Discussion of

"Prudential Policy for Peggers"

by Stephanie Schmitt-Grohé and Martin Uribe

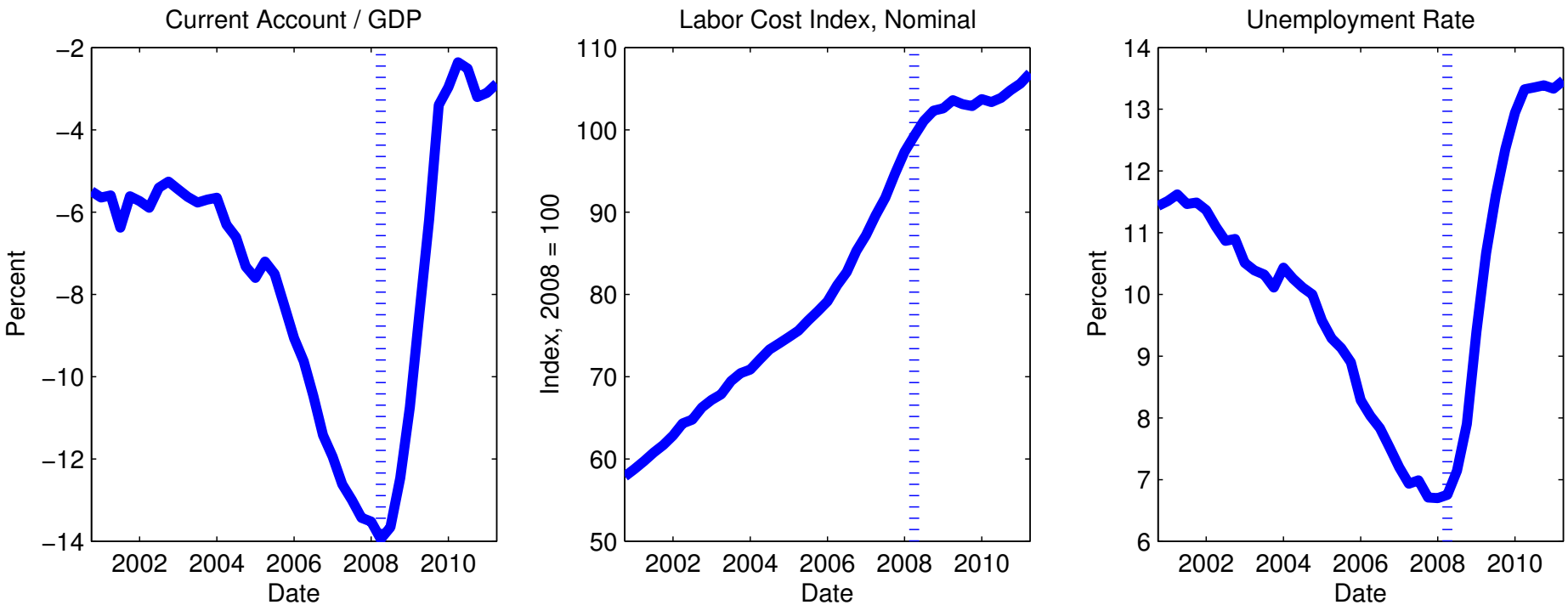
Javier Bianchi

University of Wisconsin & NBER

IFM Meeting, July 11, 2012

Motivation

Figure 1: Boom-Bust Cycle in Peripheral Europe: 2000-2011



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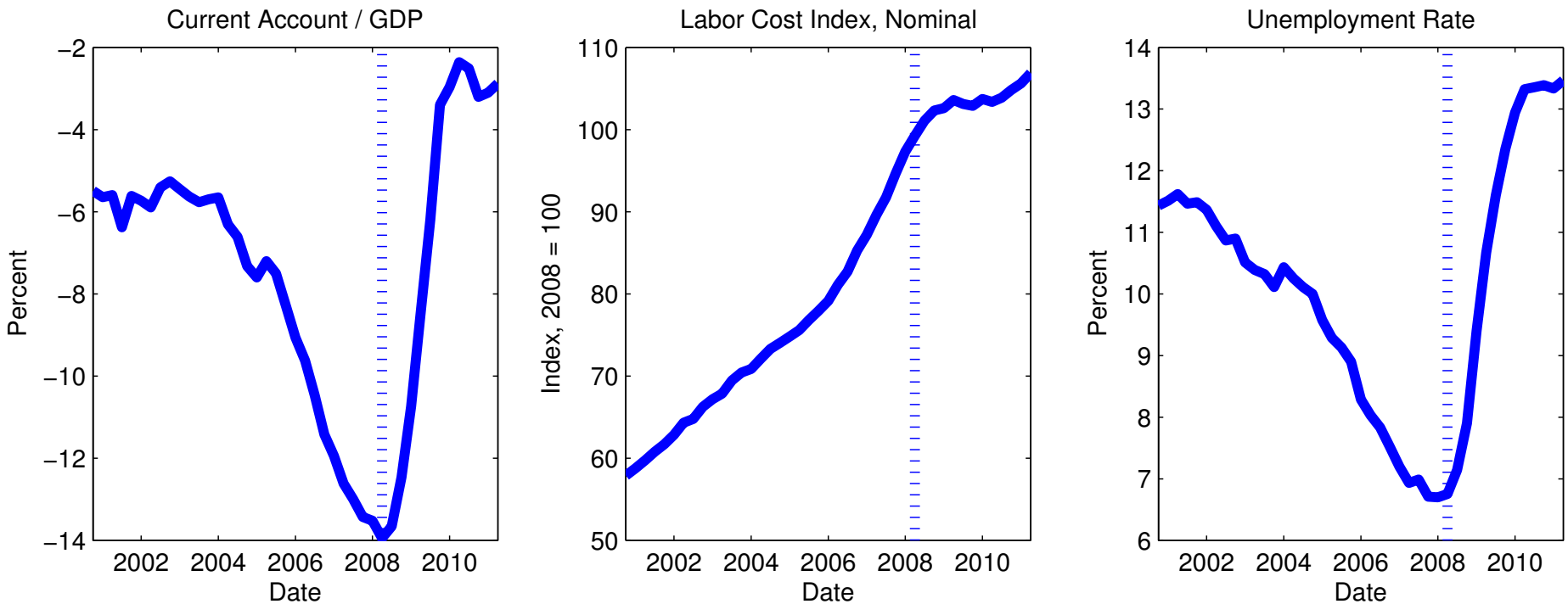

Central Question: How should economies manage capital flows?

This Paper

- **Goal:** Study second-best policies in economy with downward wage rigidity and a fixed exchange rate regime

- **Main Results:**
  1. Theoretical: Inefficient borrowing $\rightarrow$ capital controls
  2. Quantitative: Optimal capital control is prudential and achieves large reduction in unemployment and increases in welfare

Outline

1. Overview of the Mechanism
    - Propose simple formula for capital controls
2. Comments/Questions

Simplified Two-Period Model

Households solve:

$$\max_{\{c_1^T, c_1^N c_2^T, c_2^N, b_1\}} \quad \sum_{t=1}^{t=2} (log\ c_t^T + log\ c_t^N)$$

$$s.t. \qquad b_1 + c_1^T + p_1^N c^N = y^T + \pi_1 + w_1 h_1$$

$$c_2^T + p_2^N c^N = y^T + b_1 + \pi_2 + w_2 h_2$$

Firms in the NT solve:

$$p_t^N h_t^\alpha - w_t h_t \qquad t = 1, 2$$

Closure of labor market (Schmitt-Grohe and Uribe, 2011):

$$w_t \geq \gamma w_{t-1}, \qquad (h_t - 1)(w_t - \gamma w_{t-1}) = 0, \qquad h_t \leq 1$$

First Best:

$$b_1 = 0, \quad c_t^T = y^T, \quad c_t^N = 1, \quad w_t = \alpha y^T, \quad p_t^N = y^T.$$

Decentralized Equilibrium:

$$b_1 = 0, \quad c_t^T = y^T, \quad p_t^N = \frac{y^T}{h^\alpha},$$

$$w_t = max\left\{\alpha y^T, \gamma w_{t-1}\right\}, \quad h = min\left\{1, \alpha \frac{y^T}{\gamma w_{t-1}}\right\}.$$

- Less employment and lower real exchange rate compared to first best
- c_t and b_1 are constant and independent of γ

  (same inter and intratemporal elasticities)

Constrained Planner's Problem: Government chooses bonds b_1, a lump-sum transfer to households and let goods market and labor market clear competitively to maximize utility:

$$\max_{\{c_1^T, c_1^N c_2^T, c_2^N, b_1\}} \sum_{t=1}^{t=2} (log\ c_t^T + log\ c_t^N)$$
$$s.t. \qquad b_1 + c_1^T = y^T, \qquad c_2^T = y^T + b_1$$

Clearing in goods market + firms' optimal hiring

$$c_t^T h_t^{\alpha-1} = w_t,$$

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Planner's first order conditions:

$$c_t :: \quad \frac{1}{c_t^T} + \frac{\alpha \lambda_t^P}{h_t} = \lambda_t^b \qquad \uparrow c_t^T \text{ relax labor market rigidities}$$

Planner's Intertemporal Euler equation:

$$\boxed{\lambda_1^w \frac{\alpha}{h_1}} + \frac{1}{c_1^T} = \frac{1}{c_2^T} + \boxed{\lambda_2^w \left(\frac{\alpha}{h_2} + \frac{\gamma \alpha}{h_1} \right)}$$

$\Rightarrow$ Planner tilts consumption according to tightness of labor market today versus tomorrow

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Policy Implication: Tax/Subsidize borrowing:

$$\tau = c_2^T \left(\lambda_2^w \left(\frac{\alpha}{h_2} + \frac{\gamma\alpha}{h_1} \right) - \lambda_1^w \frac{\alpha}{h_1} \right)$$

Prudential Nature:

- If wage constraint is not binding today $(\lambda_1^w = 0) \rightarrow \tau \geq 0$
- If wage constraint is not binding tomorrow $(\lambda_2^w = 0) \rightarrow \tau \leq 0$
- **Note:** Wage constraint is more likely to bind today when the price of nontradables is low (i.e., when interest rates are high or income is low)

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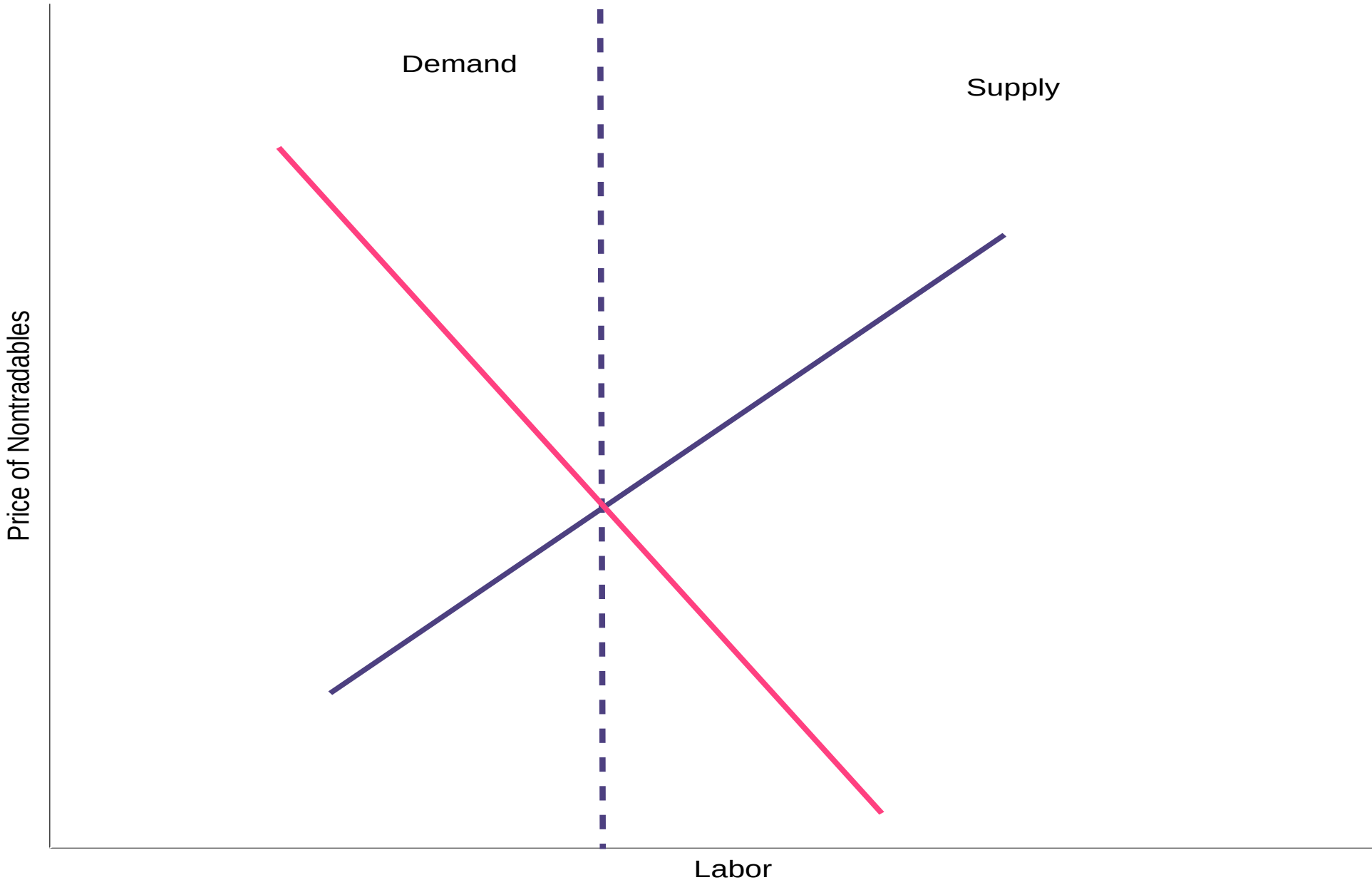
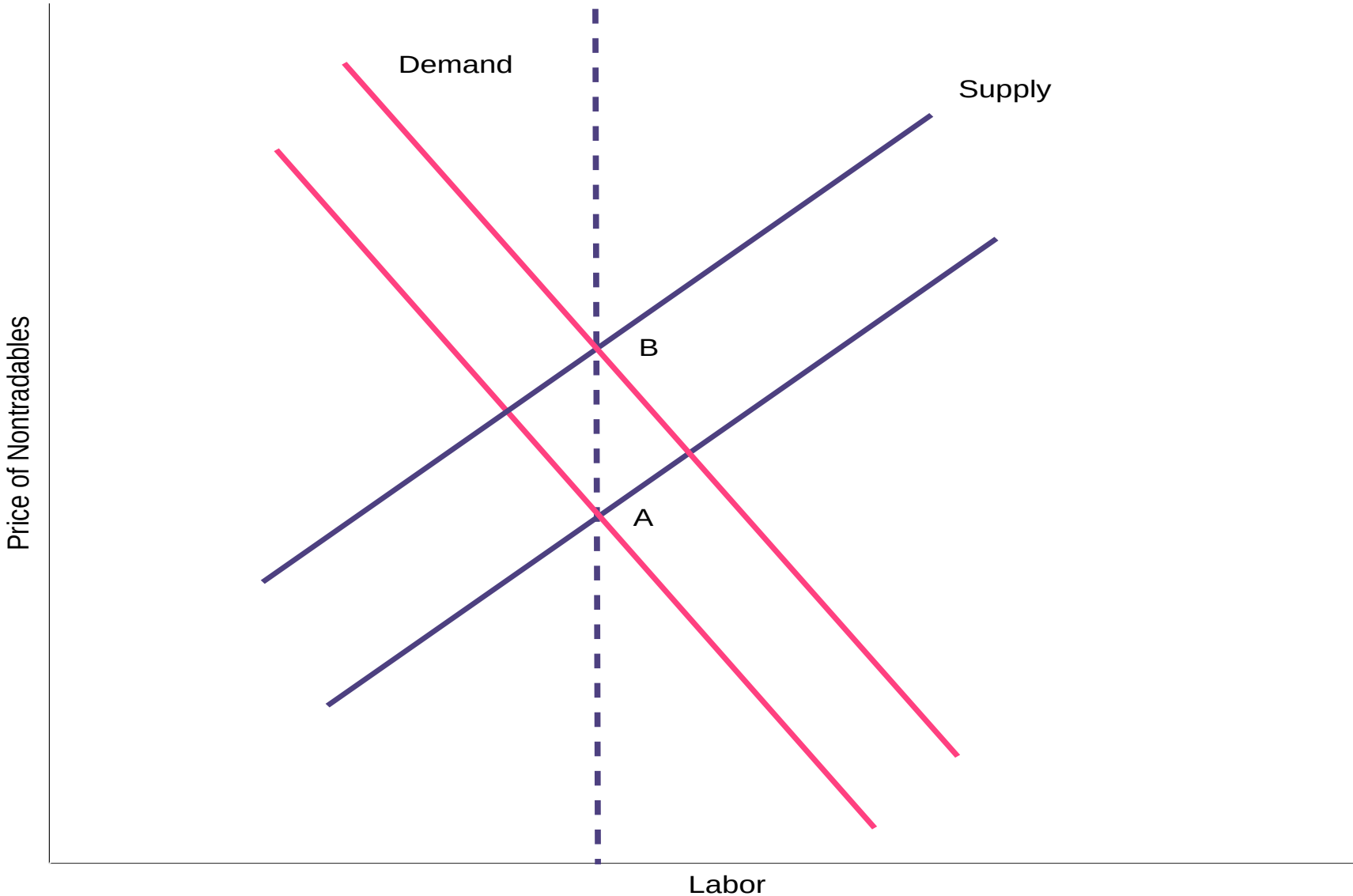
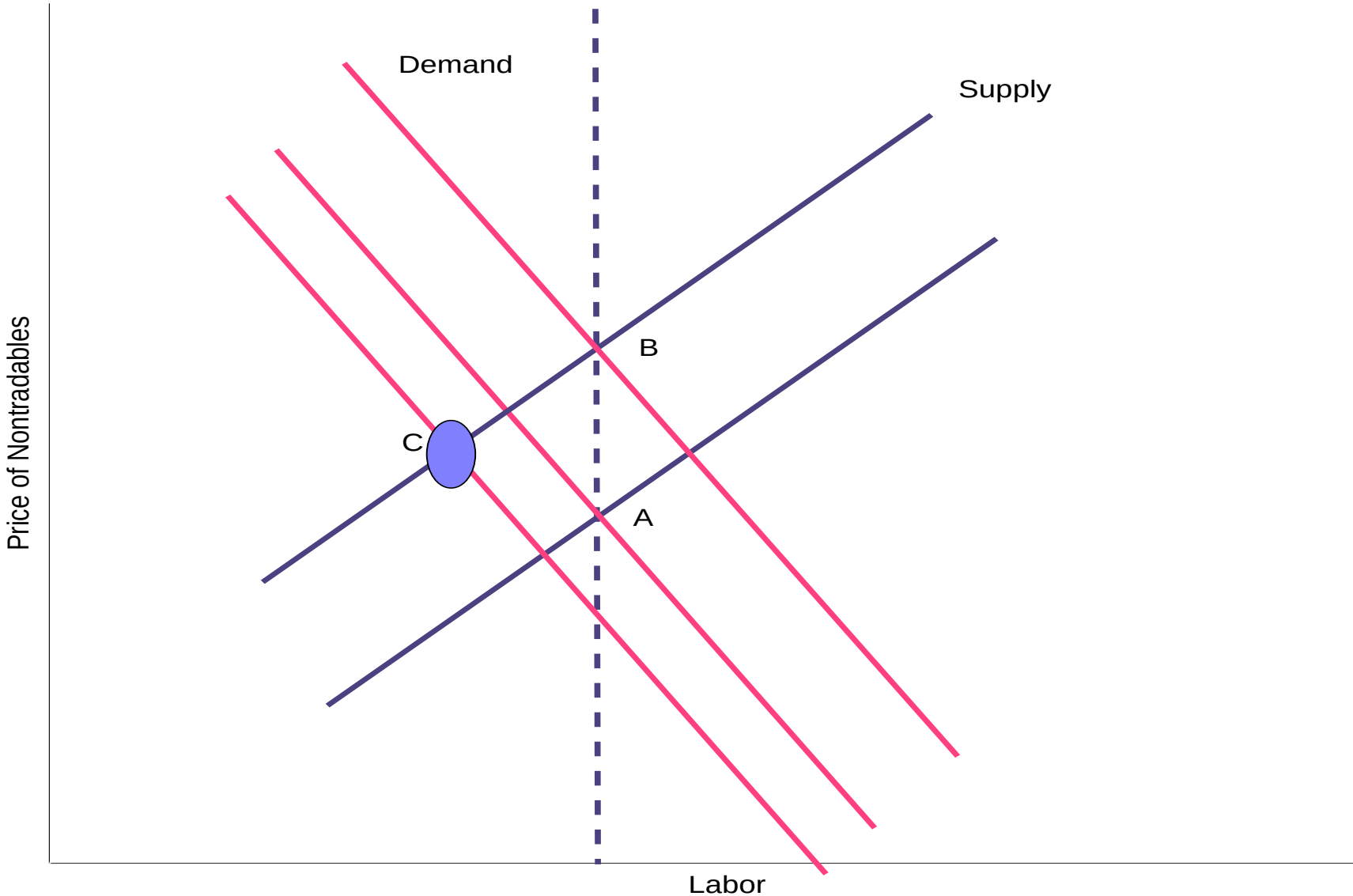
Full employment ($\beta R = 1, \gamma = 1$)



Drop in the interest rate (t=0)



Increase in the interest rate (t=1)



Comments/Questions

Practical Implementation

- Implementation of second-best requires state-contingent policies. How effective are simple policy rules?
- How "easier" is to implement capital controls as opposed to fiscal devaluation (Schmitt-Grohe and Uribe 2011, Farhi, Gopinath and Itshoki 2011)?
- How critical is the presence of subsidies on capital inflows during bad times?

First-best versus second-best policies

- Nominal and fiscal devaluation are left out of the table
- In practice, devaluation has costs in the presence of liability dollarization and balance sheet constraints. My view:
  1. Role for prudential capital controls would remain an optimal response even when nominal or fiscal devaluation is available.
  2. Role for capital controls due to liability dollarization (Korinek 2010, Bianchi AER 2011) and due to downward wage rigidity (SGU 2012) probably reinforce each other

Interest Rate Process

- Model calibrated to Argentina
- Spreads are higher and more volatile than mean emerging market (Neumeyer and Perri 2005)
- In sensitivity analysis, process of interest rate recalibrated to Spain and Greece:
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- Contractual interest rate versus actual interest rate.

  $\rightarrow$ Consider maybe fluctuations in interest rate only due to international interest rate or global risk premium (Uribe and Yue 2006; Gilchrist, Yue and Zakrajsek 2012)

Interest Rate (ctd)

- When interest rates skyrocket, the planner still borrows significantly (even subsidized debt) because of large costs from real exchange rate depreciation.
- This suggests that longer debt maturity and a stock of risk free assets may provide better insurance (Bianchi, Hatchondo and Martinez 2012)
- Excessive risk-taking externality: Inefficient borrowing result is likely to apply to the maturity and portfolio composition as well

Other Calibration/Model Issues

- International inflation is assumed to be zero. Not an innocuous assumption.
  - International inflation would be isomorphic to a reduction in γ with $w_t \geq \gamma w_{t-1}$. How sensitive are results to changes in γ?
- No TFP fluctuations in non-tradable sector
  - Need to have a sense of the volatility of non-tradables as well as comovement with tradables.
- How are results affected by introducing endogenous labor supply?

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World Economy Effects

- European Union does not allow for capital controls.
- Consider multi-country version of this model:
  - What would be the redistributive and GE effects of peripherical countries implementing capital controls?
  - Are they still welfare improving for the economic block?

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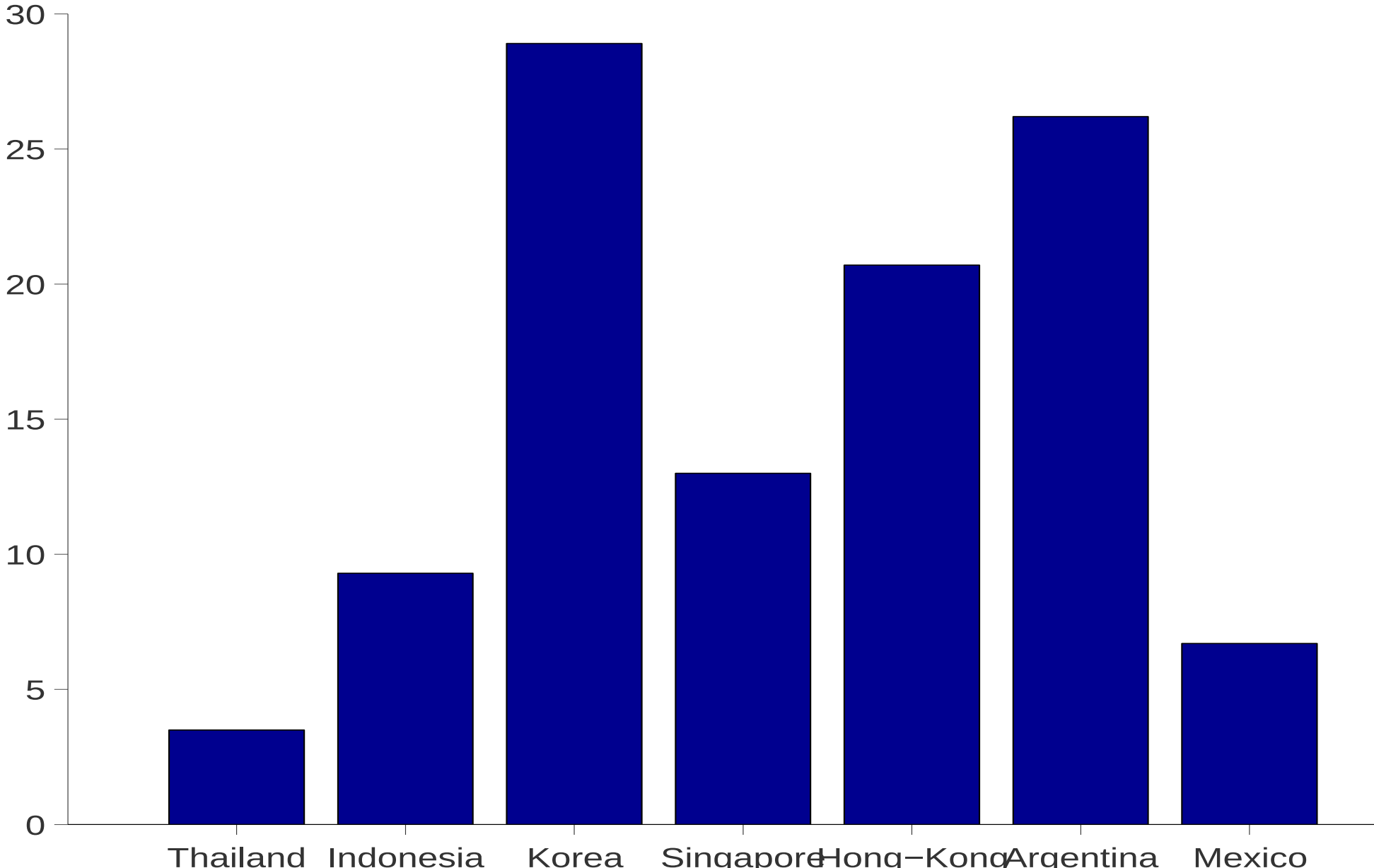
Ultimately, a quantitative issue

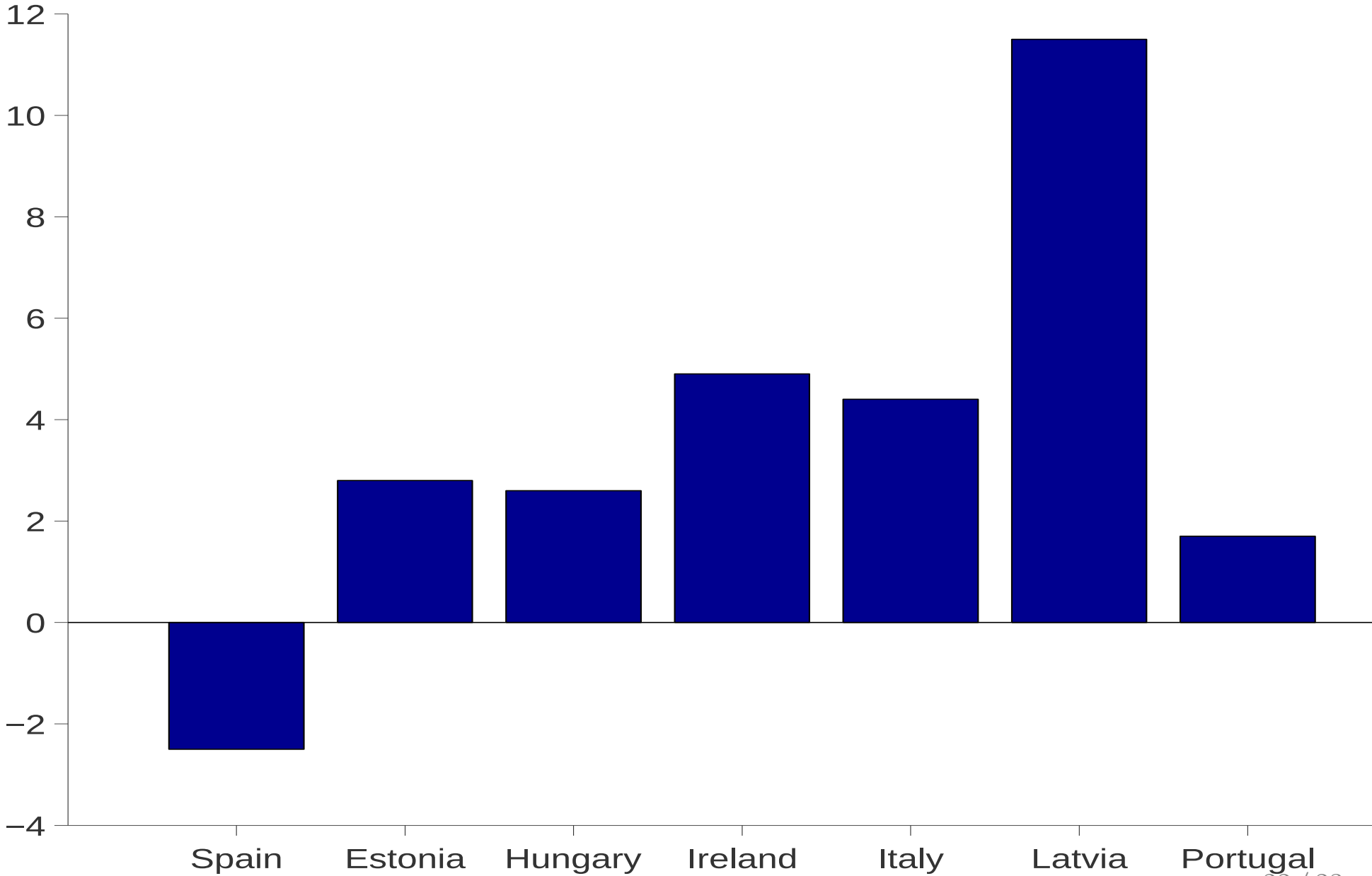
More Implications

- Counties in the US with higher leverage had larger contractions in nontradable employment (Mian and Sufi 2011, Midrigan and Philippon 2011)
- Can we extrapolate implications of the model for domestic regulation in the US?
- What about application to hard inflation-targeter countries?

Evidence on Deflation (SS economies)



Evidence on Deflation (Europe)



Final Remarks

- Novel theory of capital controls based on downward wage rigidity and a fixed exchange rate regime. Nice framework!
- Timely paper that fills an important gap in the literature

- Further research (for all of us):
  - Better understanding of wage rigidities
  - International coordination issues
  - Interactions between nominal rigidities and balance sheet constraints

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  I will teach it in my International Macro course!
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  - Better understanding of wage rigidities
  - International coordination issues
  - Interactions between nominal rigidities and balance sheet constraints
- I look forward to seeing more research on this topic!