows; no stock data available**
- **Asset type: “Transport”, “Transport infra”**
- **NUTS1 (country)**
- **Government and SBS: since 1990 (1995)**
 - **ITF 1992-2009 (online)**
 - **Rail, road, inland waterways, ports, airports**
 - **Caveats: Private investment, urban networks, VAT, maintenance**



- **Corporate sector and PPP projects**
- **Micro (project) level life-cycle data**
 - Detailed financial, engineering data
 - Balance sheet: Value of stocks
 - Maintenance expenditure
 - But: Contractual confidentiality, cost of processing data
- **Macro (National Accounts)**



Conclusion: Biggest gaps



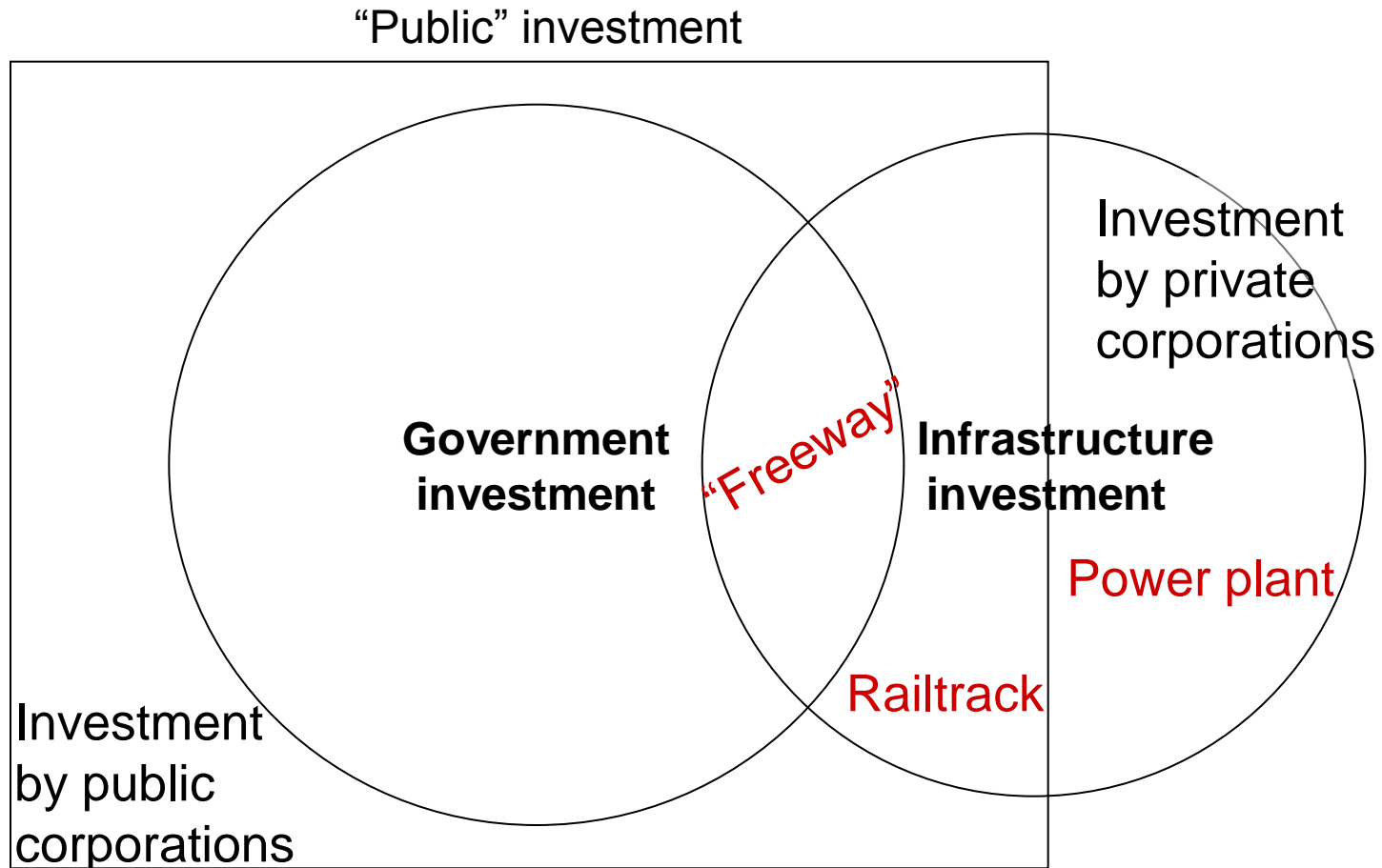
- **Values of stocks**
 - **Government sector balance sheet**
- **GCF by asset type**
 - **Infrastructure vs. other assets**
- **Time series**
 - **Changing standards, definitions**
- **Consistency**



BACK-UP SLIDES

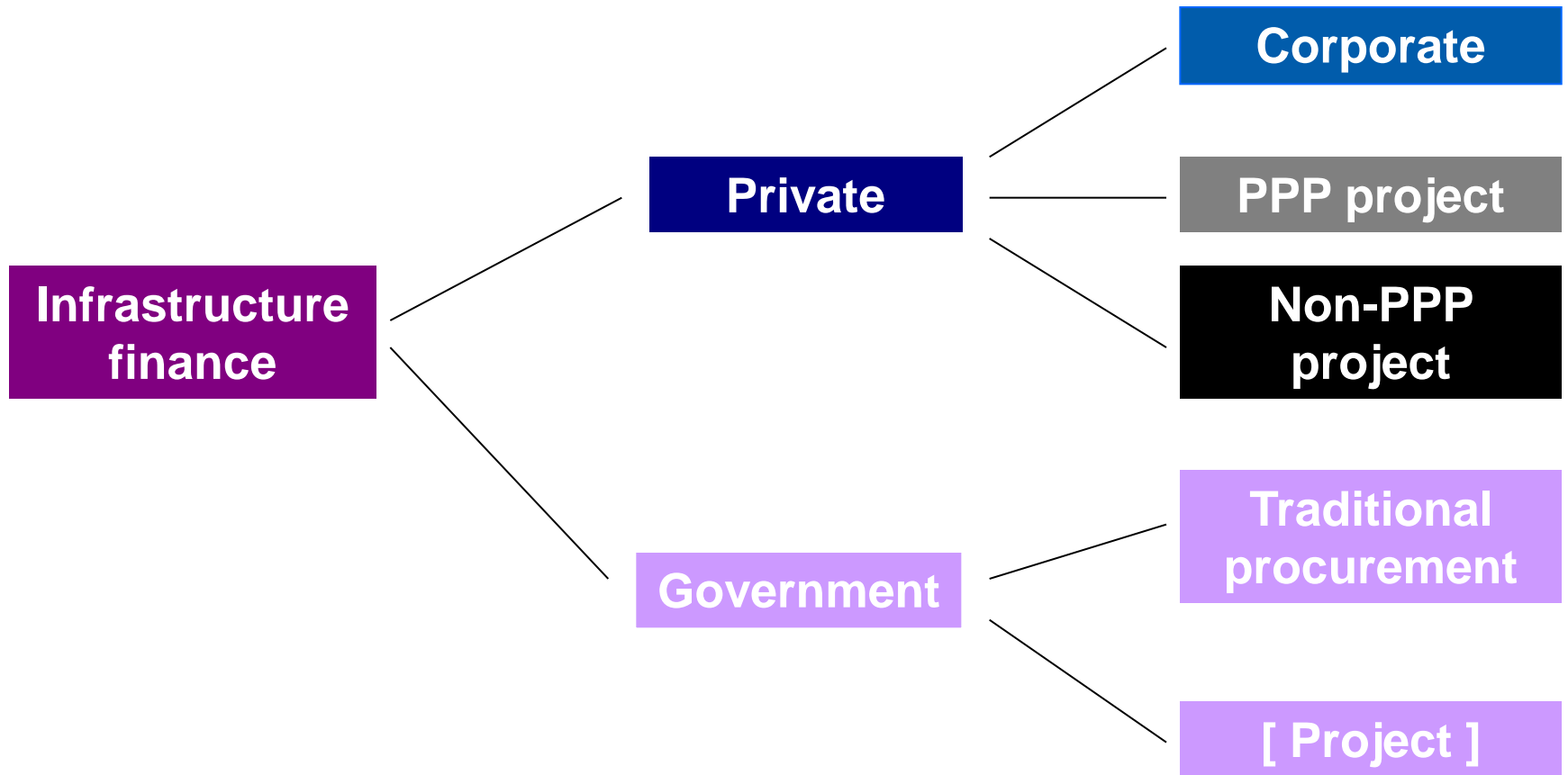


Concepts: Finance in a broader perspective





What exists: Preliminaries





What exists: Sources



- **Eurostat, (EC)**
- **OECD, ITF**
- **WB (PPI)**
- **Commercial**
 - Projectware
 - IJ online, InfraNews,...
 - PE databases



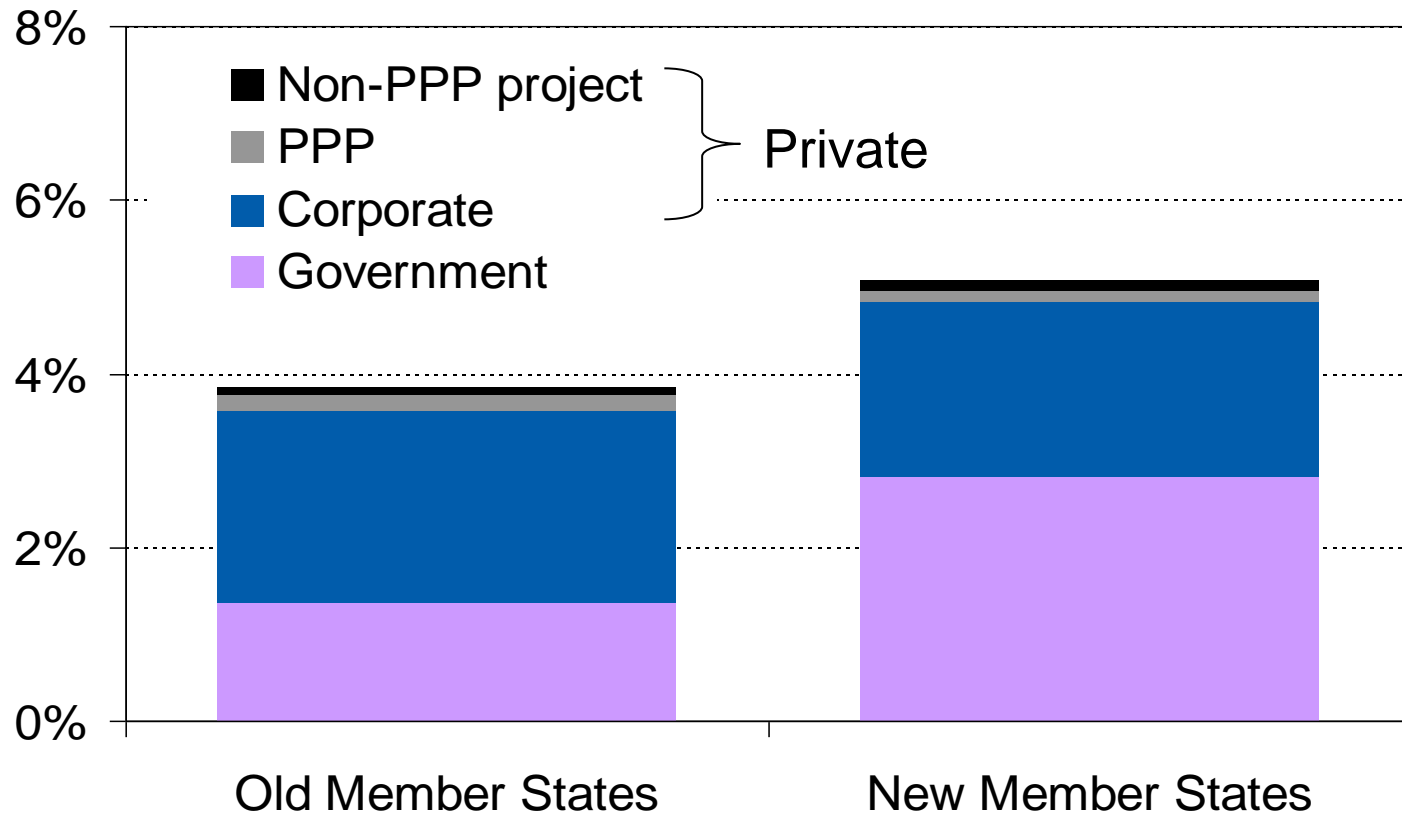
- **Stocks and flows**
 - **Gross capital formation (flow) or Km of X (stock)**
- **Asset type**
 - **“other buildings and structures”**
- **Branch**
 - **NACE Rev2 by 64: “land transport and transport via pipelines”**
- **Region**
 - **NUTS1**
- **(Long) time series**
 - **ESA95**



What exists: Infrastructure investment in the EU



in % of GDP, 2006-2009 average



Source: Eurostat, Projectware, EIB/EPEC



- **Infrastructure investment, stocks**
 - Macro and project level
- **Infrastructure investment needs**
- **Efficiency, effectiveness of infrastructure investment**
 - PFI life-cycle assessment
 - Procurement and project management (public sector)
 - Megaprojects
- **Infrastructure finance market imperfections**
 - Financial regulation
 - Bond market
 - Myopia?
- **Infrastructure as an asset class**
 - Risk-return and diversification characteristics – a separate asset class?
 - Instruments (debt, equity) and vehicles (direct, fund investment)

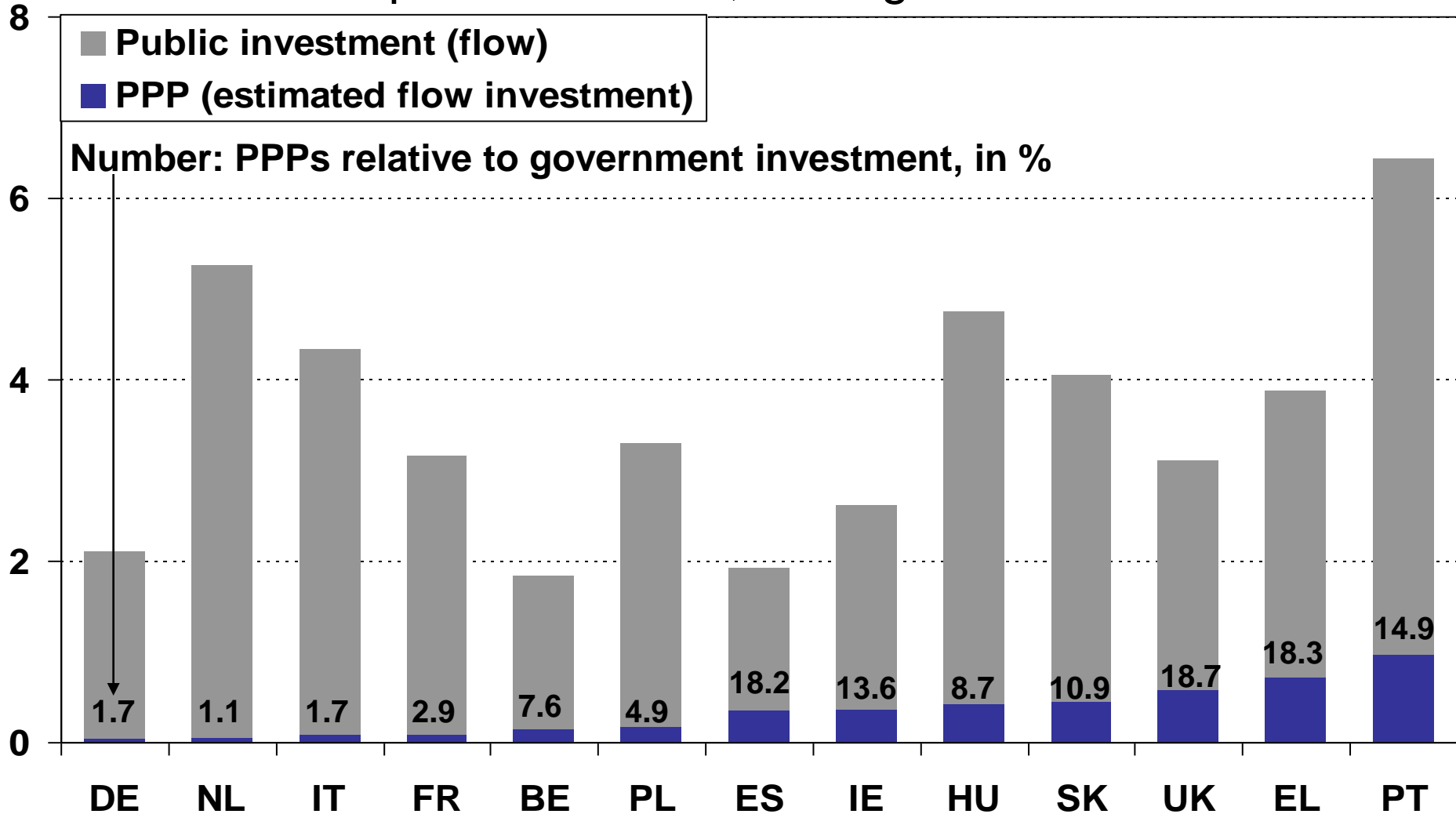


- **Methodologies for projecting future investment needs**
 - Macro-approach (top-down)
 - OECD
 - Transport: Country-specific freight transport models
 - Micro-approach (bottom-up)
 - Transport: (Behavioural) passenger transport models
- **Methodologies little unified, even untransparent**
 - EIBURS project with University of Leuven (2012-15)

Government investment and PPPs



in percent of GDP, average 2008-2010



Source: ECON/EPEC PPP database, Eurostat, ECON calculations.