# The Political Economy of a Diverse Monetary Union

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# Introduction

*Under what conditions is an institutionally diverse monetary union a stable and mutually beneficial equilibrium outcome?*

This paper:

- Political economy framing using a reduced form model with heterogeneous institutional quality
- Study adjustment processes when financial prices converge and institutions do not
- Study redistributive effects
- Application: European Monetary Union Show

# Institutions

- *The explicit and implicit governance structures that provide the "rules of the game" (North, 1991)*

- Institutions matter and are very persistent (Acemoglu et al., 2005; Jaccard and Smets, 2017) (Show)

- In this model institutional quality reflects structural features affecting government spending
  - Lower institutional quality reflects weaker public governance or a structural political necessity to overspend

# Model

# Model (1/2)

- Two countries with small open economies
- Two periods
- Two states of the world, perfectly correlated across countries
- *Only difference between countries is institutional quality:* $\beta^S > \beta^W$
- Countries are either in a monetary union, or not
  - Credible *political* commitment to a common currency without devaluations, with possible fiscal transfer
  - Affects spending decision, interest rate and exchange rate

# Model (2/2)

- Each country consist of households, firms and a government
- Households: $\max E[U(W, G)]$
  - Endowment of 1
  - Invest in firms or save in government bonds
  - Own and work at the firm
- Firms
  - Operate internationally and are price takers
  - Pay wages and dividends
  - New Keynesian assumption of nominal wage rigidity
- Government max $\beta E[U(W, G)] + (1 - \beta)G - \mathbb{1}C$
  - Institutional quality $\beta \in [0, 1]$
  - Sells government bonds and raises taxes ex post
  - Subject to a maximum tax rate and domestic saving constraint

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# Effects of Monetary Unification in Good Times

# The interest rate effect

$$R_0 = (1 + R^{RF})E[\epsilon] - 1$$

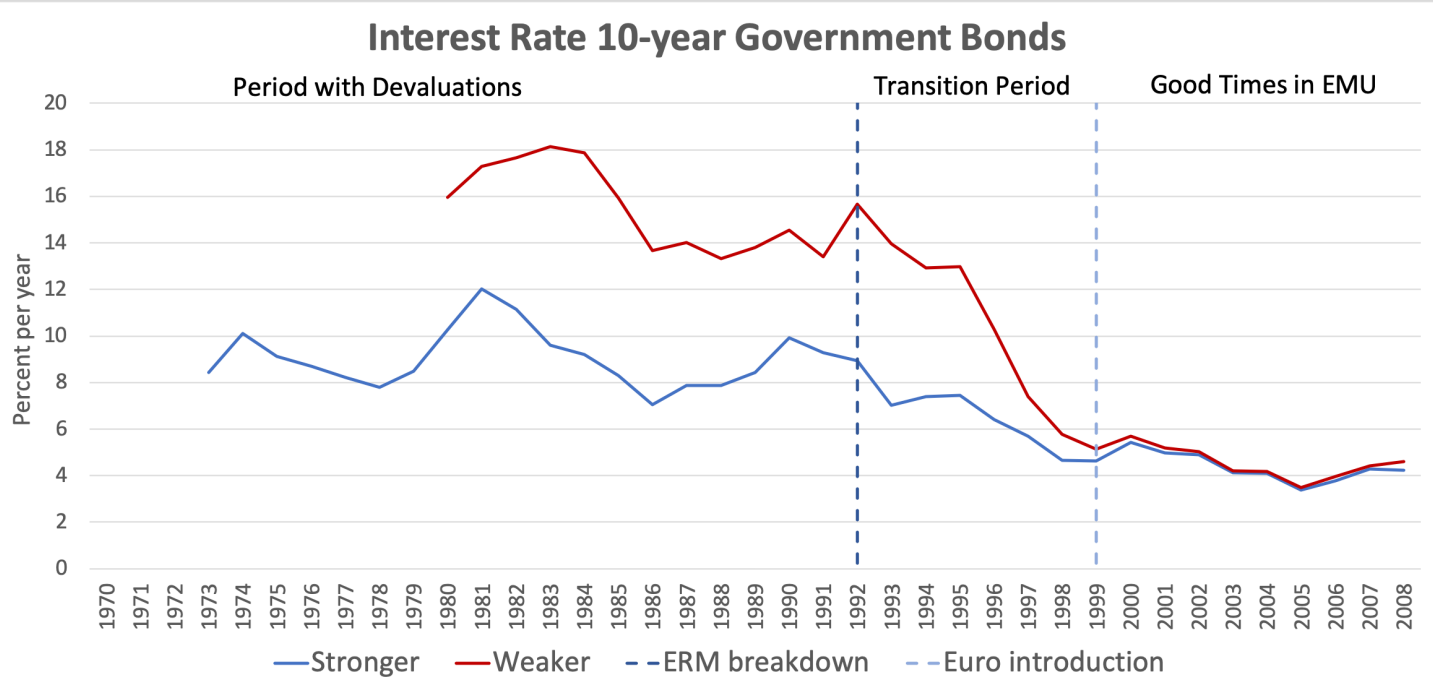
**Model: interest rate in the weaker country decreases to the interest rate in the stronger country**

# The interest rate effect

$$R_0 = (1 + R^{RF})E[\epsilon] - 1$$

**Model: interest rate in the weaker country decreases to the interest rate in the stronger country**

Stronger: NL, GE, FR, FI, AU —— Weaker: IT, GR, SP, PO



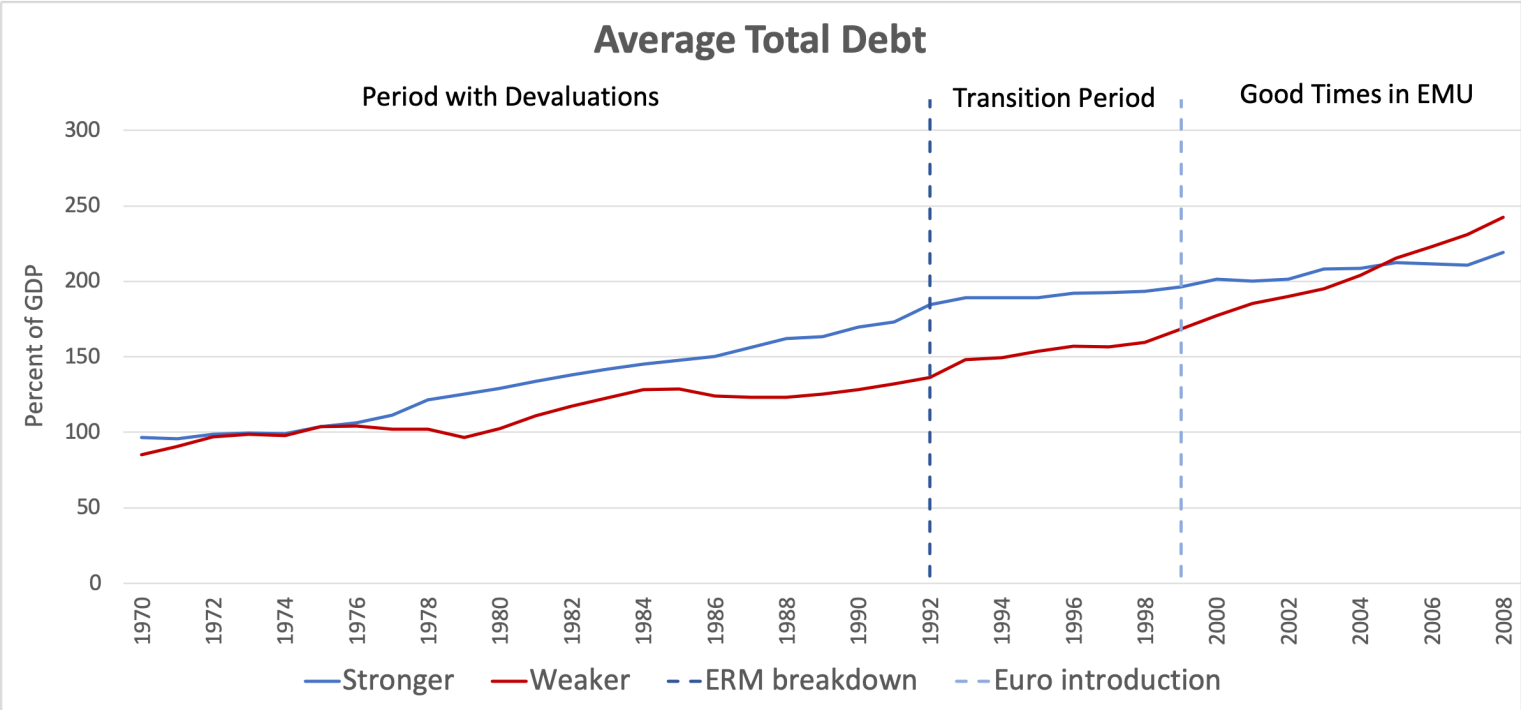

*Source: IMF*

# The spending effect

**Model: government spending in weaker country increases**

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*Source: IMF*

# The exchange rate effect

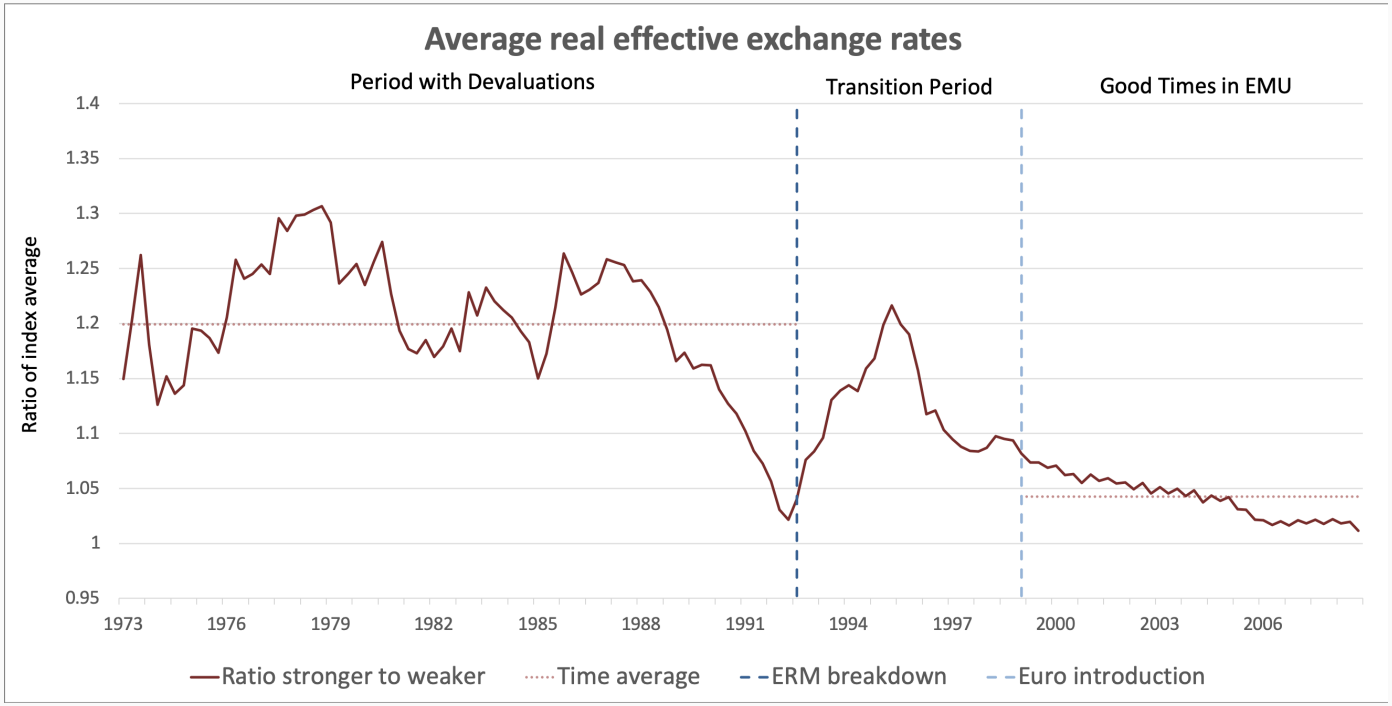
$$\epsilon = \begin{cases} I + G, & \text{if } \beta > \beta^*. \\ \textit{Devaluation}, & \text{otherwise.} \end{cases} \tag{1}$$

**Model: a common currency means a devaluation for stronger countries and a revaluation for weaker countries:** $\epsilon^W > \epsilon^{MU} > \epsilon^S$

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*Source: BIS*

# Redistributive effects

# No Union vs Union

| | S | | W | |
|---|---|---|---|---|
| | HH | GOV | HH | GOV |
| Interest rate effect | = | = | + | + |
| Spending effect | = | = | - | + |
| Exchange rate effect | + | + | - | = |

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| | S | | W | |
|---|---|---|---|---|
| | HH | GOV | HH | GOV |
| Interest rate effect | = | = | + | + |
| Spending effect | = | = | - | + |
| Exchange rate effect | + | + | - | = |
| In bad times: fiscal transfer | - | - | = | + |

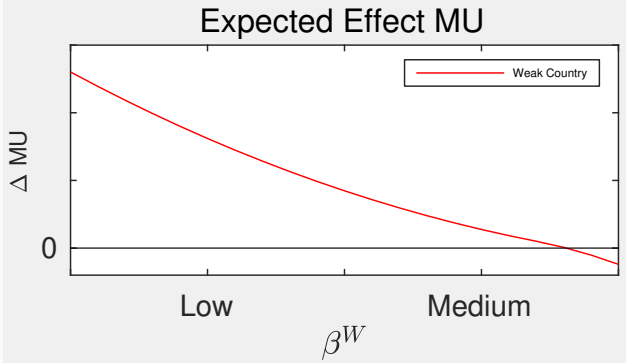
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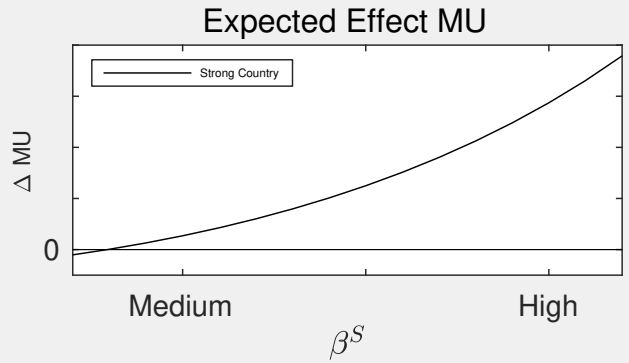
| | S | | W | |
|---|---|---|---|---|
| | HH | GOV | HH | GOV |
| Interest rate effect | = | = | + | + |
| Spending effect | = | = | - | + |
| Exchange rate effect | + | + | - | = |
| In bad times: fiscal transfer | - | - | = | + |

**Model: whether DMU is a mutually beneficial equilibrium outcome depends on $\beta^S$ and $\beta^W$**

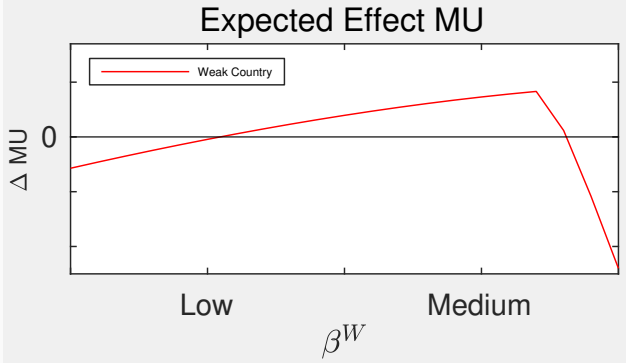
# Between Countries

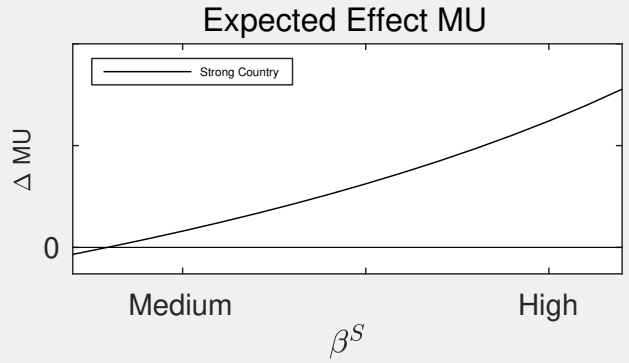
**Government Utility**



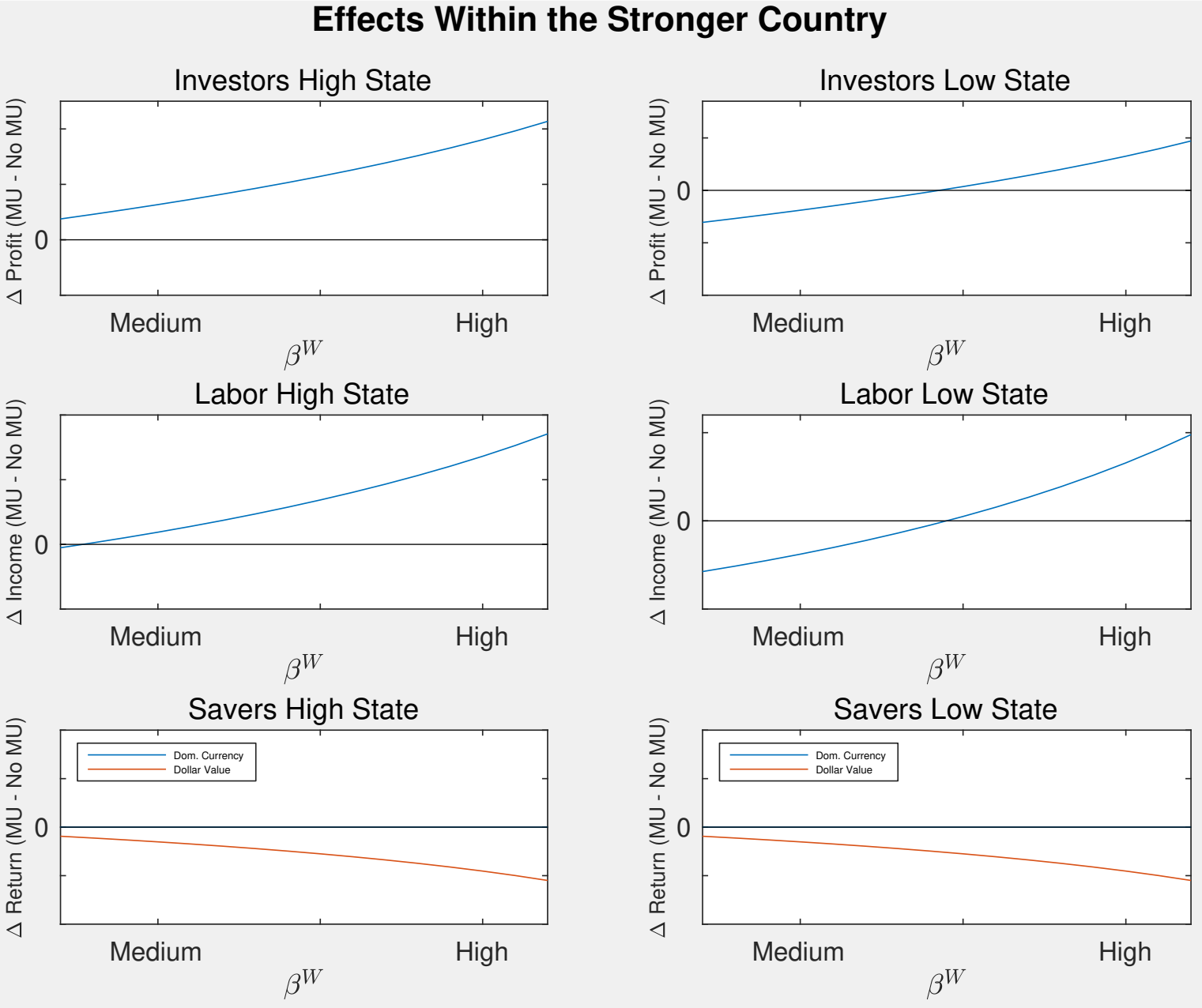




**Household Welfare**



# Within the Strong Country



# Overview Results

# Overview Results

- Model qualitatively applies to EMU
- A DMU can be mutually beneficial, but is redistributive from the start
  1. Redistribution between countries
  2. Redistribution within countries
- The political decision to join by the weaker government may contradict a social planner's decision
- The stronger countries may benefit, even with a re-distributive transfer in crisis times
- What if countries are not diverse?
  - No MU (without other real benefits)

# Q & A

Questions?

# Related Literature

- Optimal Currency Area (OCA) literature
  - Desirability of MU depends on country characteristics (Mundell, 1961), (McKinnon, 1963 and Kenen, 1969):
- Policy makers care about private benefits (Foarta, 2018; Grossman and Helpman, 1994)
- Governments in MU have heterogeneous objectives
- Institutions Matter (Acemoglu and Johnson, 2000; Acemoglu et al., 2005)
  - Credit enforcement institutions matter for access to credit in EMU (Jaccard and Smets, 2017).
  - Institutional quality played a key role in causing the balance of payment imbalances, a key driving force of the crisis (Baldwin and Giavazzi, 2015)
- Benefit of diversity (**?**Boffa et al., 2016)
- Exchange rate valuation effect (Rodrik, 2009)

# Related Literature

- Optimal Currency Area (OCA) literature (Mundell, 1961)

| | OCA | This Paper |
|---|---|---|
| Heterogeneity: | Business cycles | Institutional quality |
| Government's objective: | Homogeneous | Heterogeneous |
| Relevant exchange rate: | Internal | External |
| Capital flows: | None | Central |

# Exchange rate / competitiveness effect

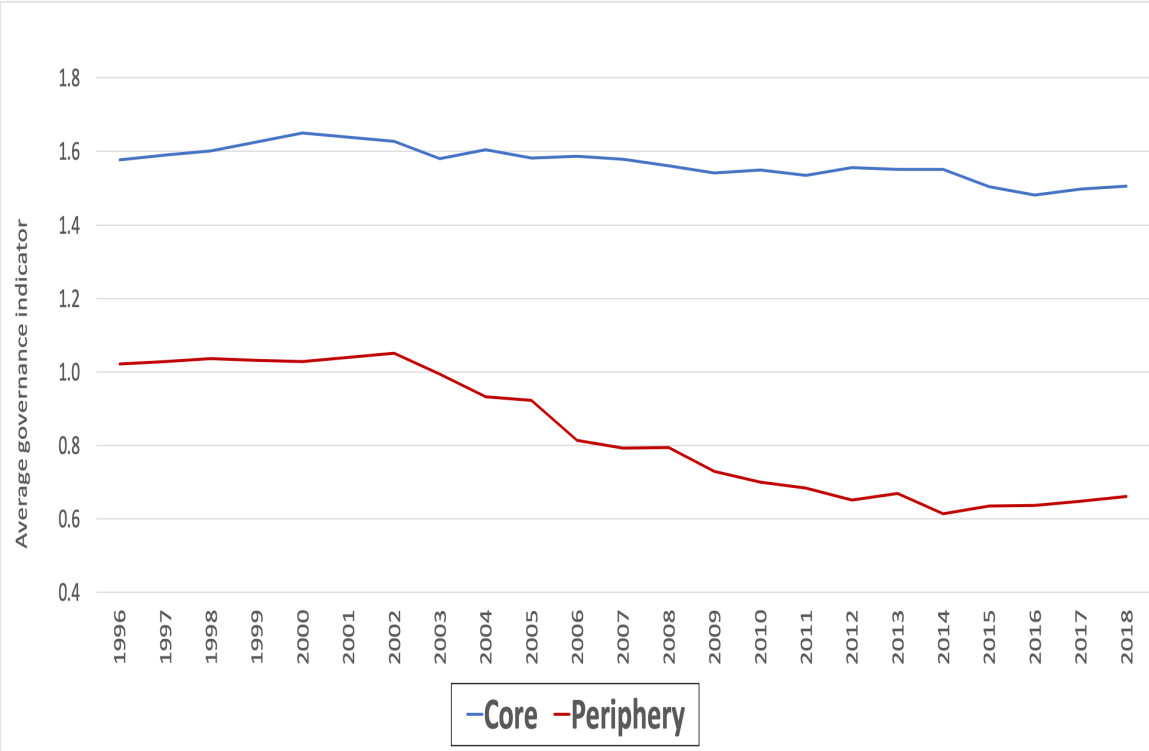
- Relative exchange rate valuation matters for private sector investment incentives
- Undervaluation boosts investment; overvaluation harms investment (Rodrik, 2009)
- Mechanisms:
  1. Heterogeneous taxes in the tradable and nontradable sectors (Rodrik, 2009)
  2. Downward rigid wages (Beetsma and Giuliodori, 2010)

– Trade matters in the EMU (Baldwin, 2006)

– Relative currency valuations impact economic growth (Rodrik, 2009)

– Aftermath British Pound and Italian Lira devaluation in 1992

**Figure 1:** Persistently diverse institutional quality




*Source:* The Worldwide Governance Indicators Data Project (Kauffmann and Kraay, 2016)

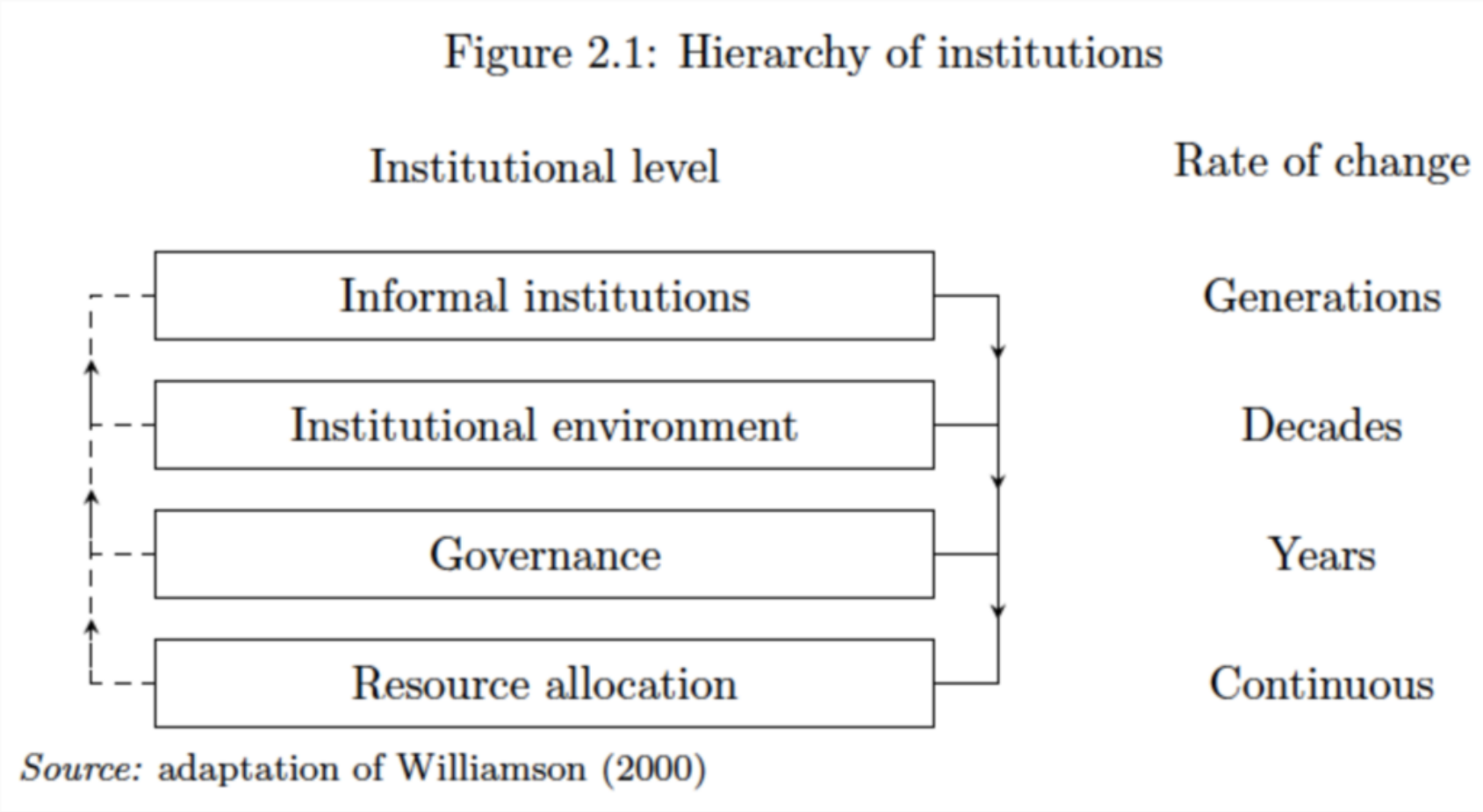
**Index averages:**

- S: NL, GE, FR, FI, AU
- W: IT, GR, SP, PO
- Governance effectiveness
- Voice and accountability
- Political stability and absence of violence
- Regulatory quality
- Rule of law
- Control of corruption

Show Back

# Hierarchy of Institutions

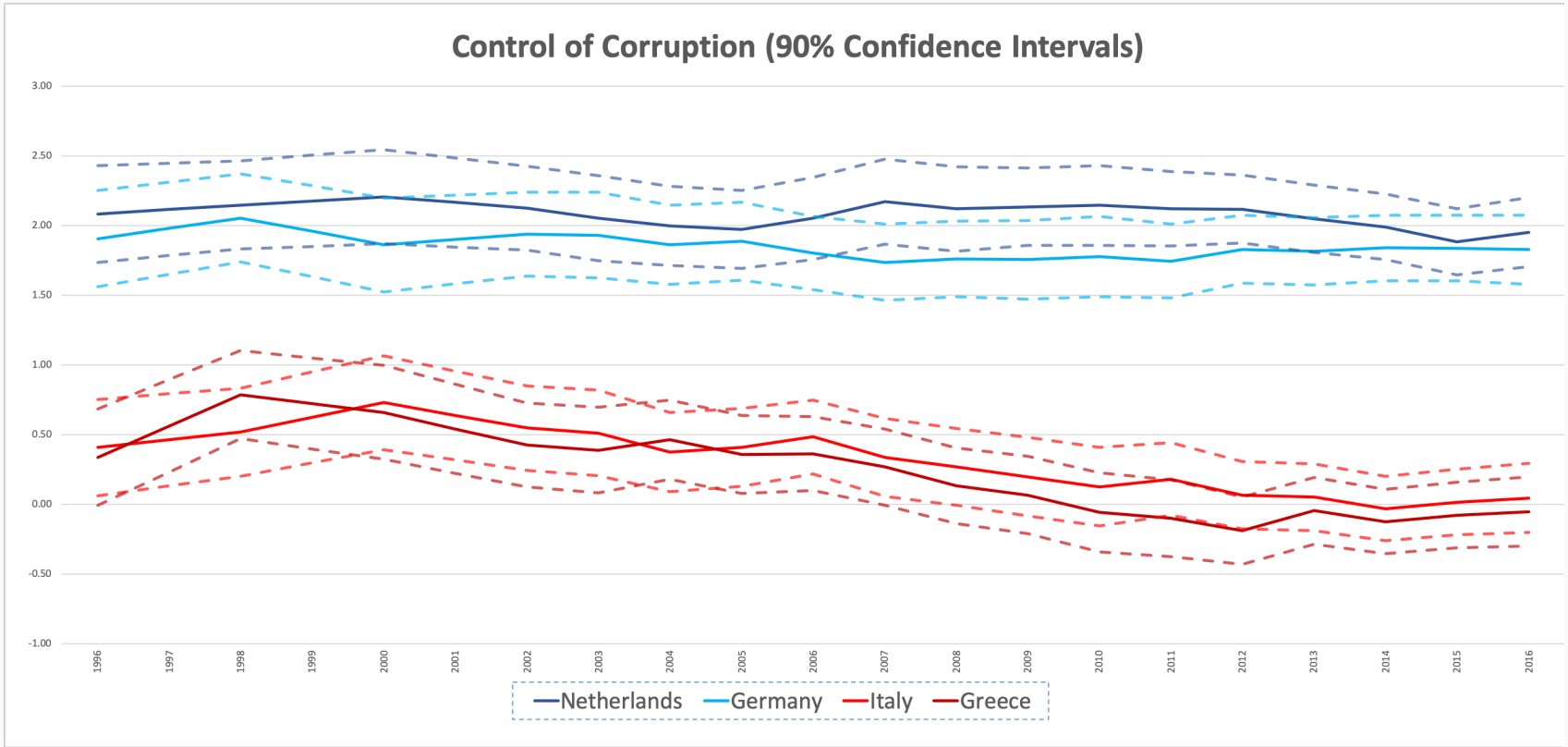
**Figure 2:** Hierarchy of Institutions




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# Control of Corruption

**Figure 3:** Control of Corruption




*Source:* The Worldwide Governance Indicators Data Project (Kauffmann and Kraay, 2016)

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# Continuation Payoff

- Monetary unification is a political decision
- Infinitely repeated game

Equilibrium Condition:

- Both governments join ex ante (PC) and stay in ex post (IC):
  1. Join if $E[U_{gov}^{i-MU}] \geq E[U_{gov}^{i}]$
  2. Strong country stays if

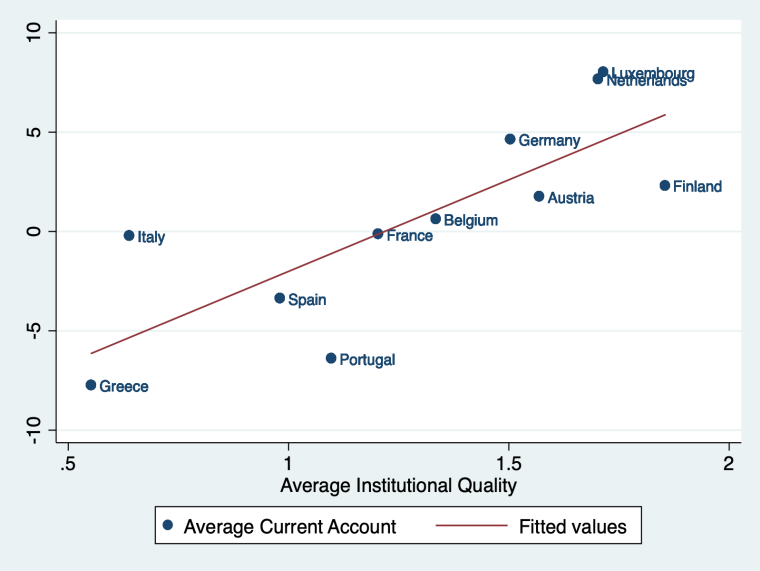
$$U_{Lgov}^{S-MU} + \sum_{t=1}^{\infty} E[U_{gov}^{S-MU}]\delta^t \geq U_{Lgov}^{S-MU} + \Delta U_{LgovNoTransfer}^{S-MU} + \sum_{t=1}^{\infty} E[U_{gov}^{S}]\delta^t \ ,$$

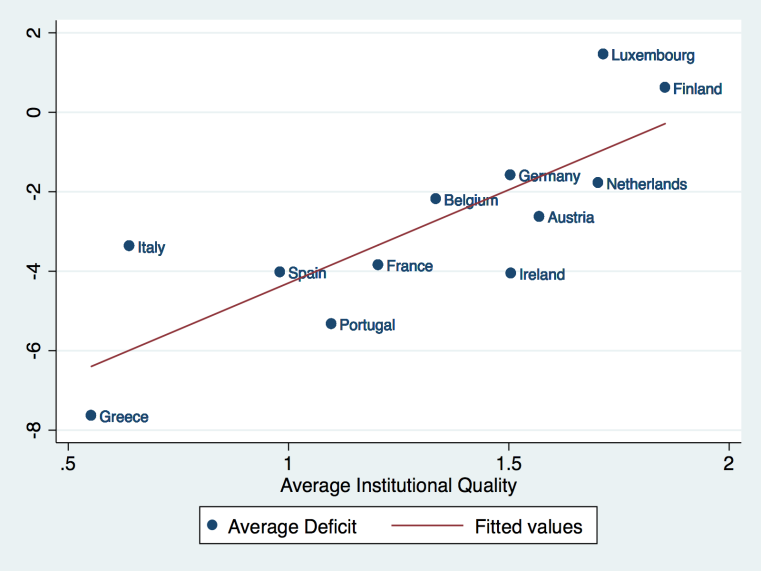
where $\Delta U_{LgovNoTransfer}^{S-MU} = U_{Lgov}^{S-MU}(I_0^S, D_0^S + T_L) - U_{Lgov}^{S-MU}(I_0^S, D_0^S)$

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# Correlation Evidence (1/2)

**Figure 4:** Current Account, Deficit and Institutional Quality

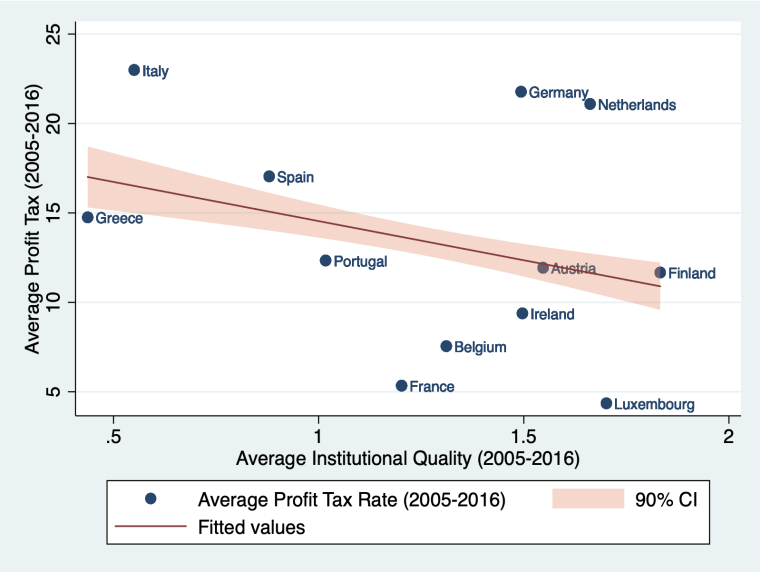


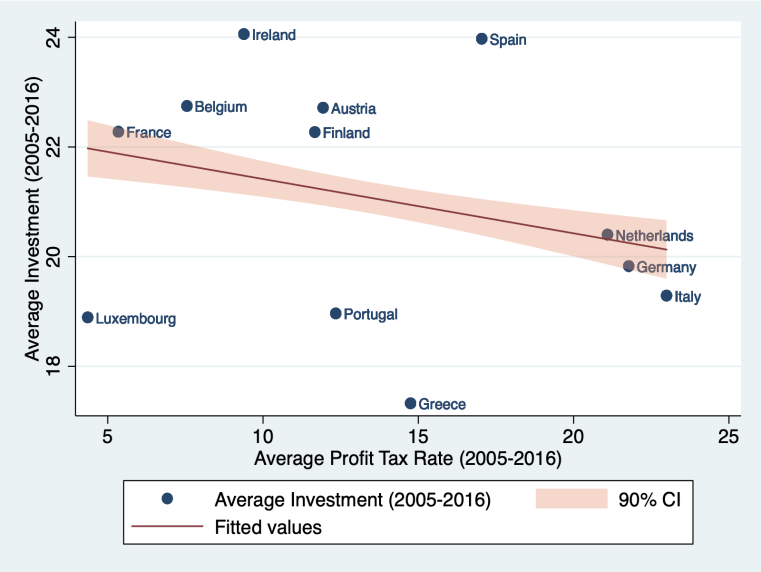




*Source:* WGI and OECD

# Correlation Evidence (2/2)

**Figure 5:** Taxation, Investment and Institutional Quality

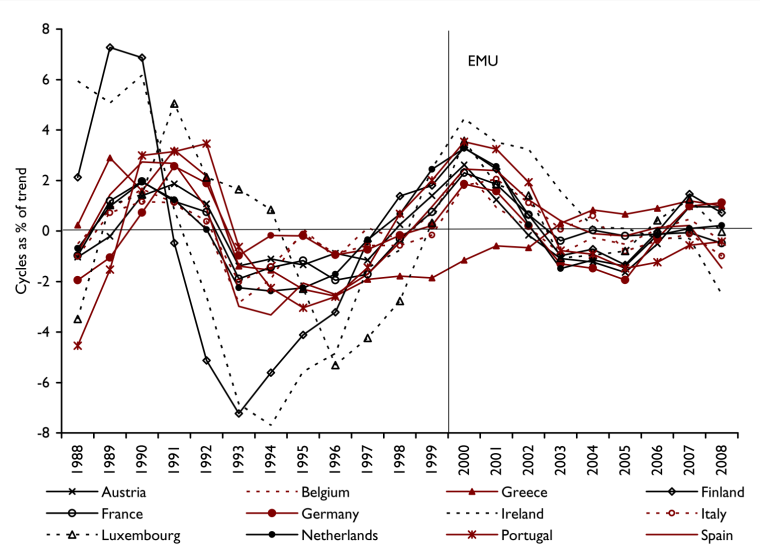


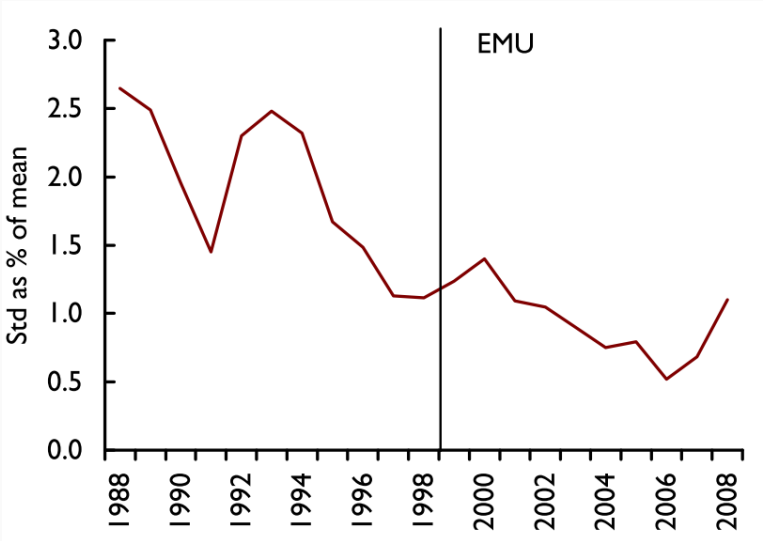




*Source:* WGI and OECD

# Business Cycle Convergence

**Figure 6:** Business Cycle Convergence




*Source:* Christodoulakis (2009)

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