



## **Pegs in Latin America, Lessons for Europe?**

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Argentina's Crisis and  
Recovery: A Demand  
Side Story 1998-2006

Ariel Burstein    UCLA  
Iván Werning    MIT



# This Paper

- Deep recessions with fixed exchange rates
  - Argentina 1998-2001
  - Europe 2009-today
- **Goal:** re-examine Argentina through the lens of open economy macro model
  - isolate shocks to organize facts
  - demand-side story

# 1. Facts



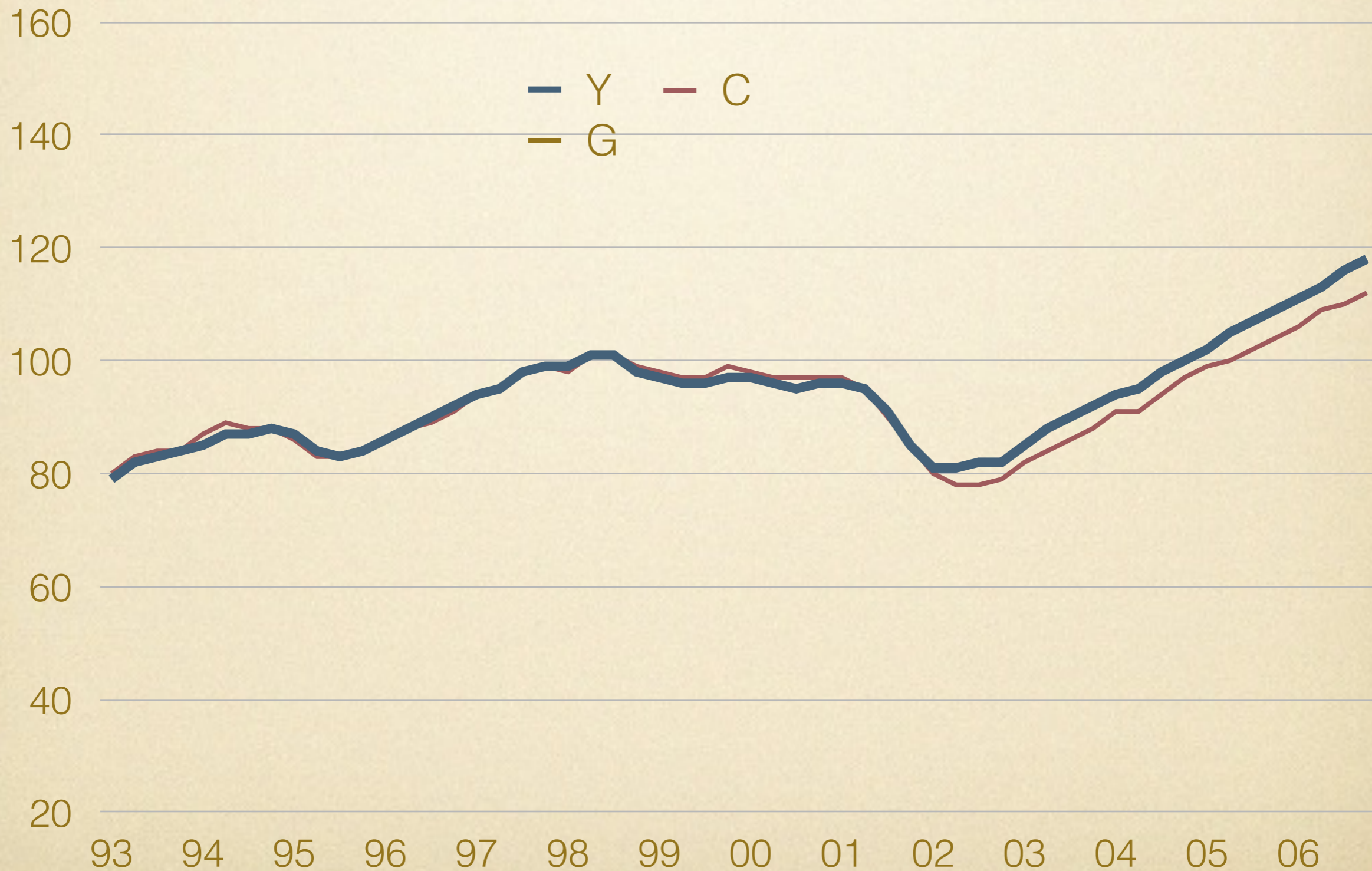
# GDP components

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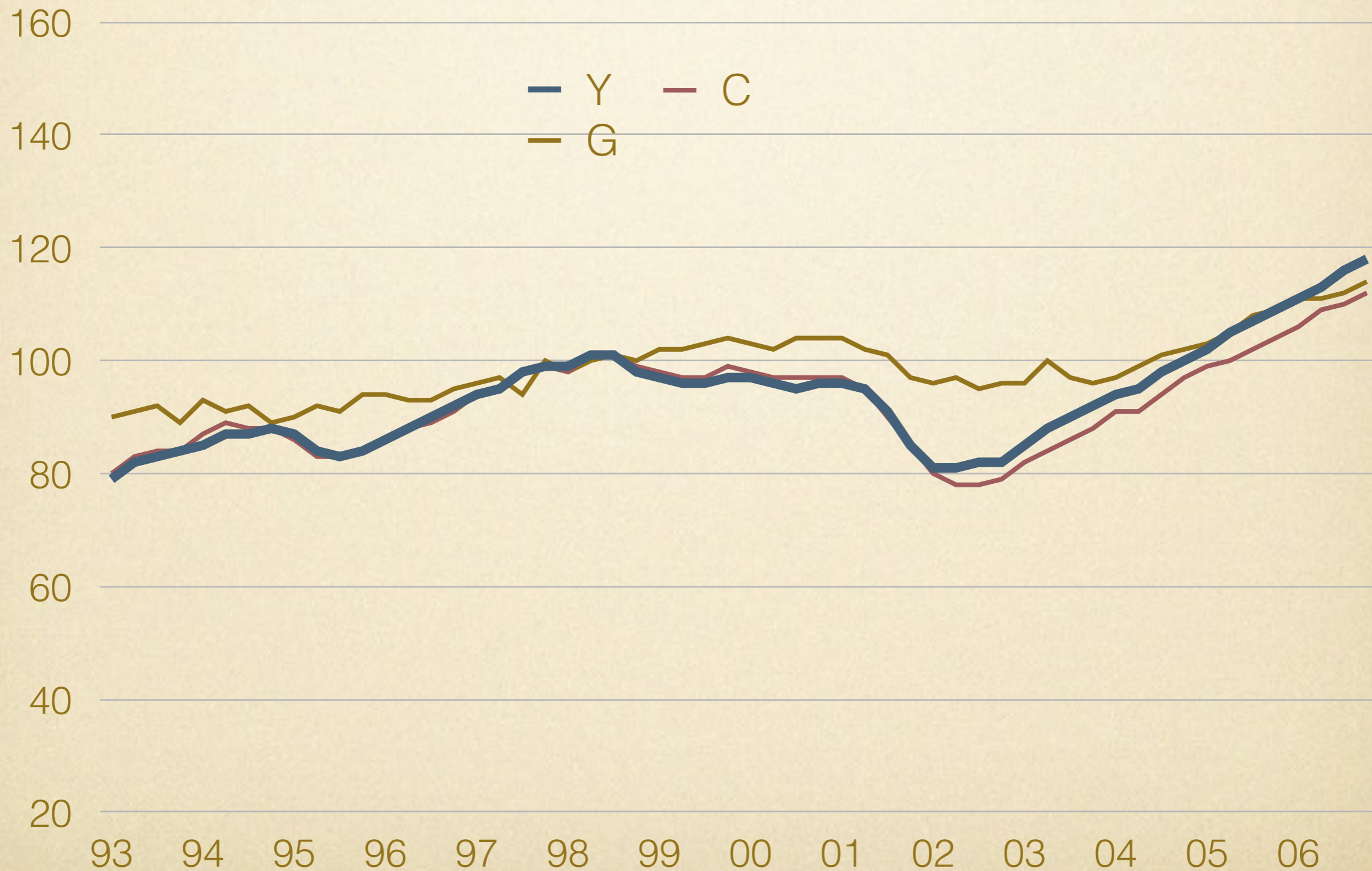




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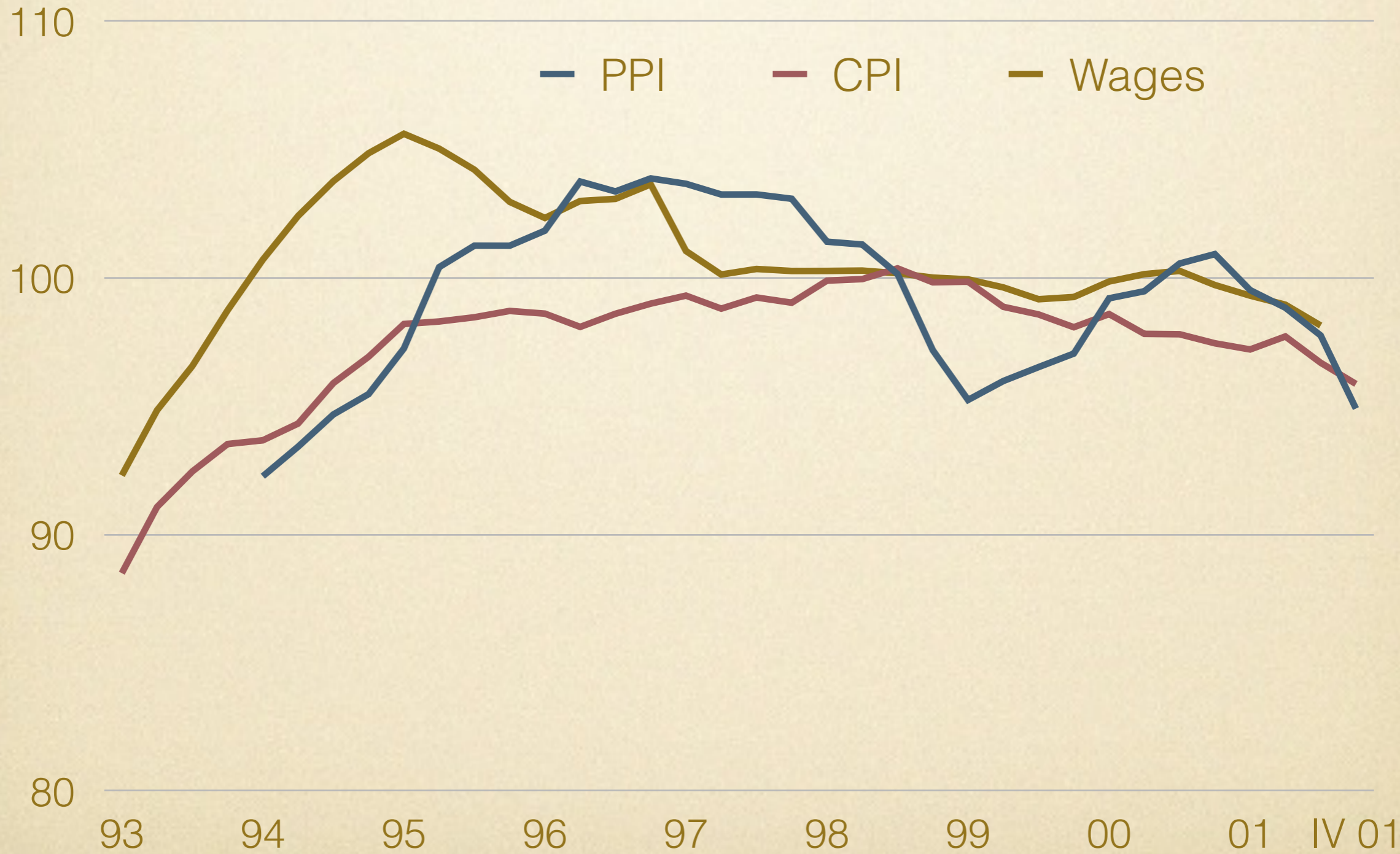




# Unemployment Rate

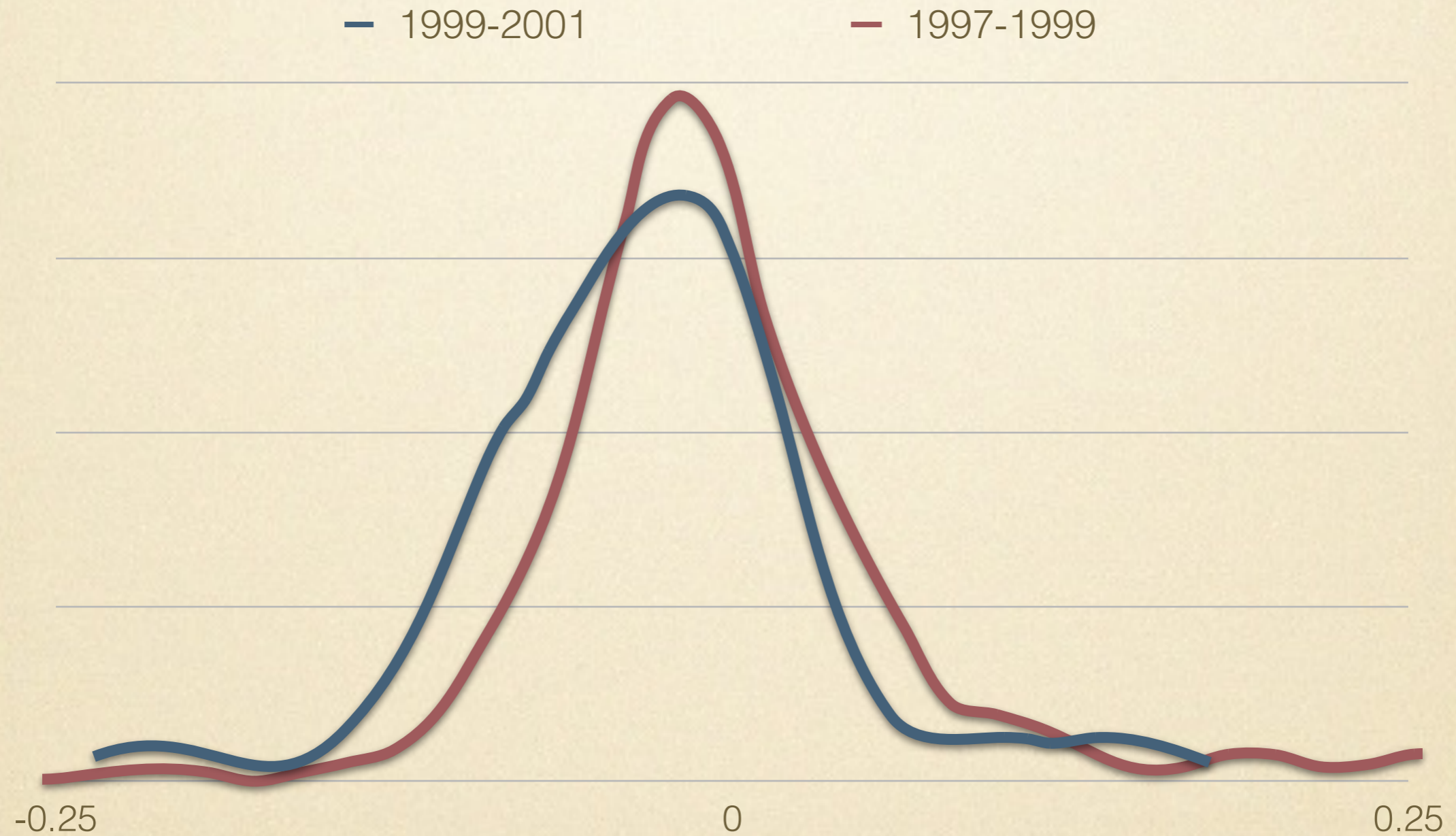


# Prices and Wages



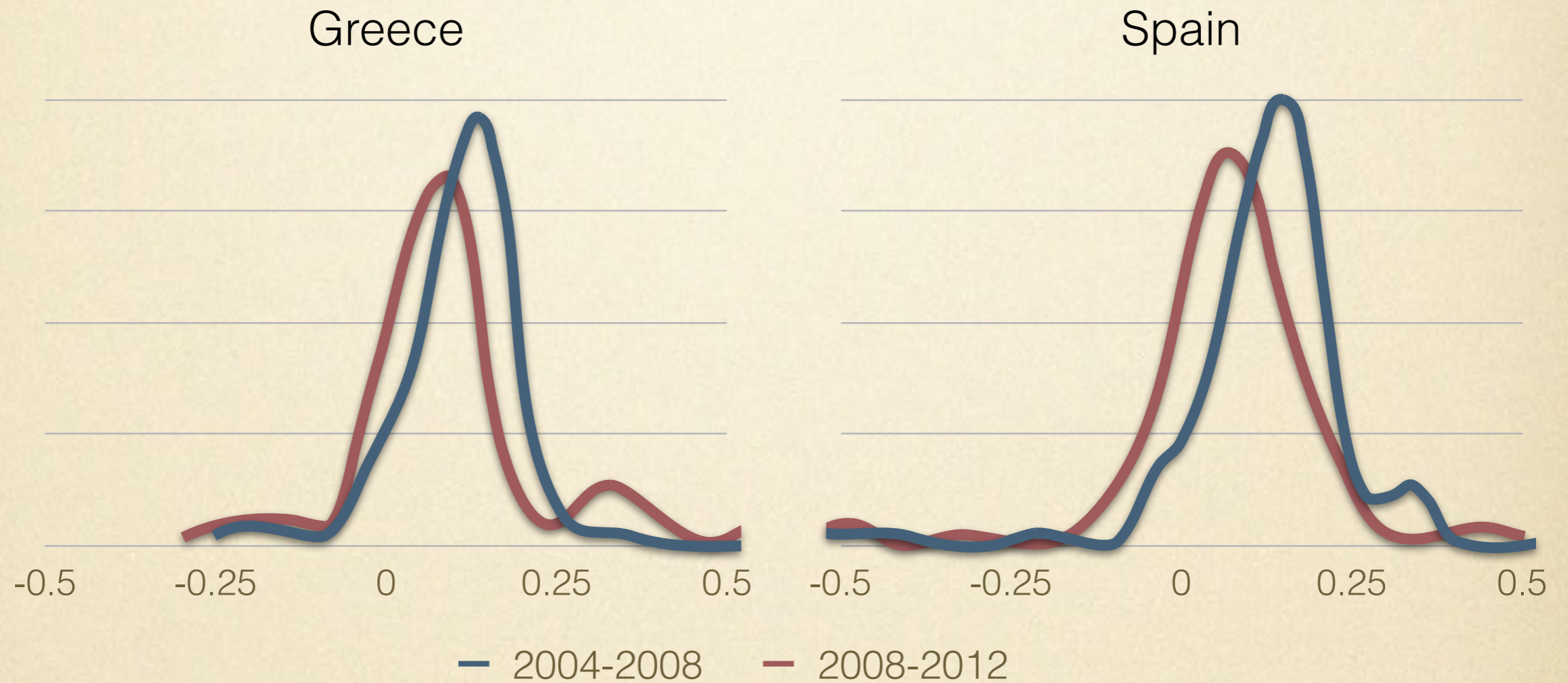


# Argentina Disaggregated CPI





# Europe Disaggregated CPI

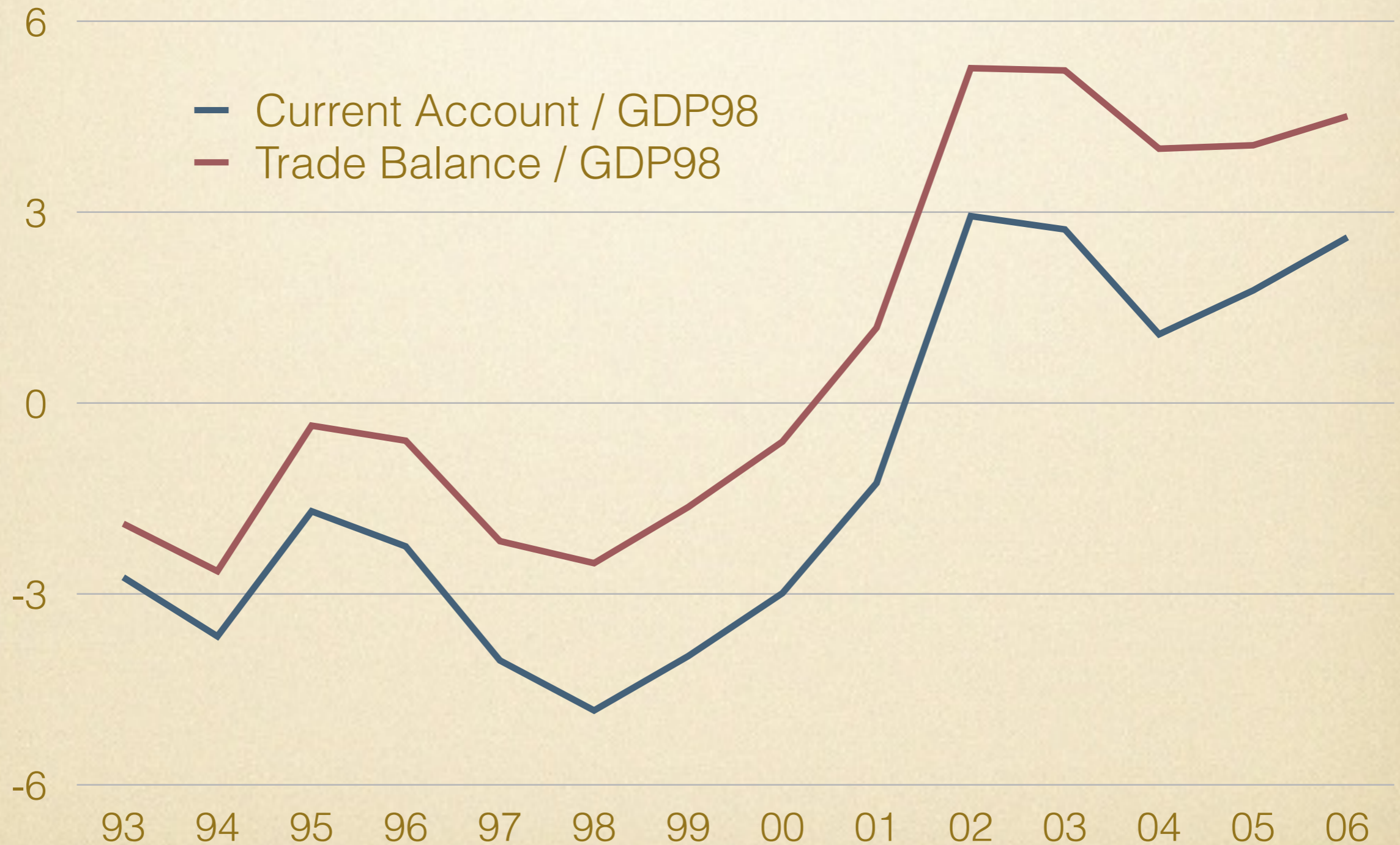




# Shocks: EM Crisis

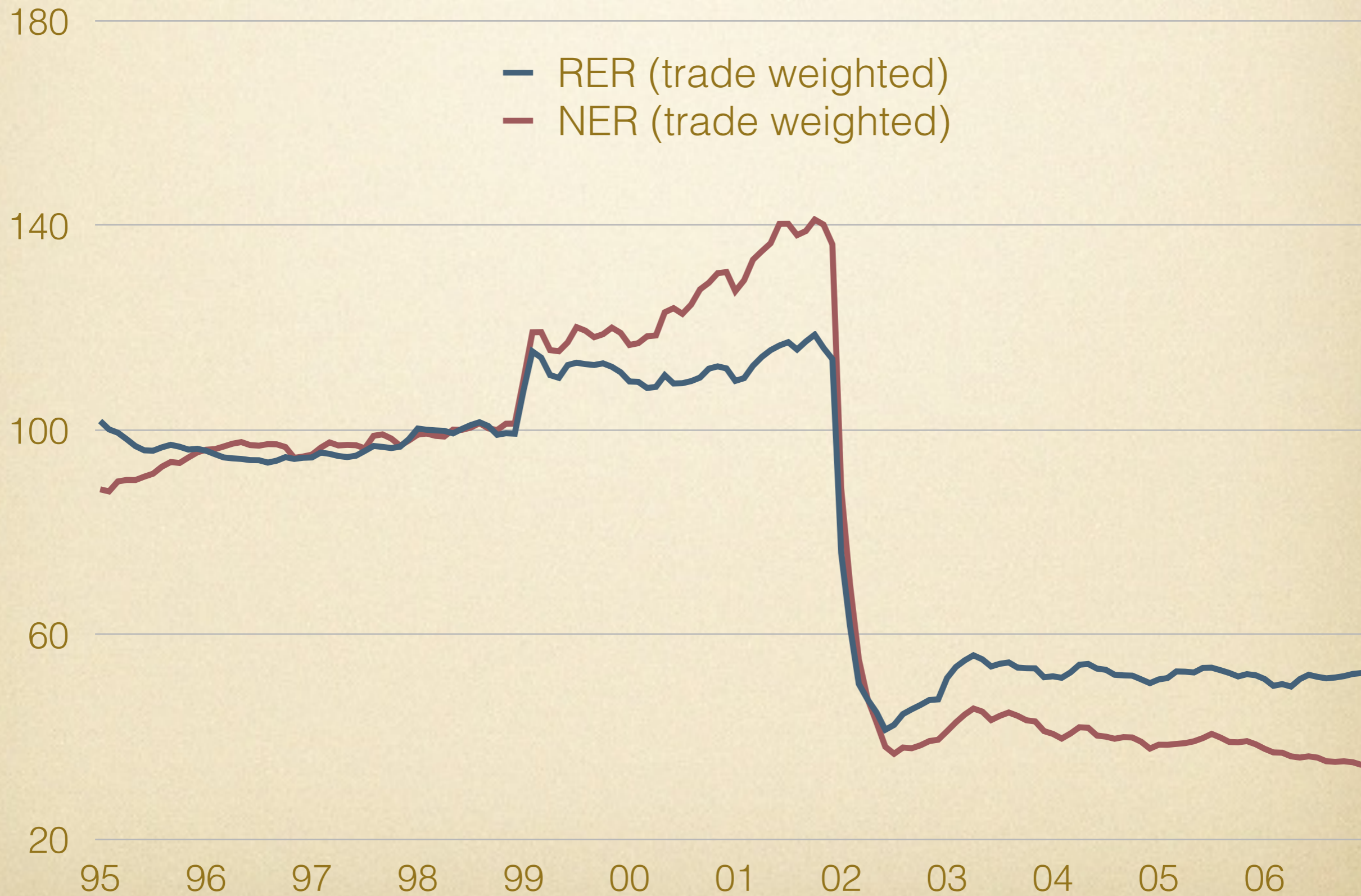


# Shocks: Sudden Stop

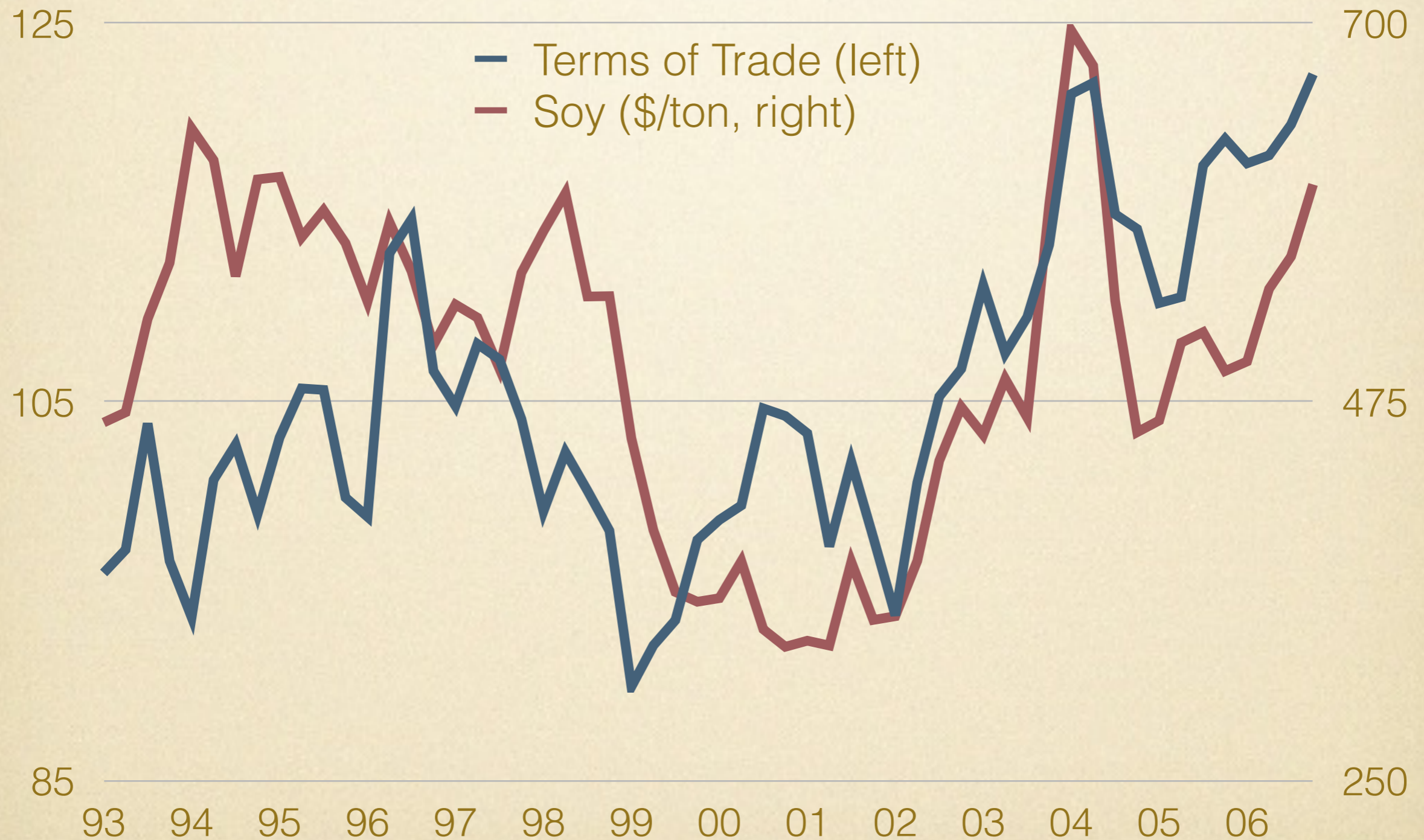




# Exchange Rate

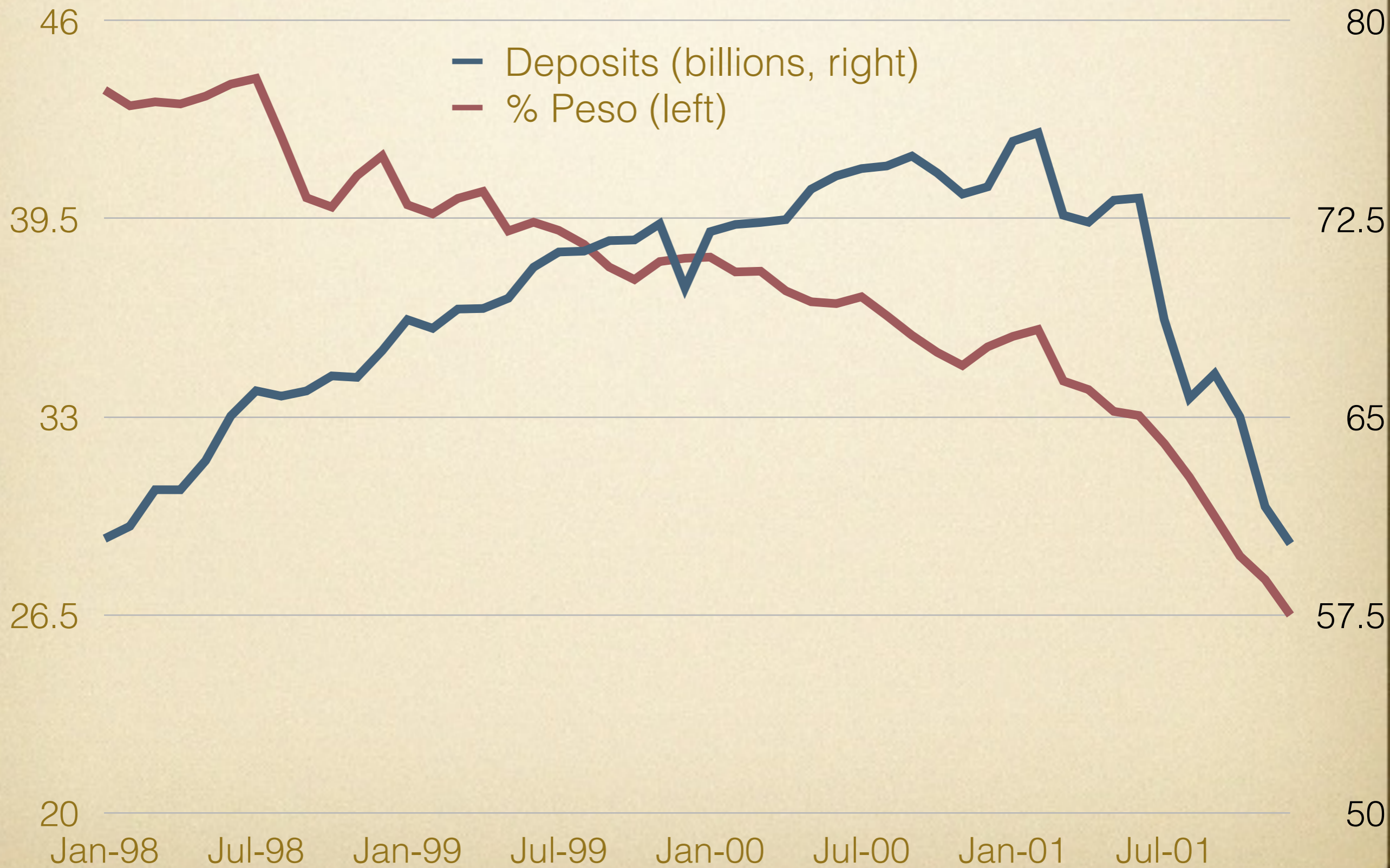


# Shocks: Terms of Trade





# Deposits



## 2. Model



# Model

- Open economy model
- Goods...
  - differentiated non-traded goods
  - differentiated traded goods
  - commodities
- Sticky plans prices and wages (Mankiw-Reis)
- Fraction hand-to-mouth agents (Campbell-Mankiw)
- Capital flows
  - risk premia
  - borrowing constraints



# Calibration

	value
imports / GDP	12.5%
% commodities	50%
annual interest rate	6%
export elasticity	2
N vs T elasticity	0.5
H vs F elasticity	1
intertemporal elasticity	1
labor elasticity	2
% hand to mouth	40%
% adjusting plans	25%

	value
sudden stop	10% interest rate
sudden stop II	3% TB / GDP
appreciation	20%
G shock	$dY / dG$
expected devaluation	20%
terms of trade	50% export value
corralito	future reduction C opt by 5%



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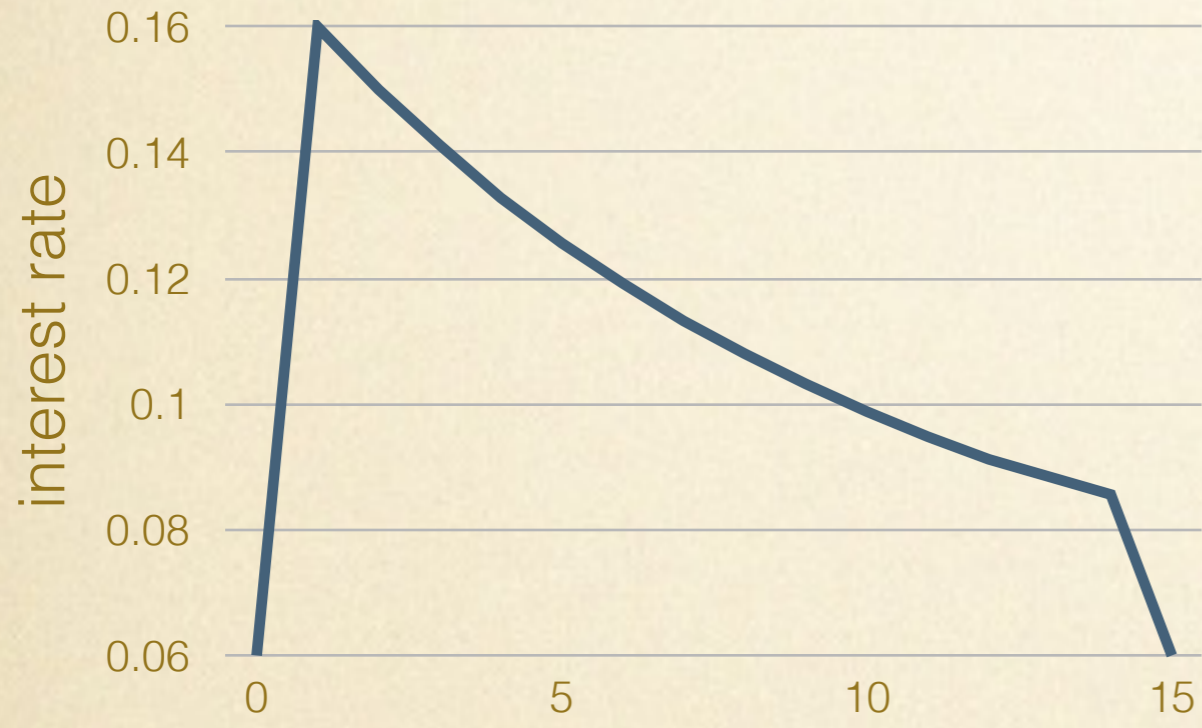
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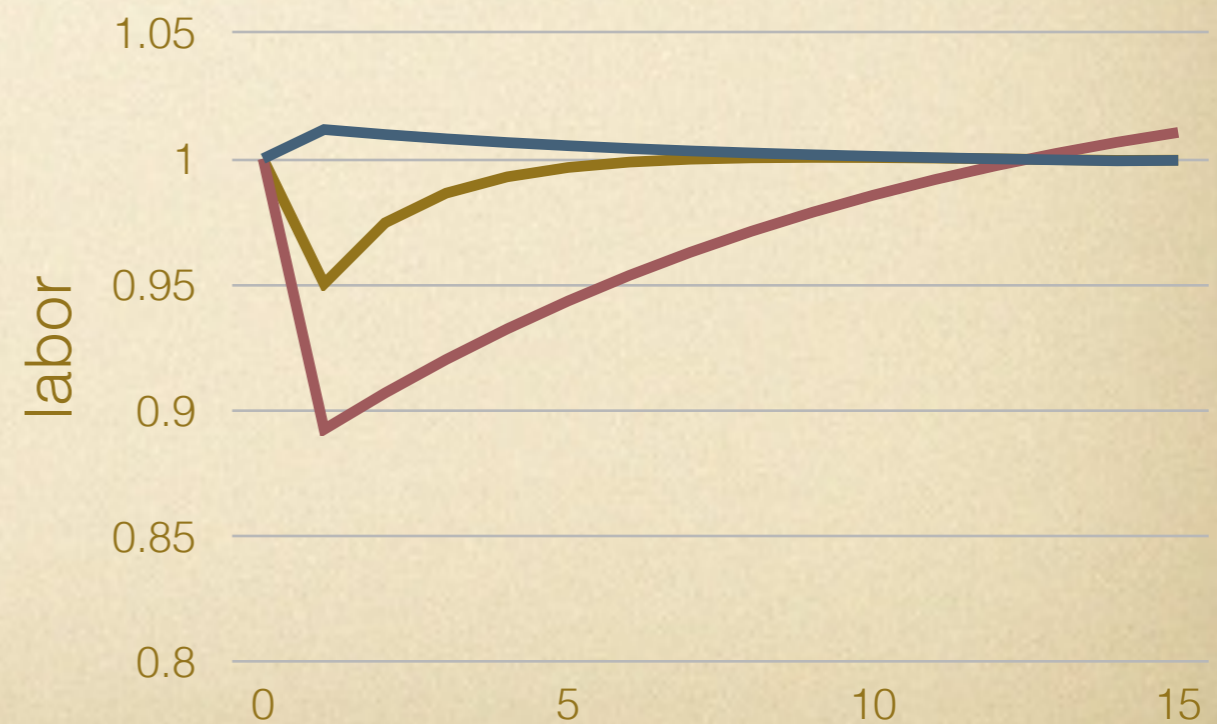
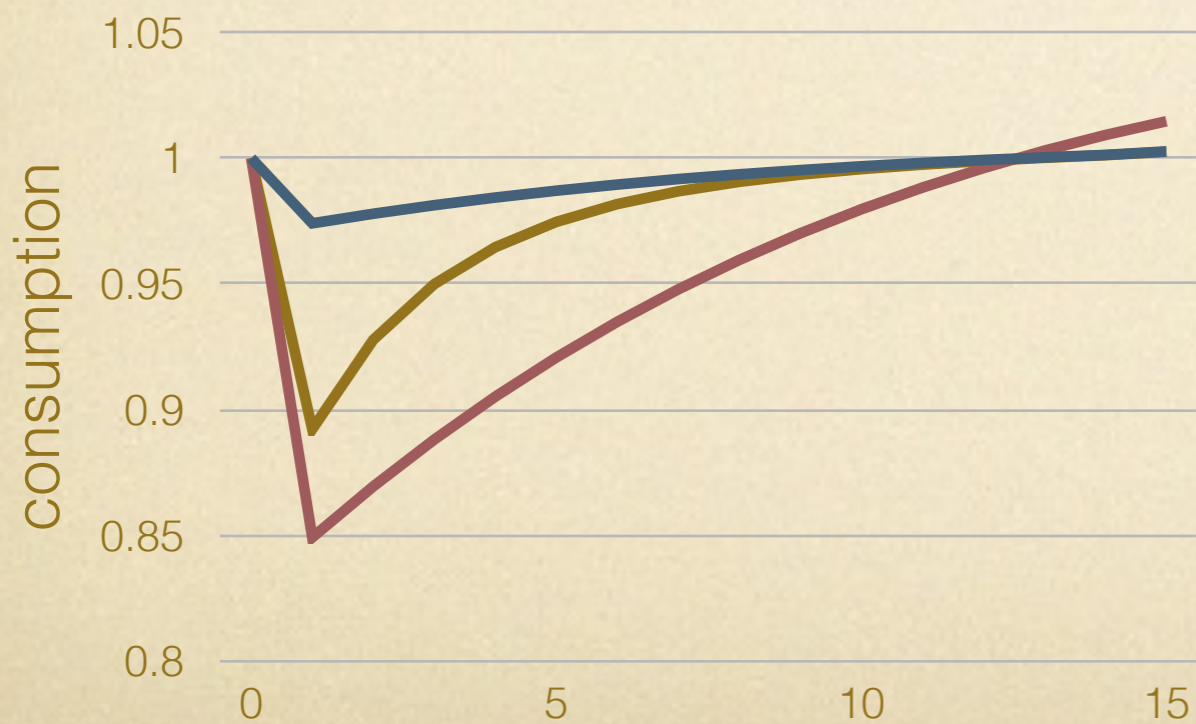
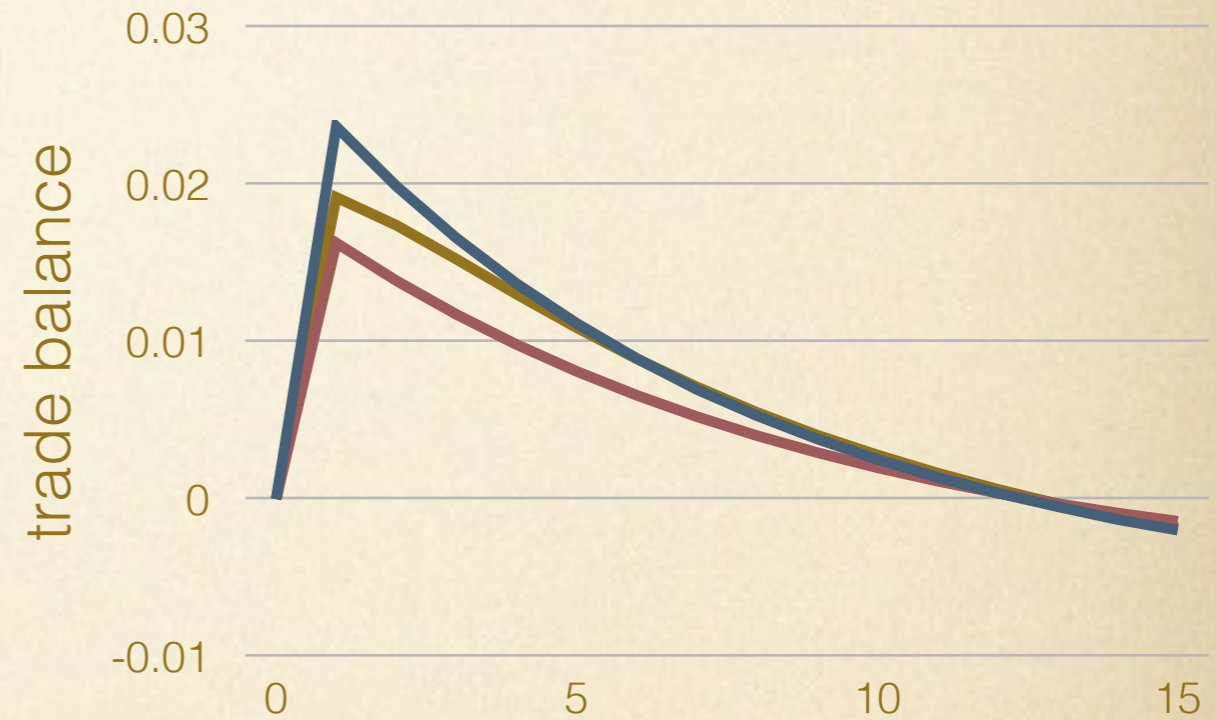
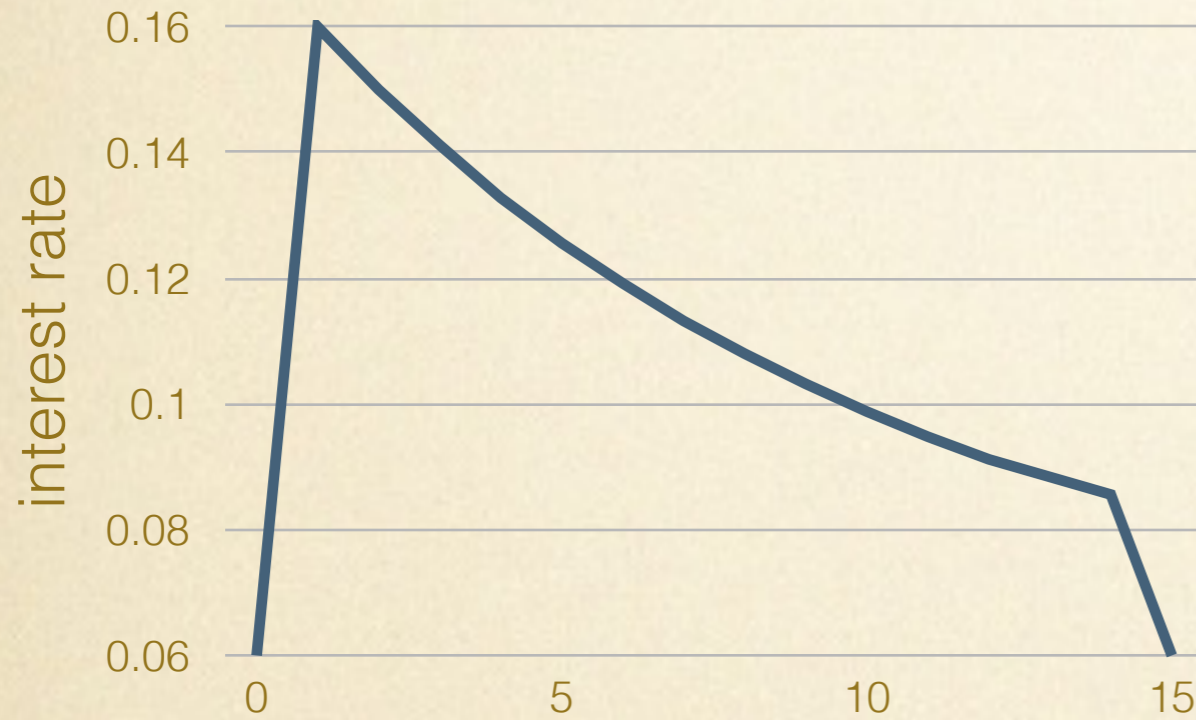


# Sudden Stop: Risk Premium



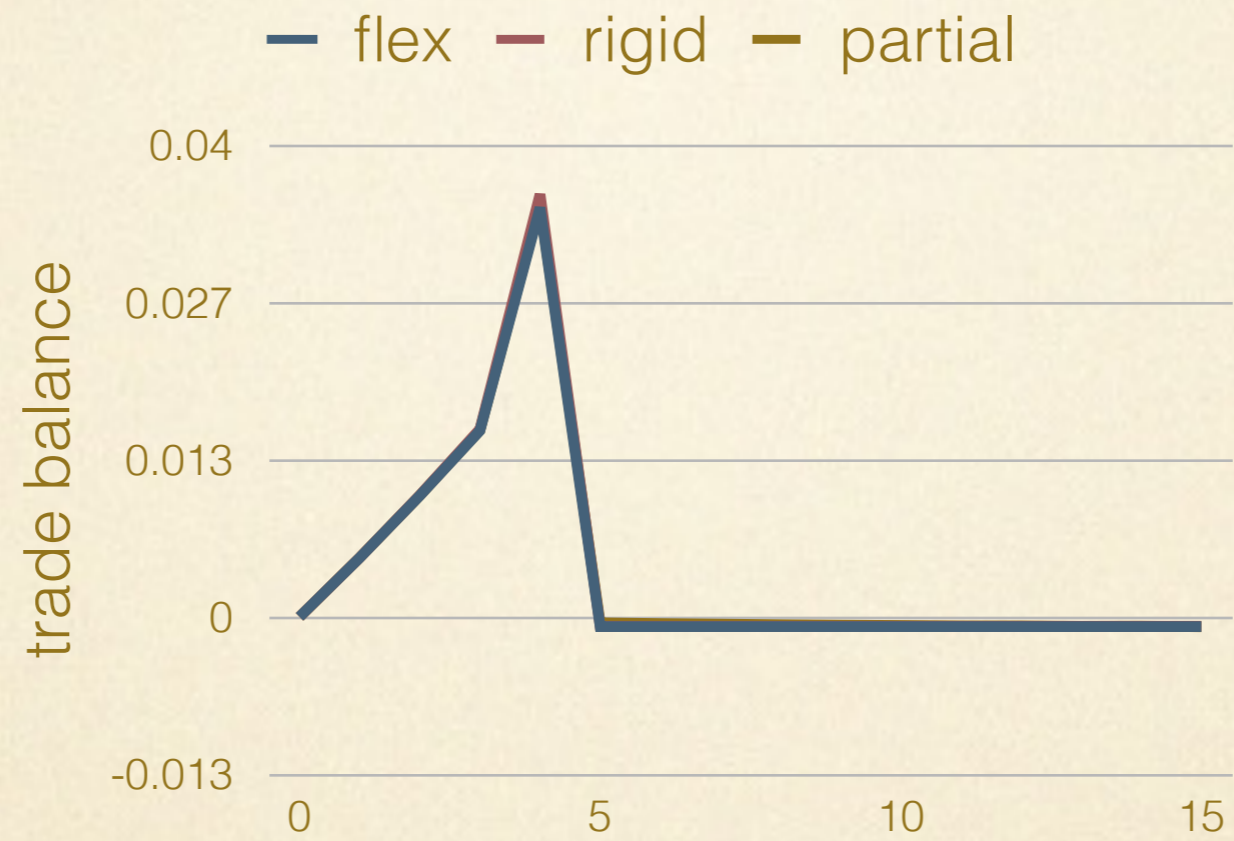
# Sudden Stop: Risk Premium

flex rigid partial

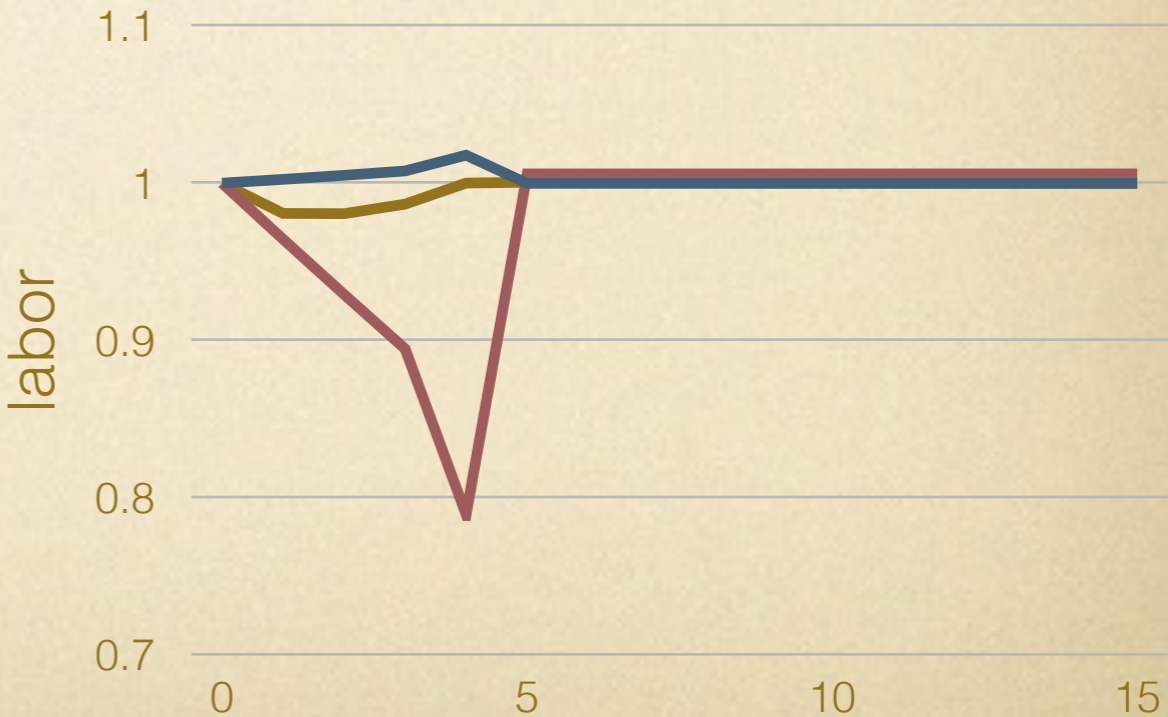
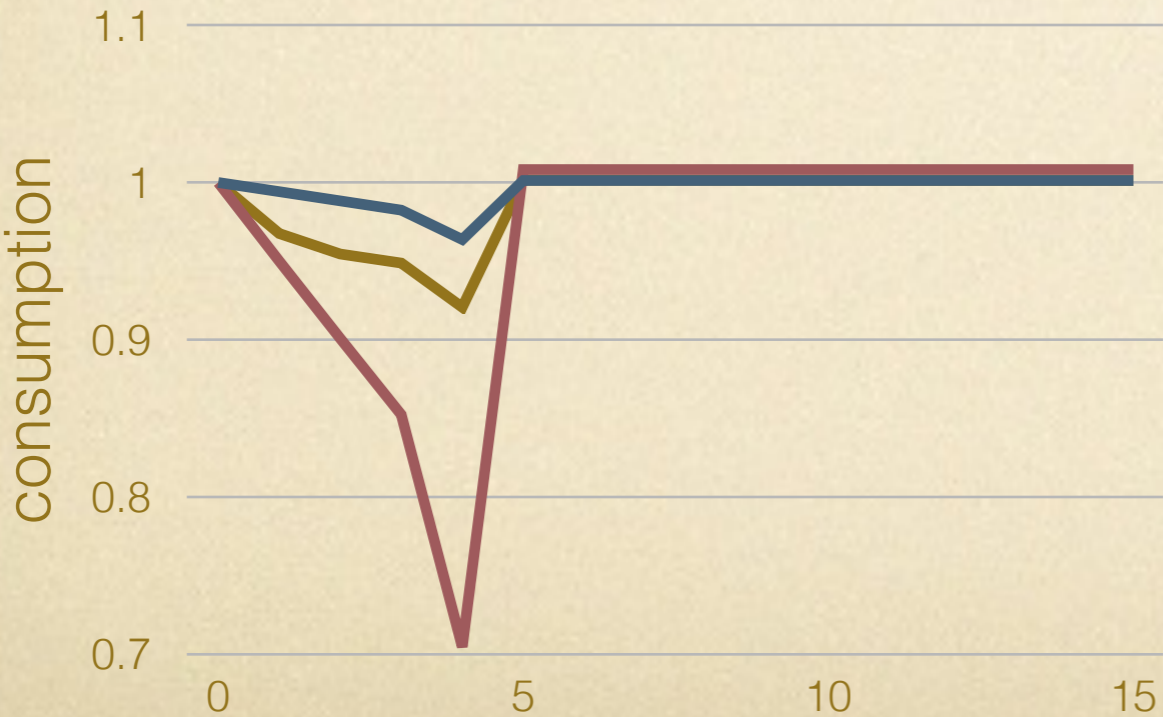
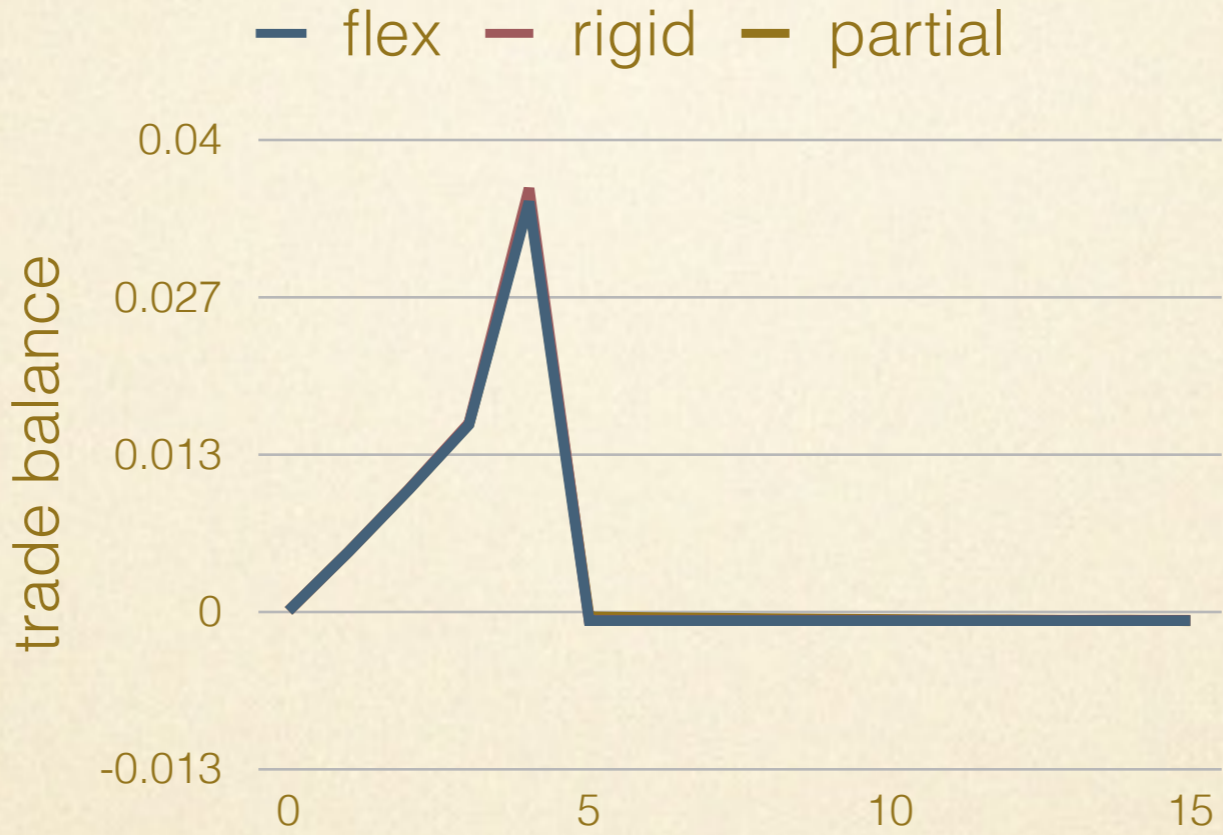




# Sudden Stop: Borrowing Constraint



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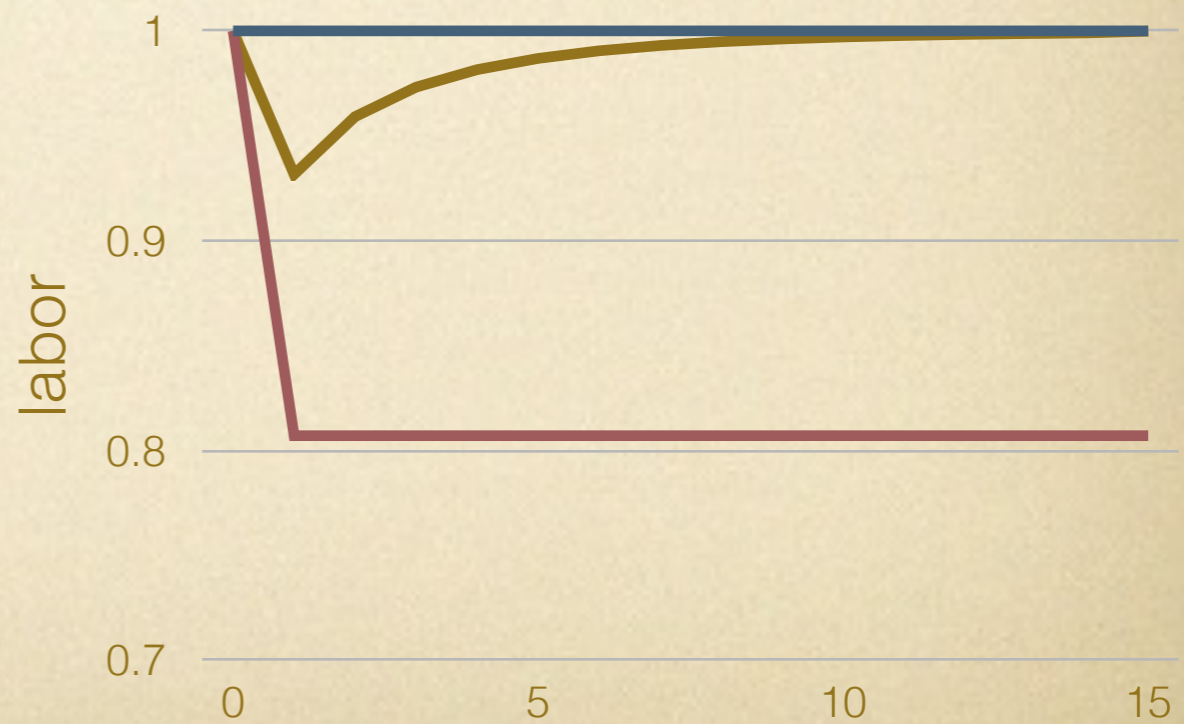
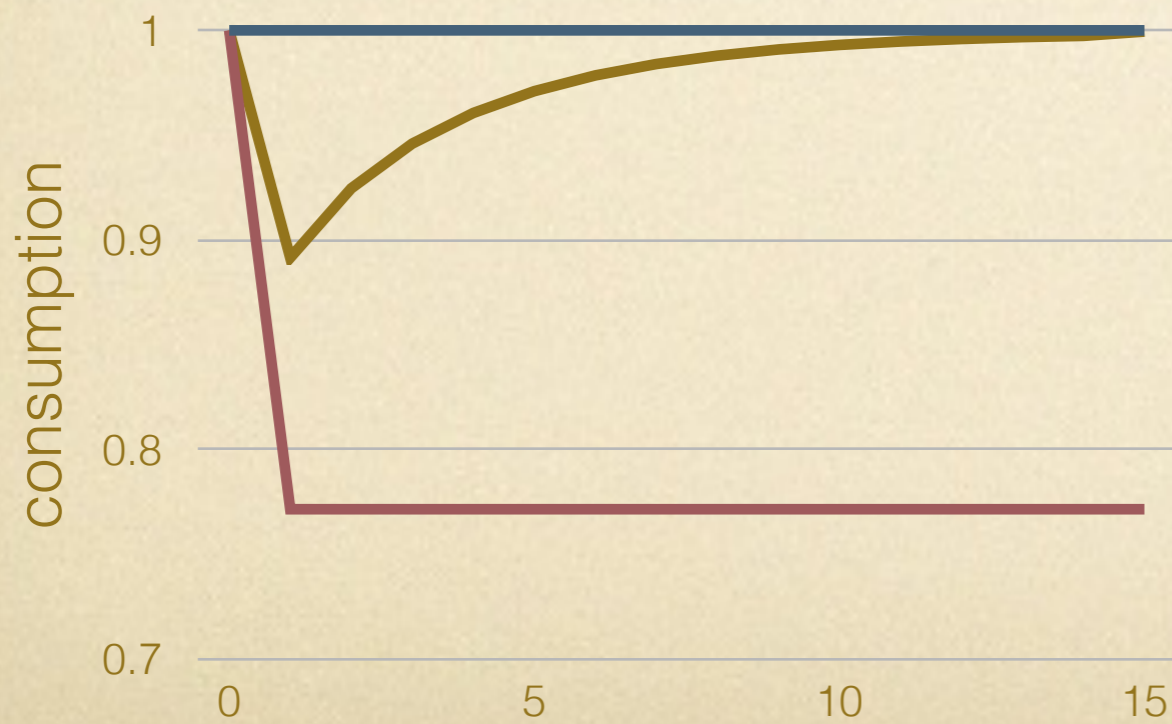
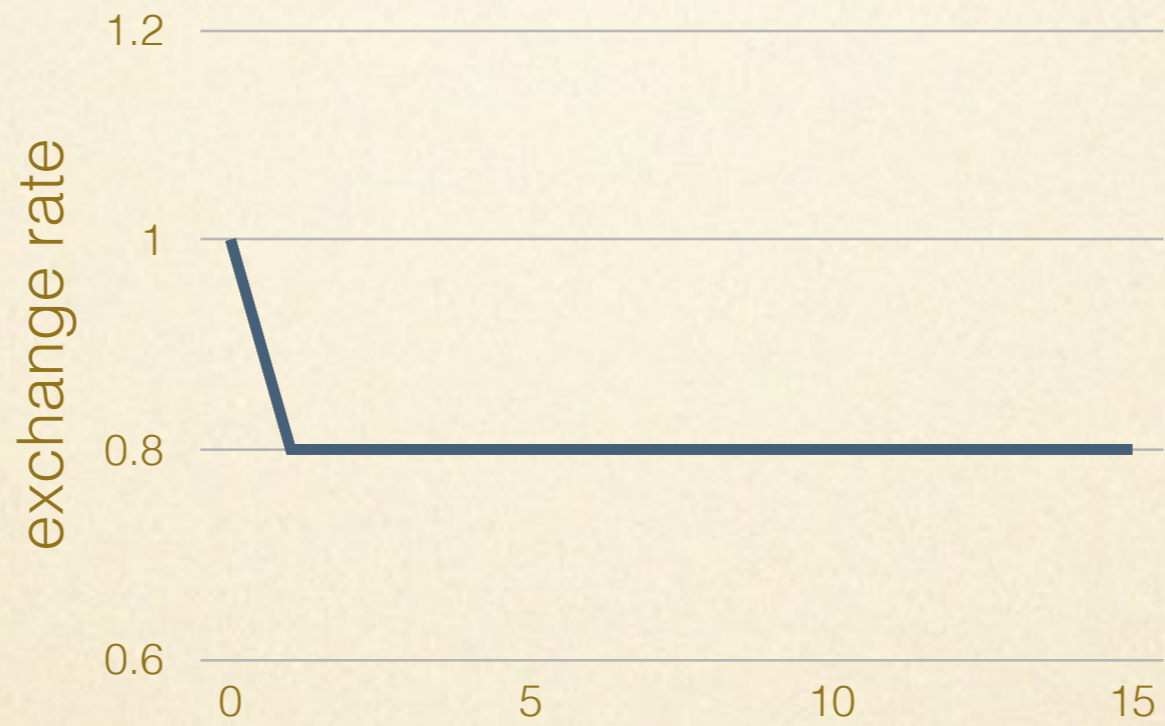


# Appreciation



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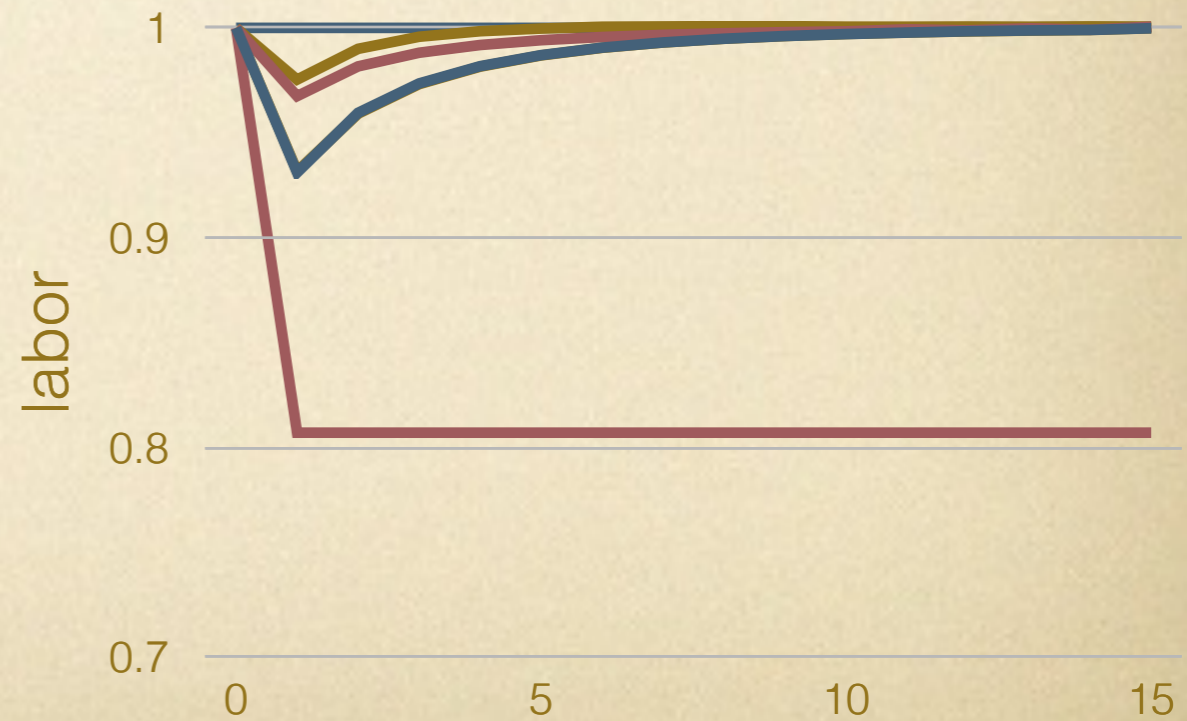
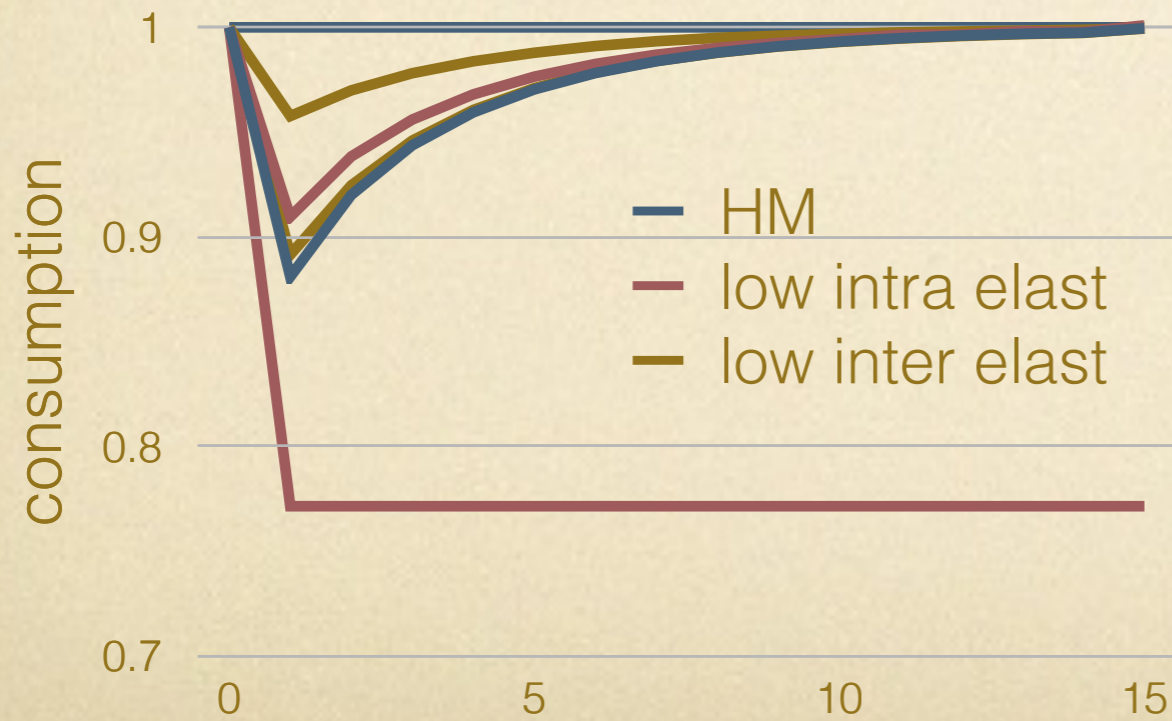
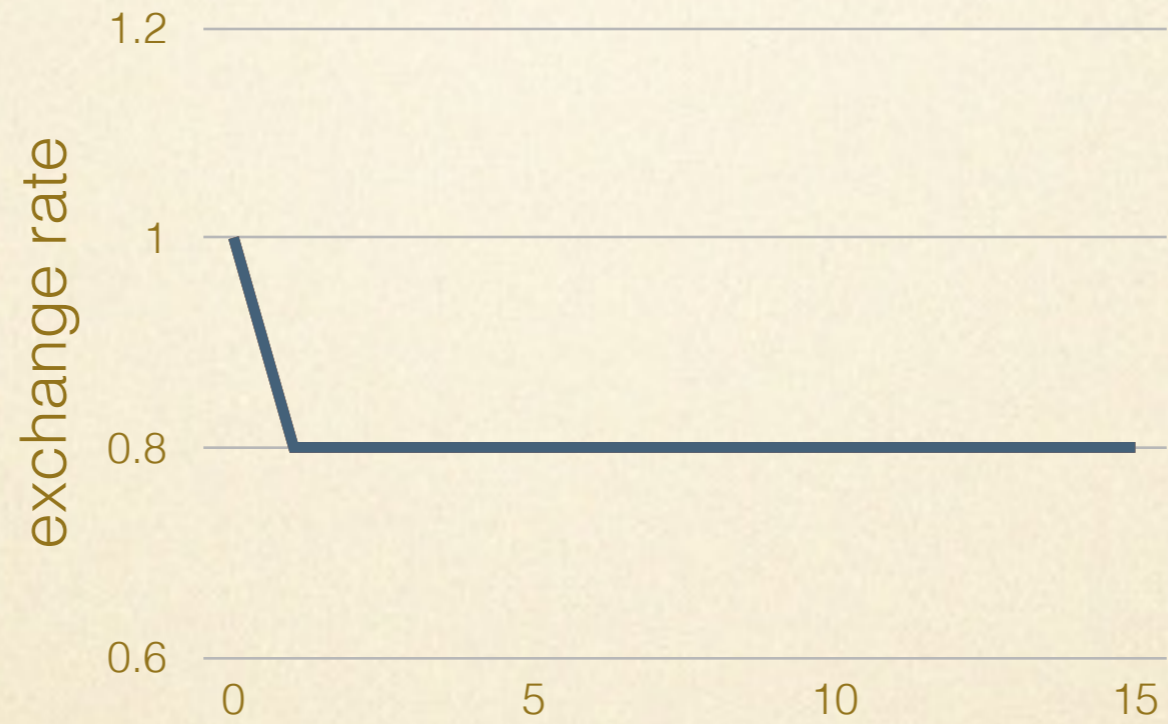
flex rigid partial



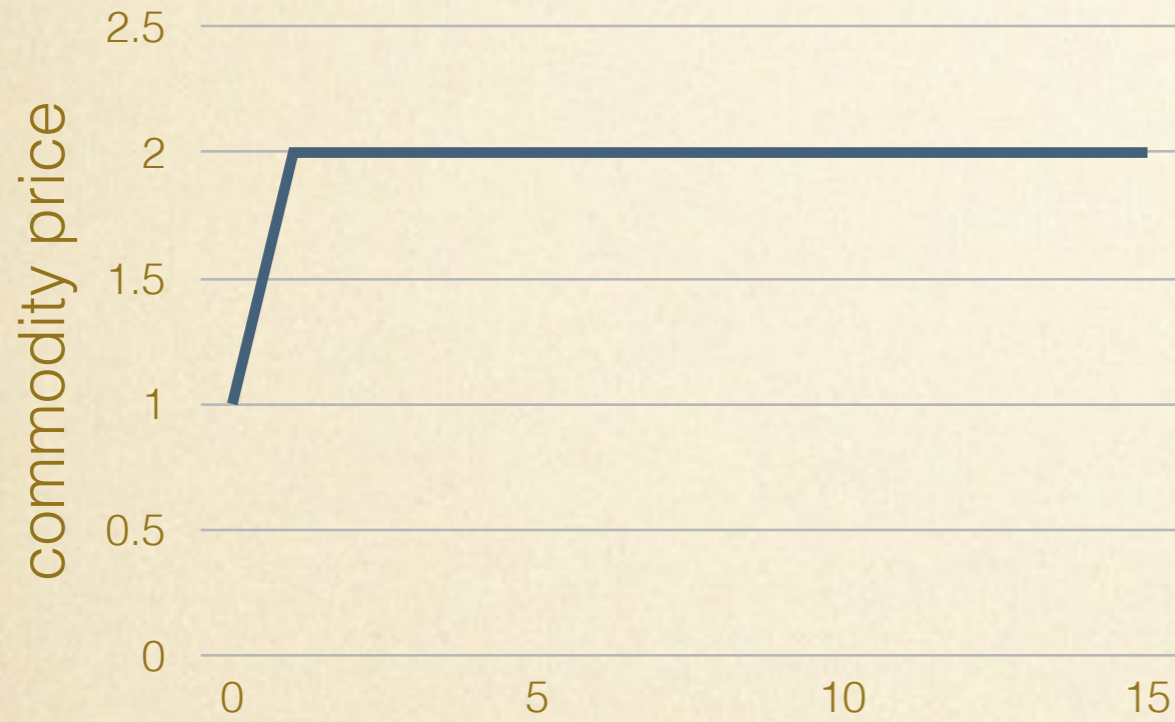


# Appreciation

flex rigid partial



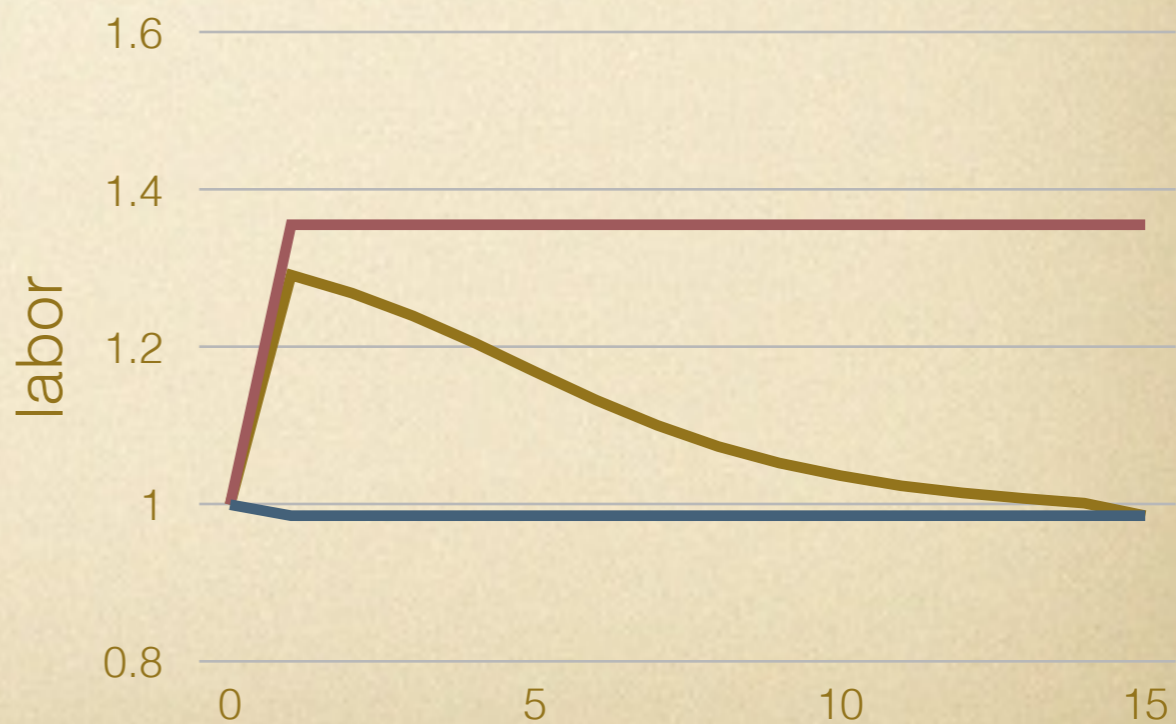
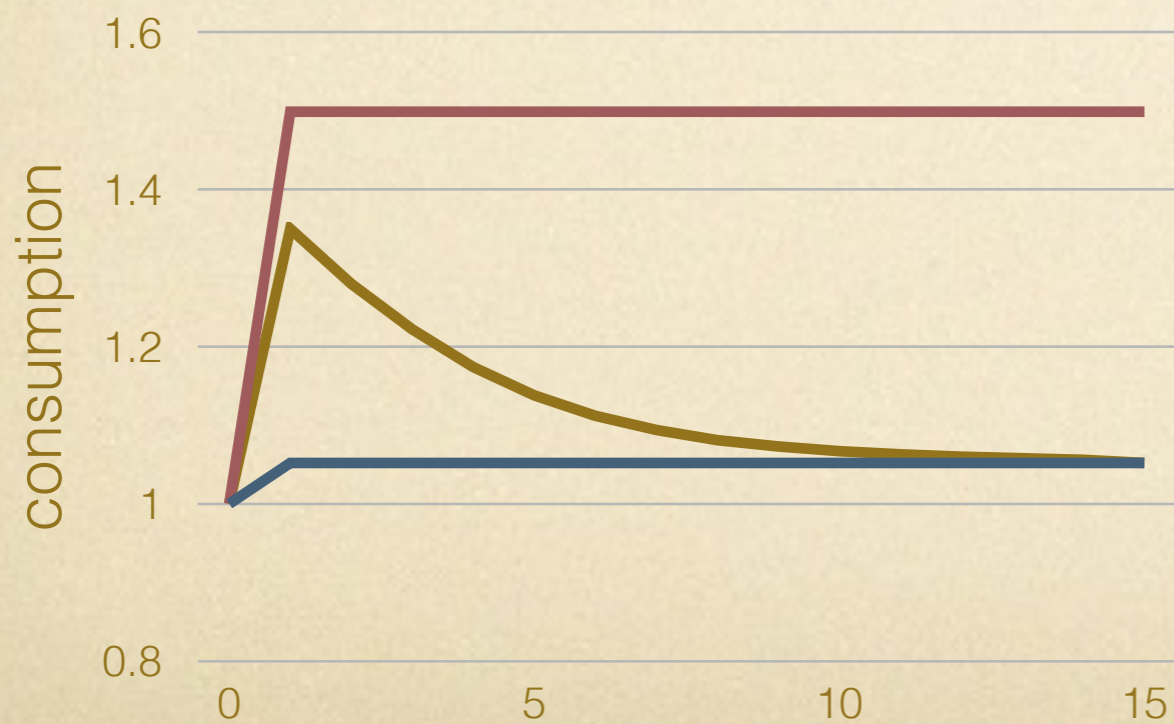
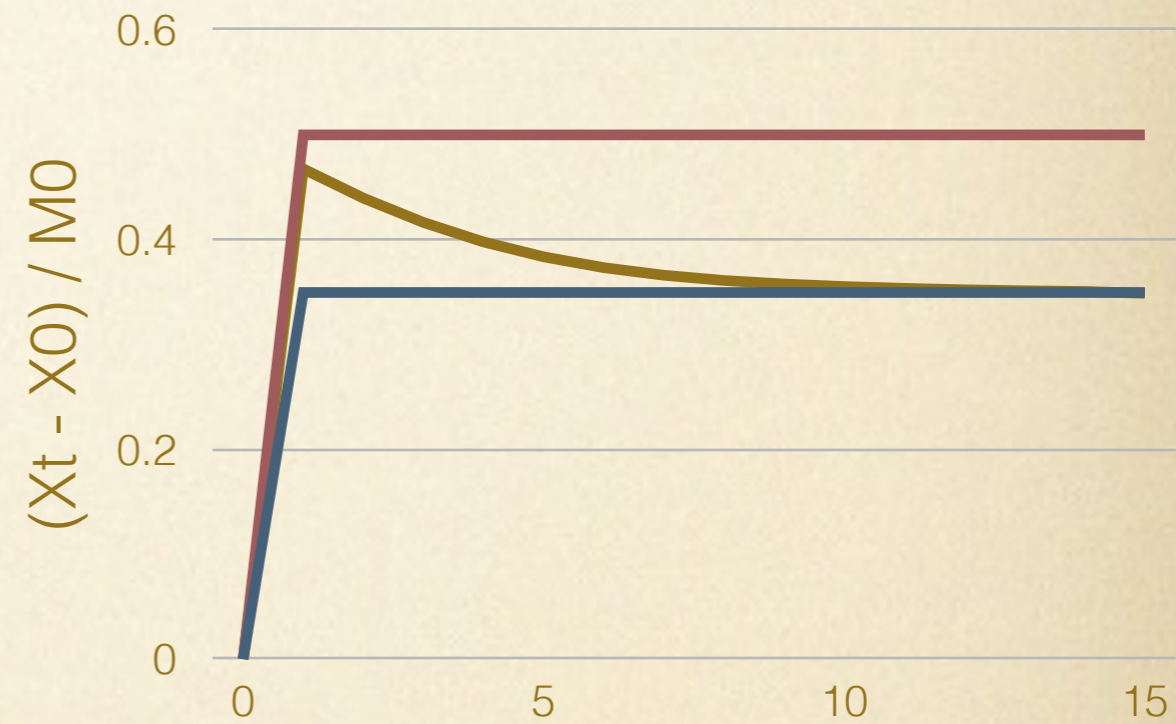
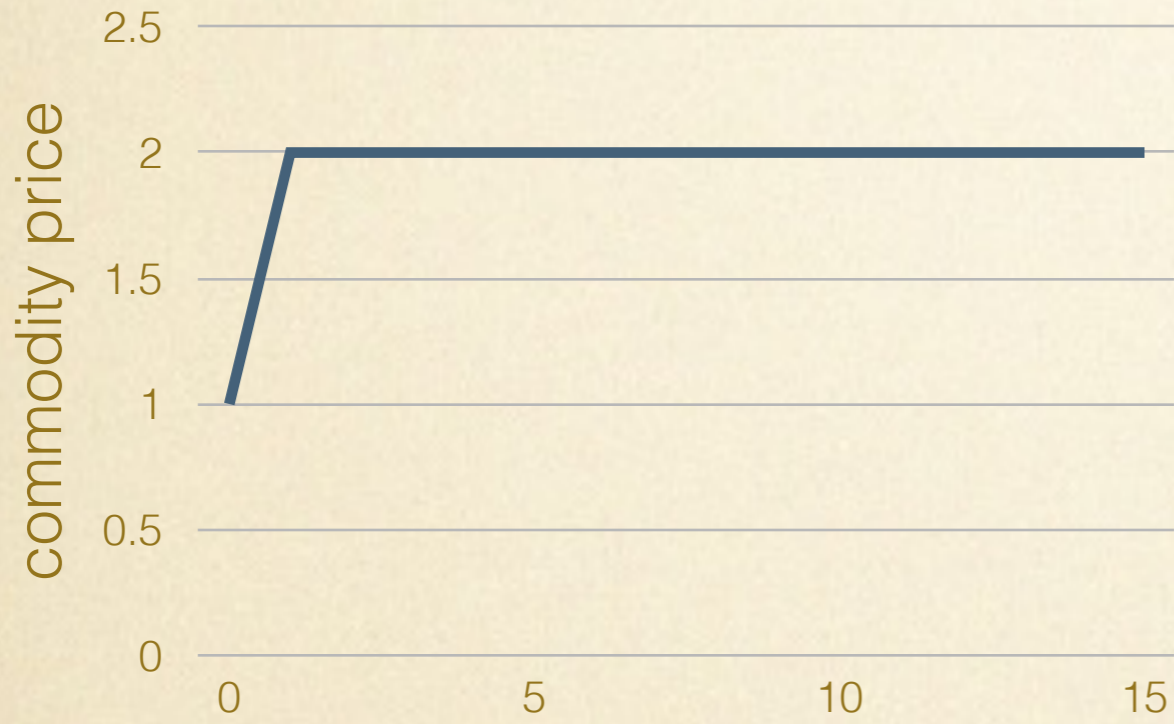
# Terms of Trade Shock





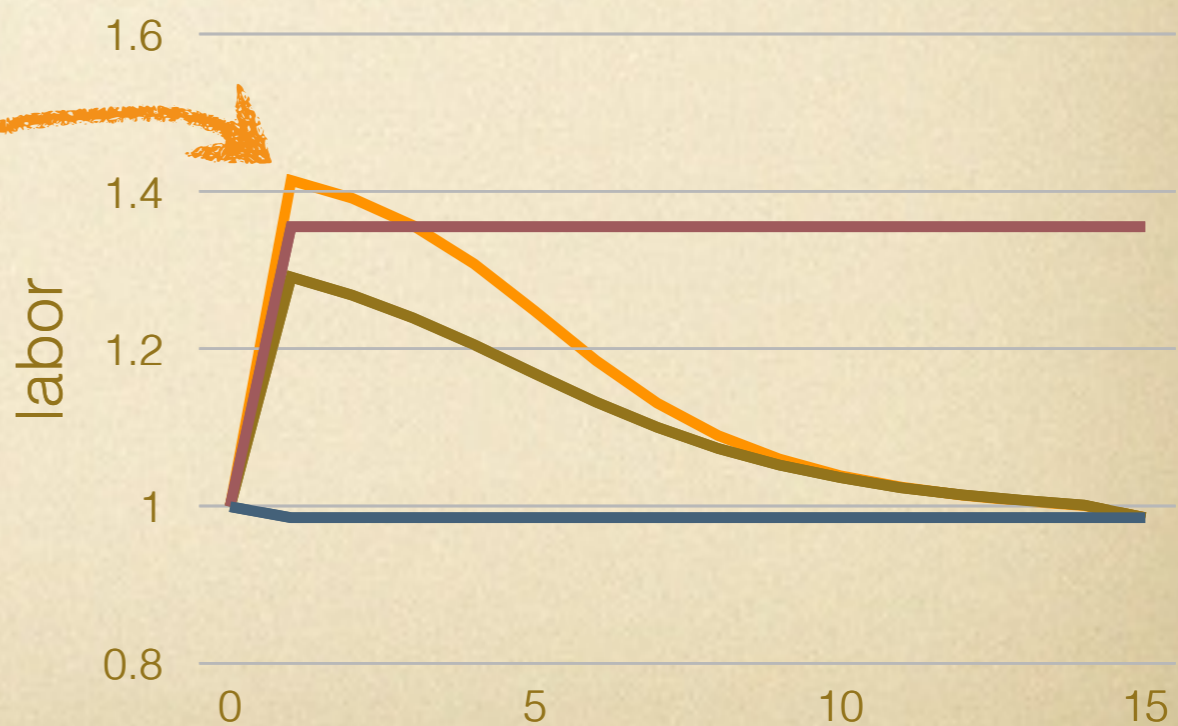
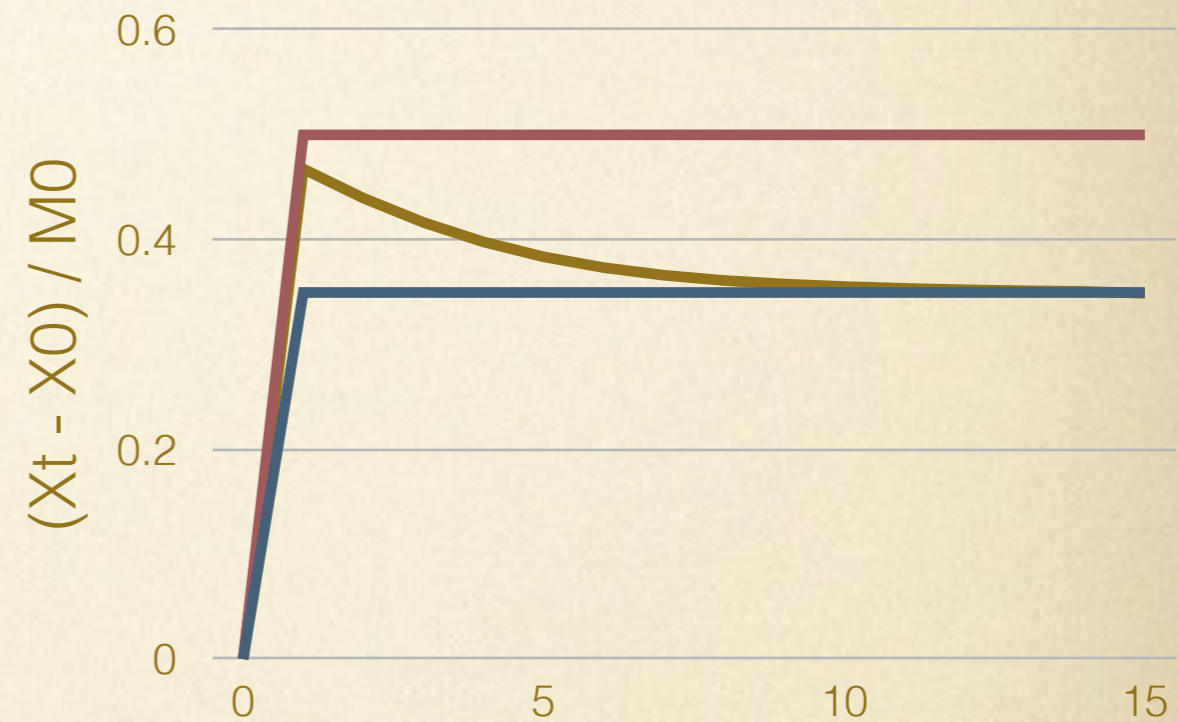
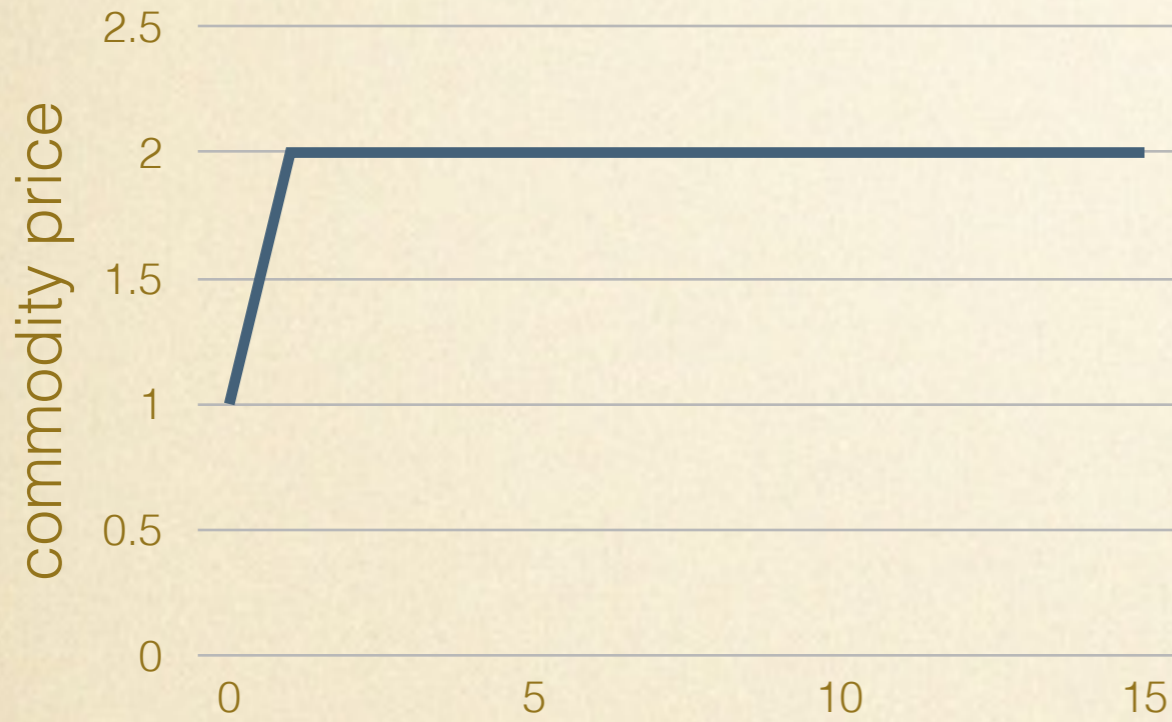
# Terms of Trade Shock

flex rigid partial



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# 4. Corralito



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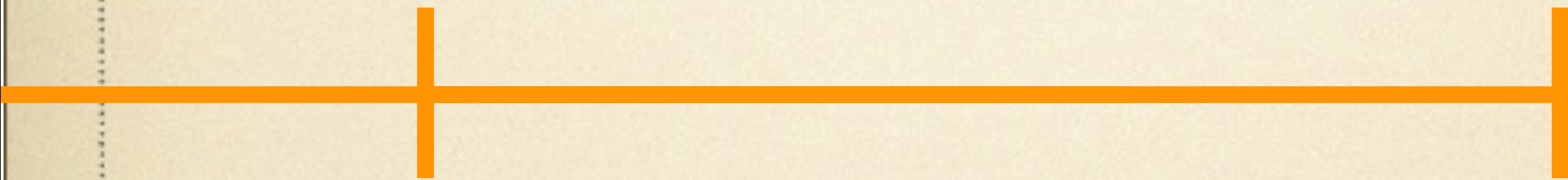
# Corralito Model

- Corralito / Corralón...
  - limits on extractions
  - bank holiday
  - “pesification” of dollar deposits
- Big, uncertain and slow redistribution
- At  $t=0$  announced that
  - savers will be taxed at  $t=1$
  - hand to mouth get transfer at  $t=1$

# optimizers

$t = 1$

$t = 2$



hand to mouth



# optimizers

$t = 1$

$\uparrow T$

$t = 2$

$\downarrow T$

hand to mouth



# optimizers

$t = 1$

$\downarrow C$

$\uparrow T$

$t = 2$

$\downarrow T$

$\uparrow C$

hand to mouth





# optimizers

$\downarrow C$

$t = 1$



$\downarrow C$

$\uparrow T$

$t = 2$



$\downarrow T$

$\uparrow C$

hand to mouth

# optimizers

$\downarrow C$

$t = 1$



$\bar{C}$

$\downarrow C$

$\uparrow T$

$t = 2$



$\downarrow T$

$\uparrow C$

hand to mouth



# optimizers

$\downarrow W$

$\downarrow C$

$t = 1$

|

$\bar{C}$

$\downarrow C$

$\uparrow T$

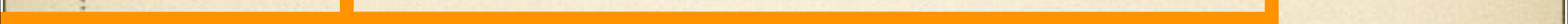
$t = 2$

|

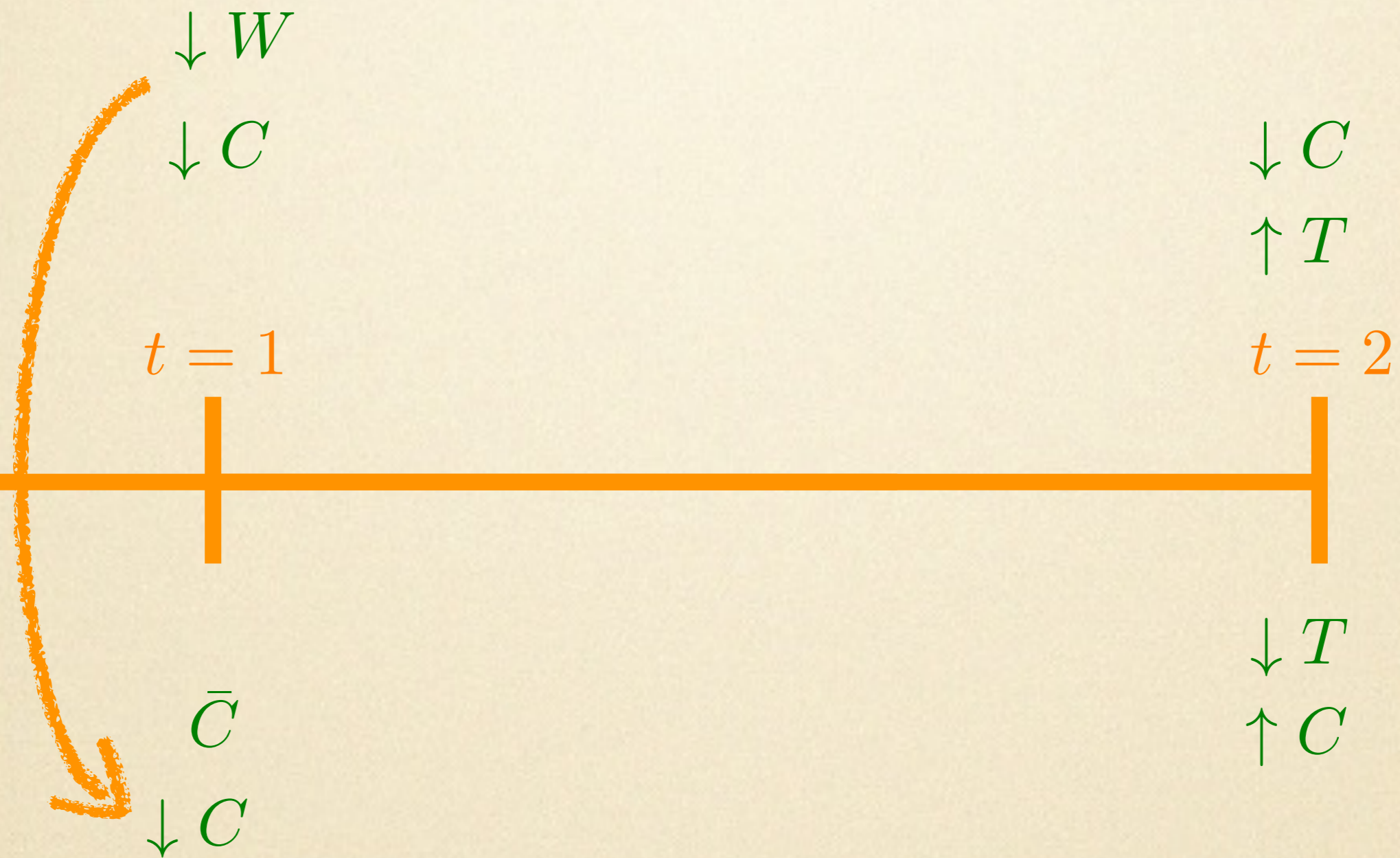
$\downarrow T$

$\uparrow C$

hand to mouth



# optimizers

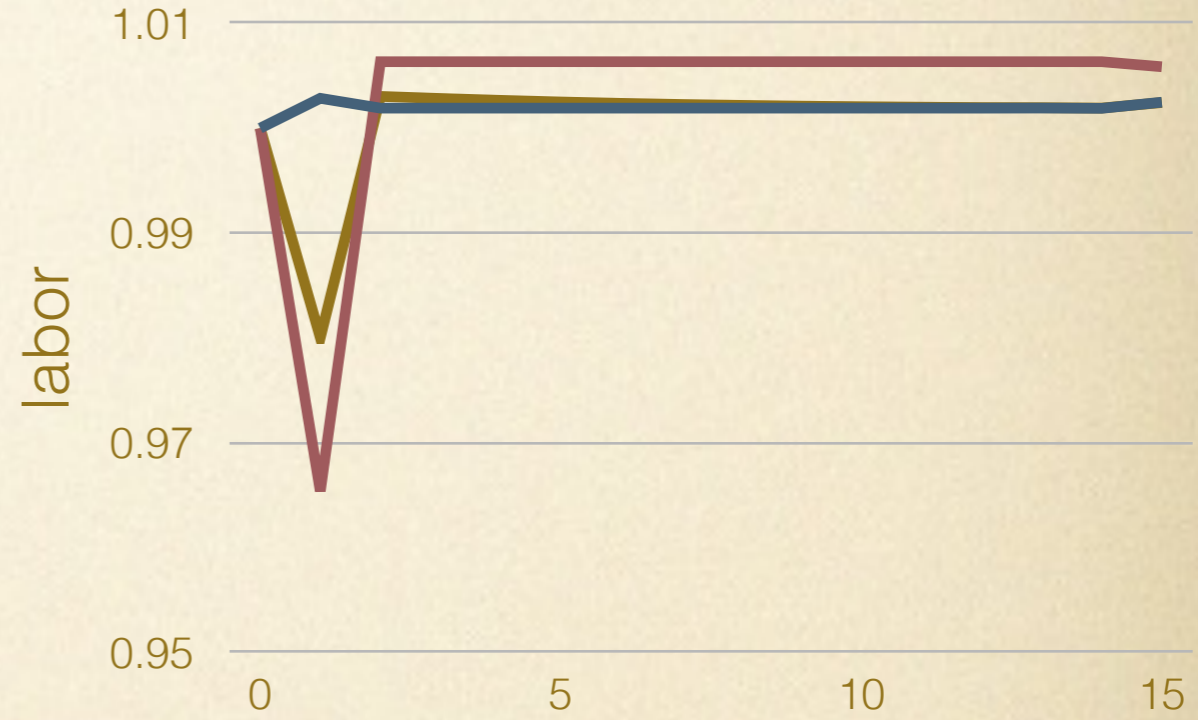
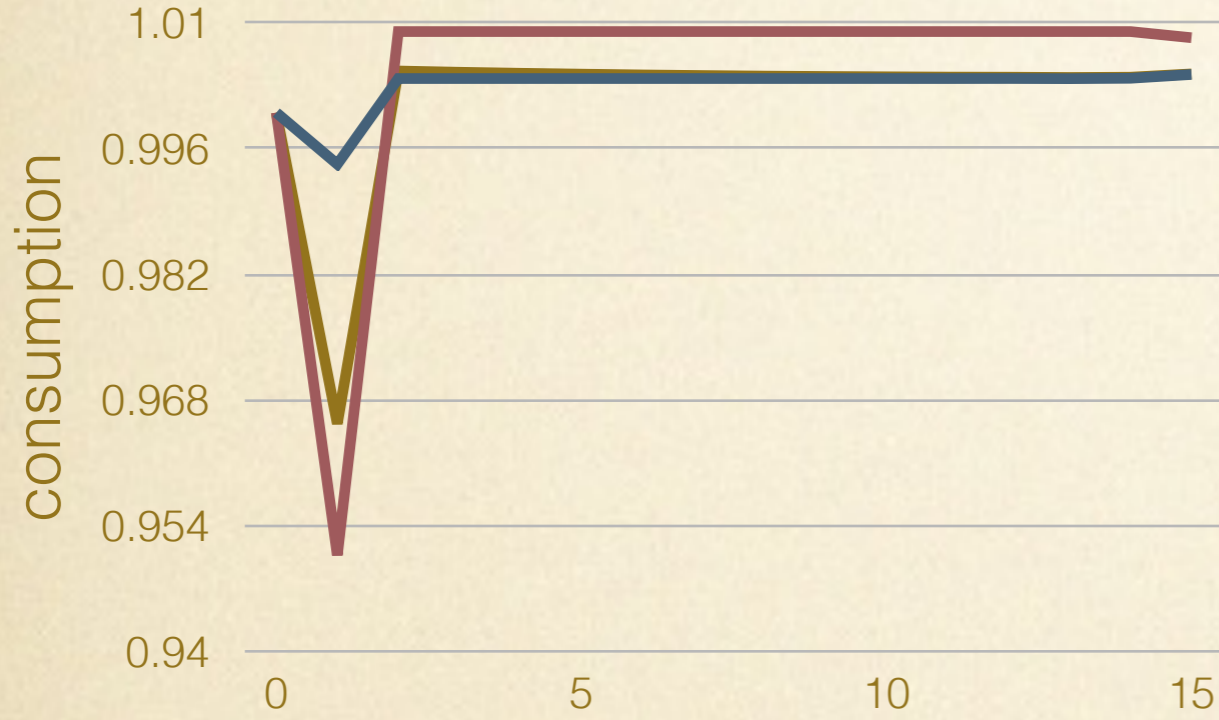


hand to mouth

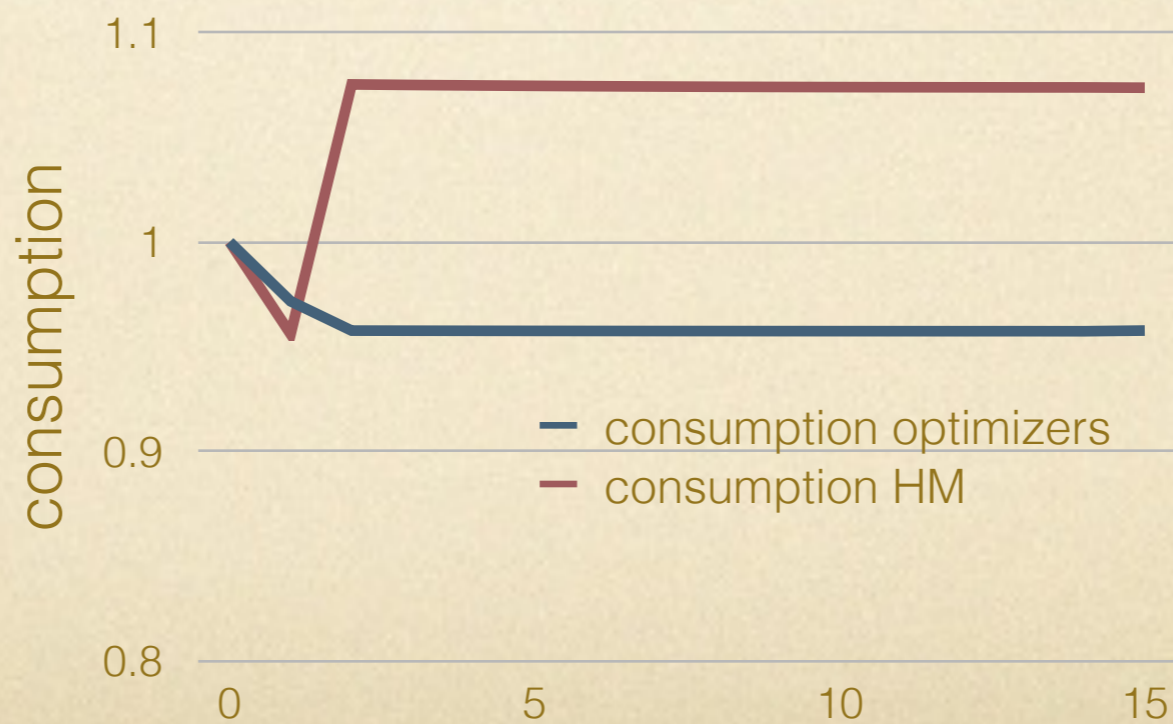
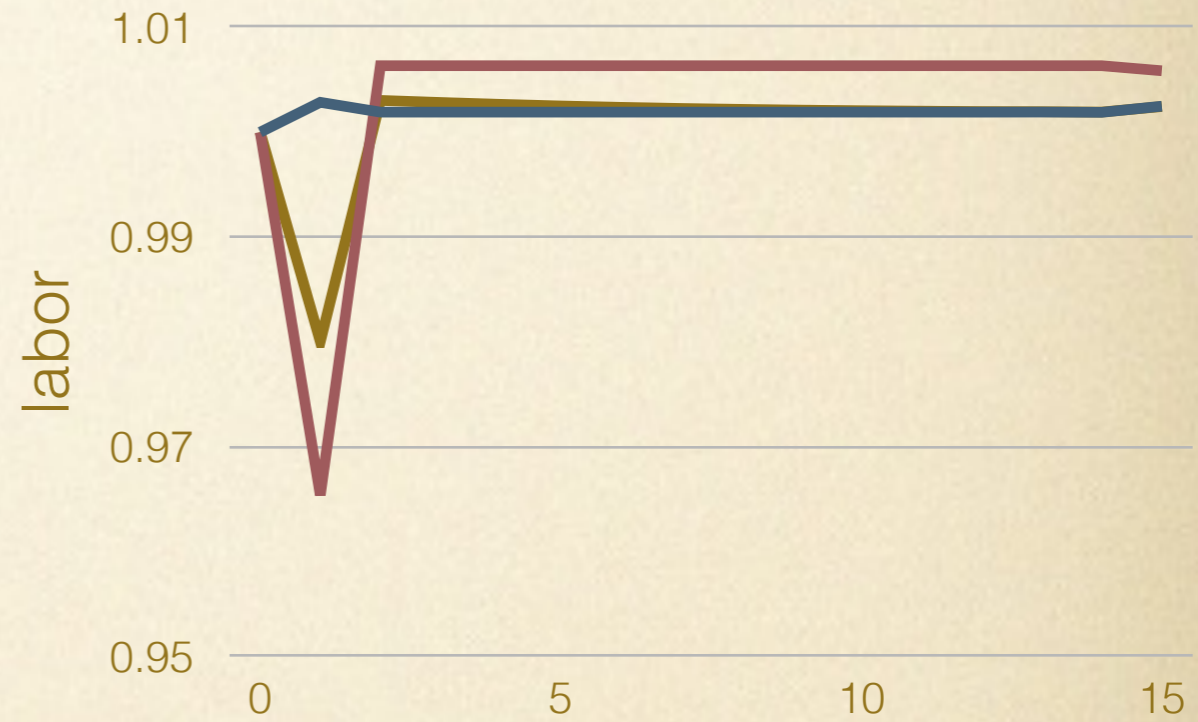
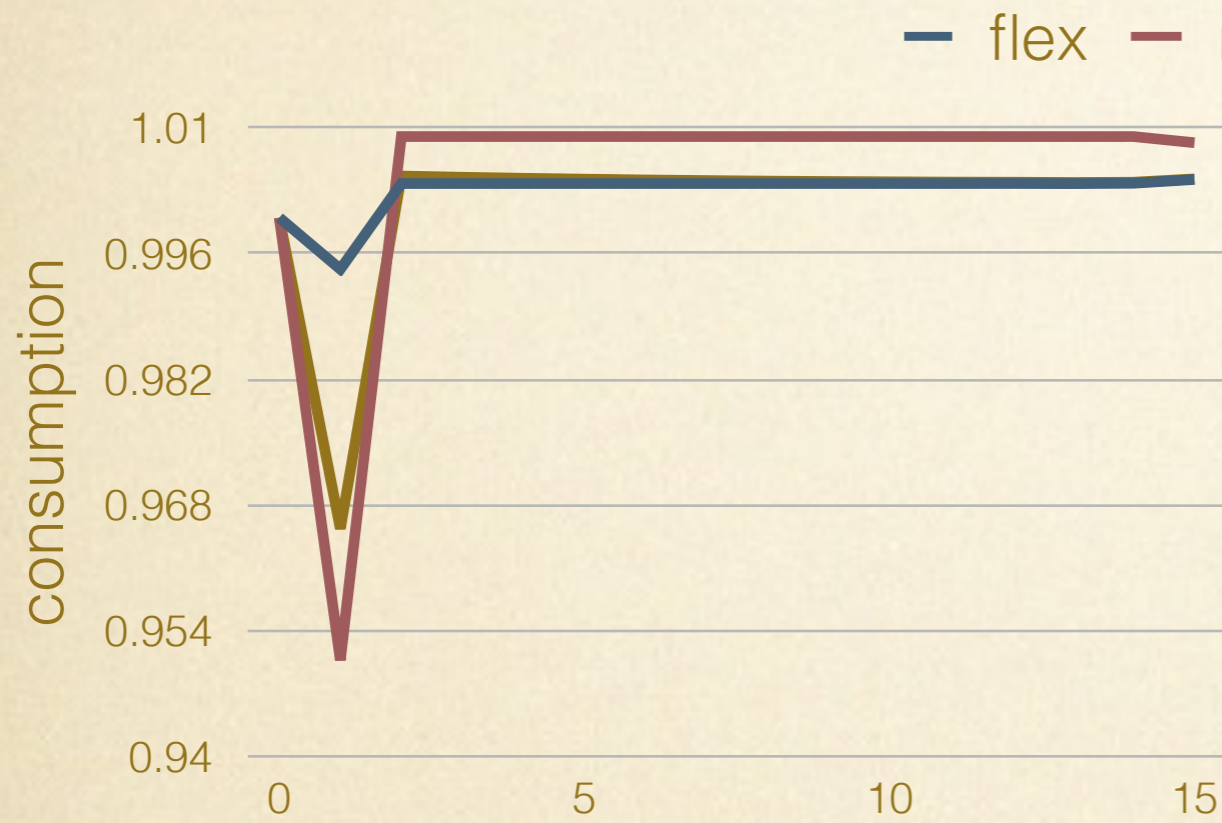


# Corralito

— flex — rigid — partial



# Corralito





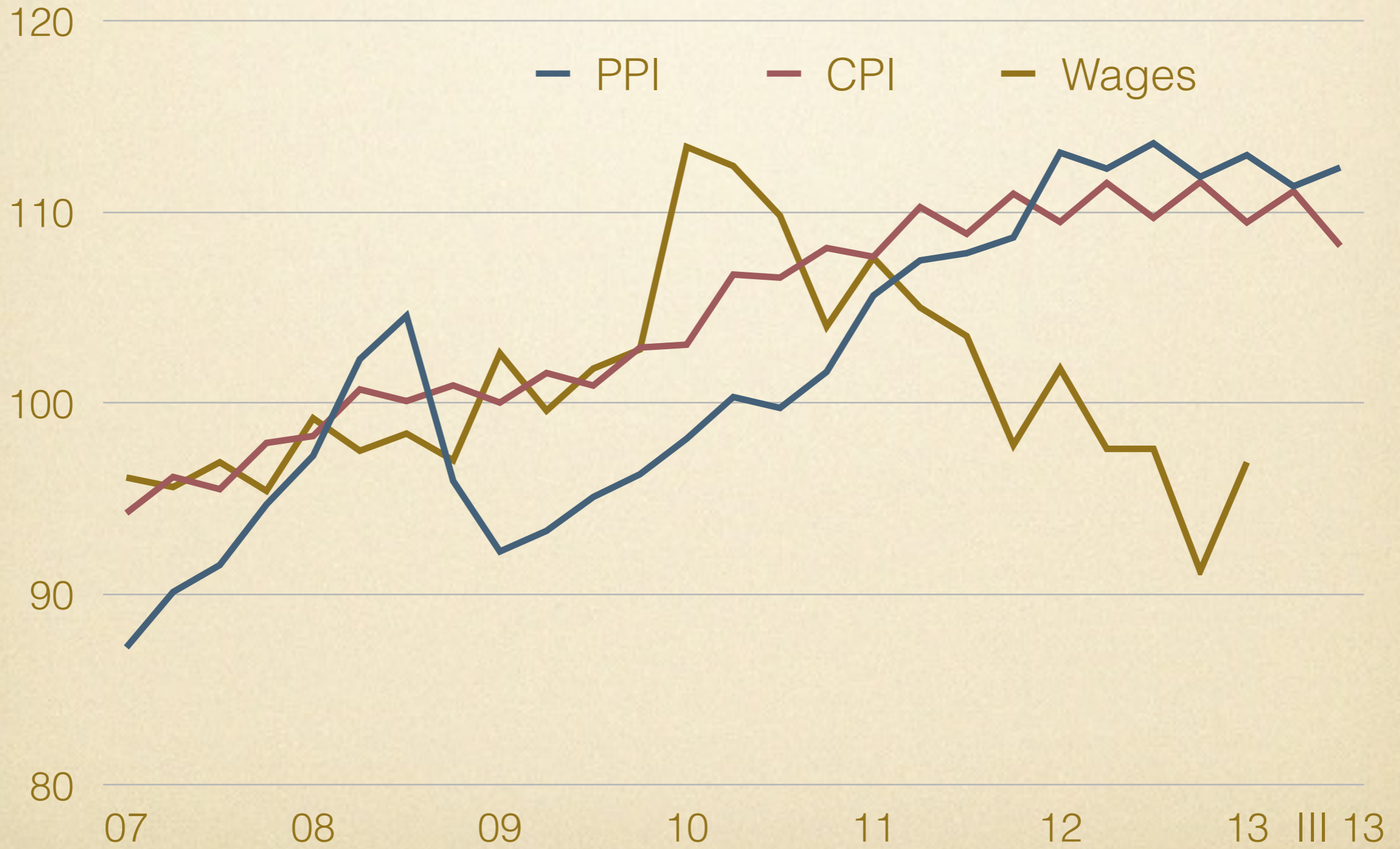
# Conclusion

- Fixed exchange rate can explain Argentina's vulnerability to various shocks
  - sudden stop
  - terms of trade
  - appreciation
  - corralito
- Some shocks partly endogenous:
  - fixed exchange + fiscal indiscipline...
    - ➔ credibility problems
  - **feedback loop:** social crisis, political crisis and macroeconomic crisis...

# Europe Today



# Greece: Prices and Wages



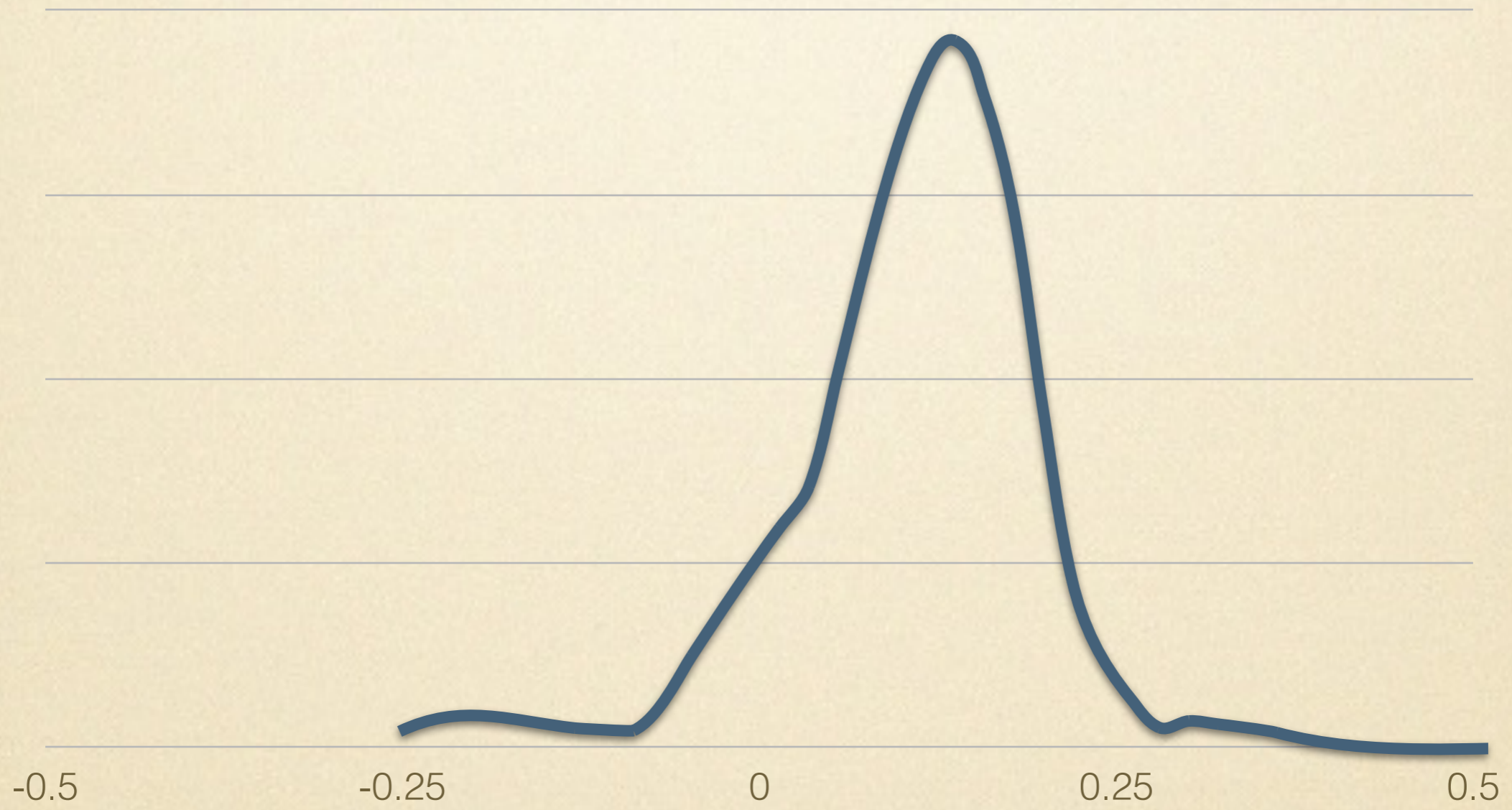
# Greece CPI



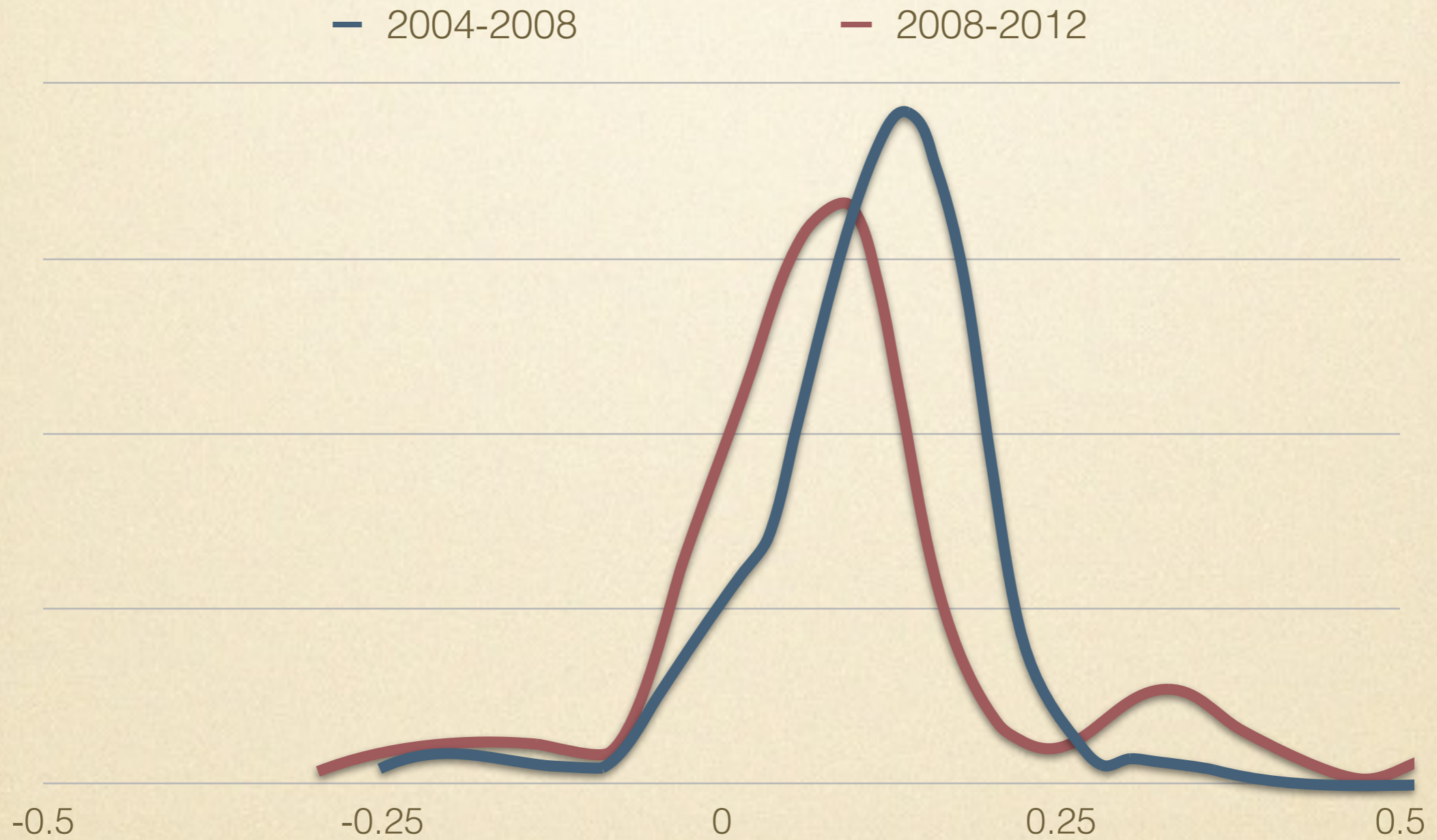
# Greece CPI

— 2004-2008

— 2008-2012

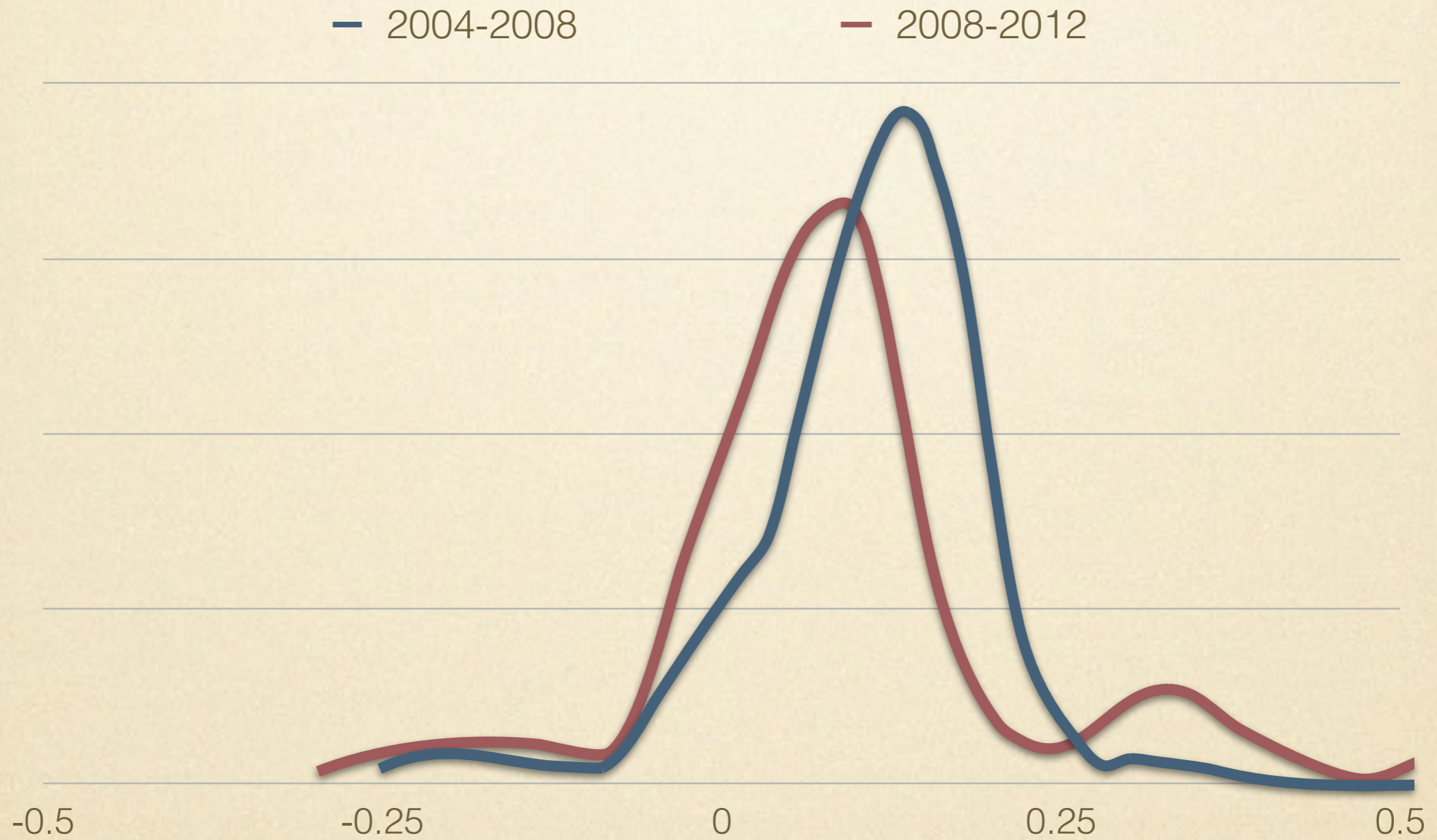


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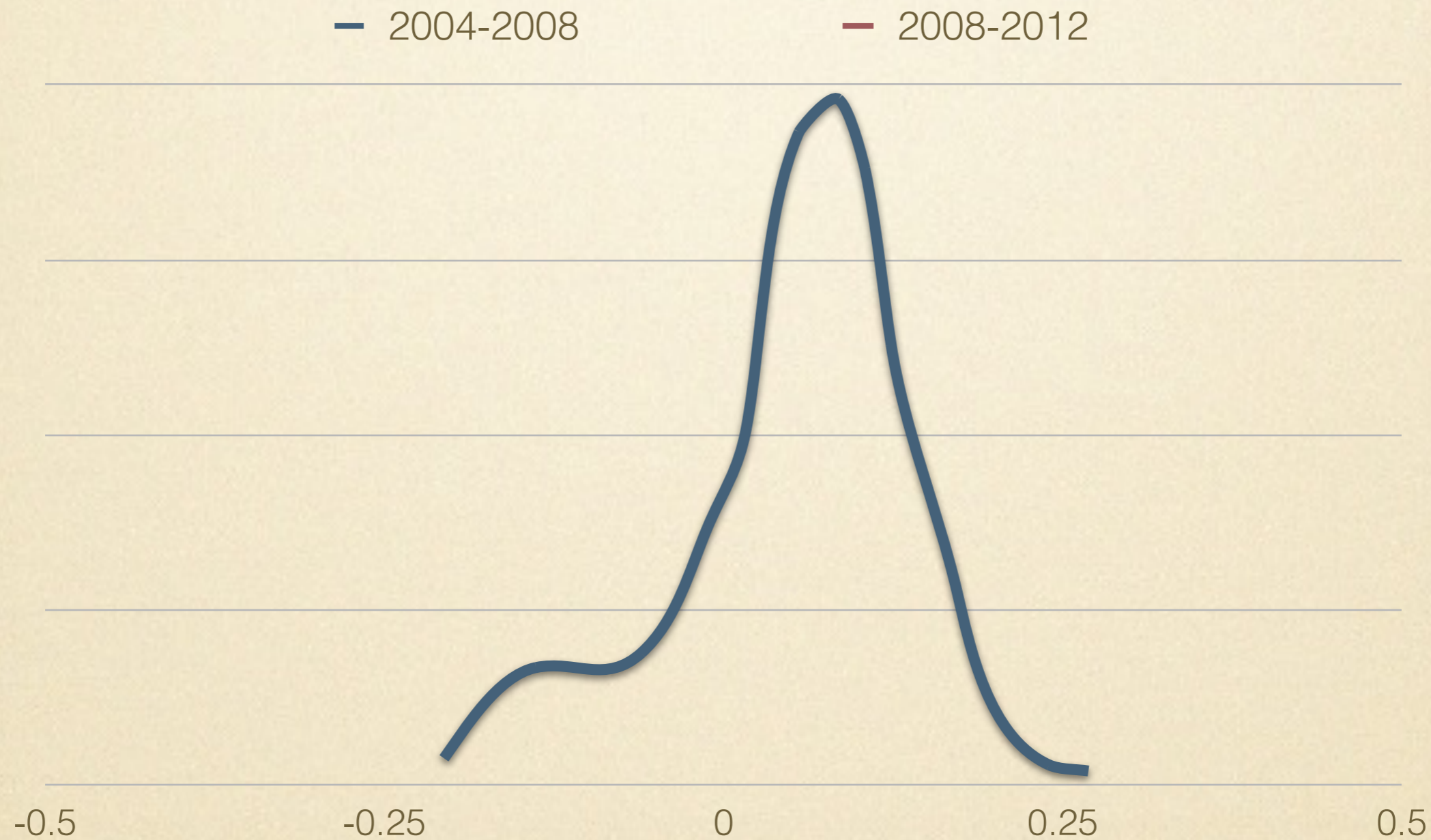
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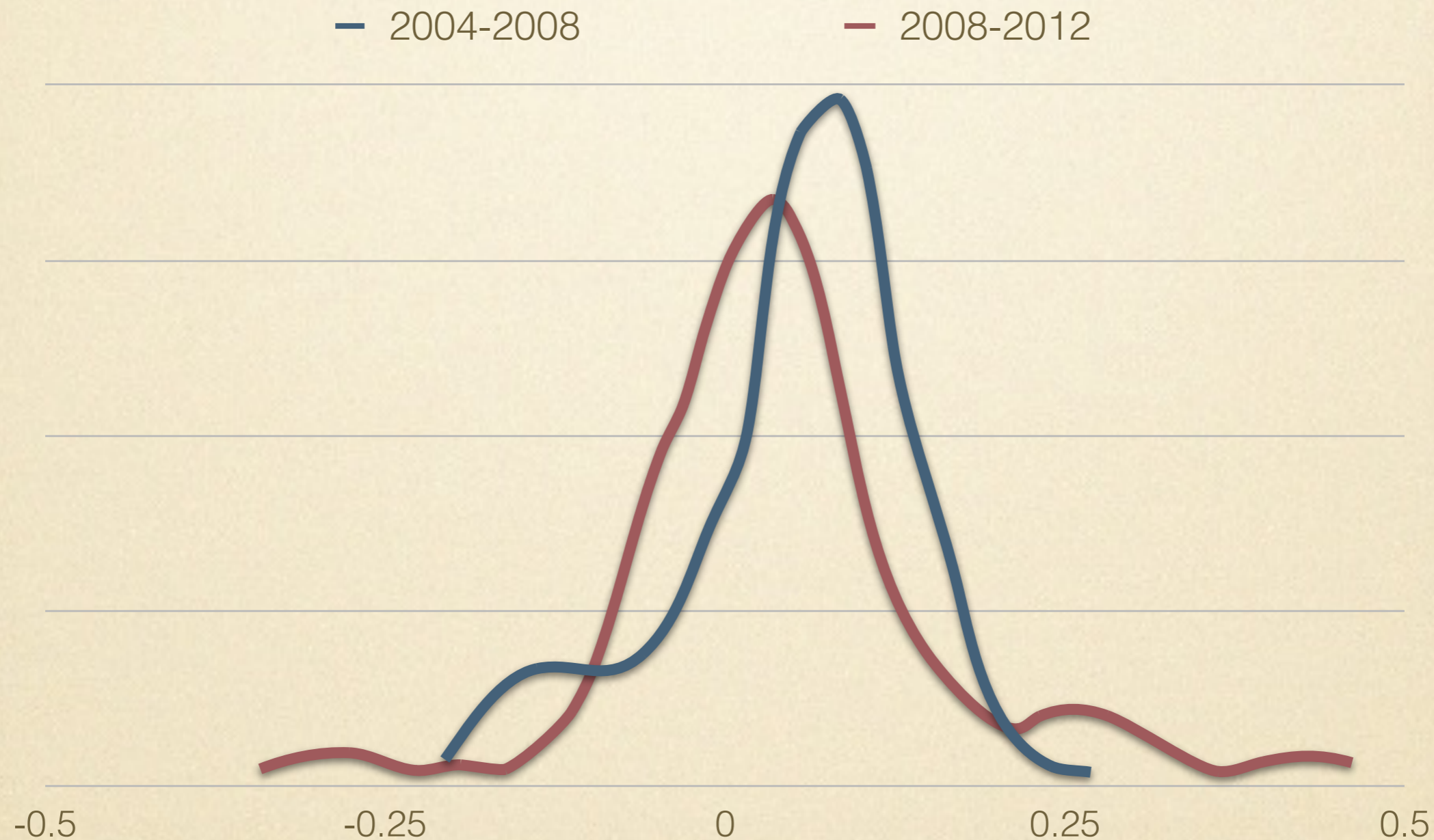
# Greece RER



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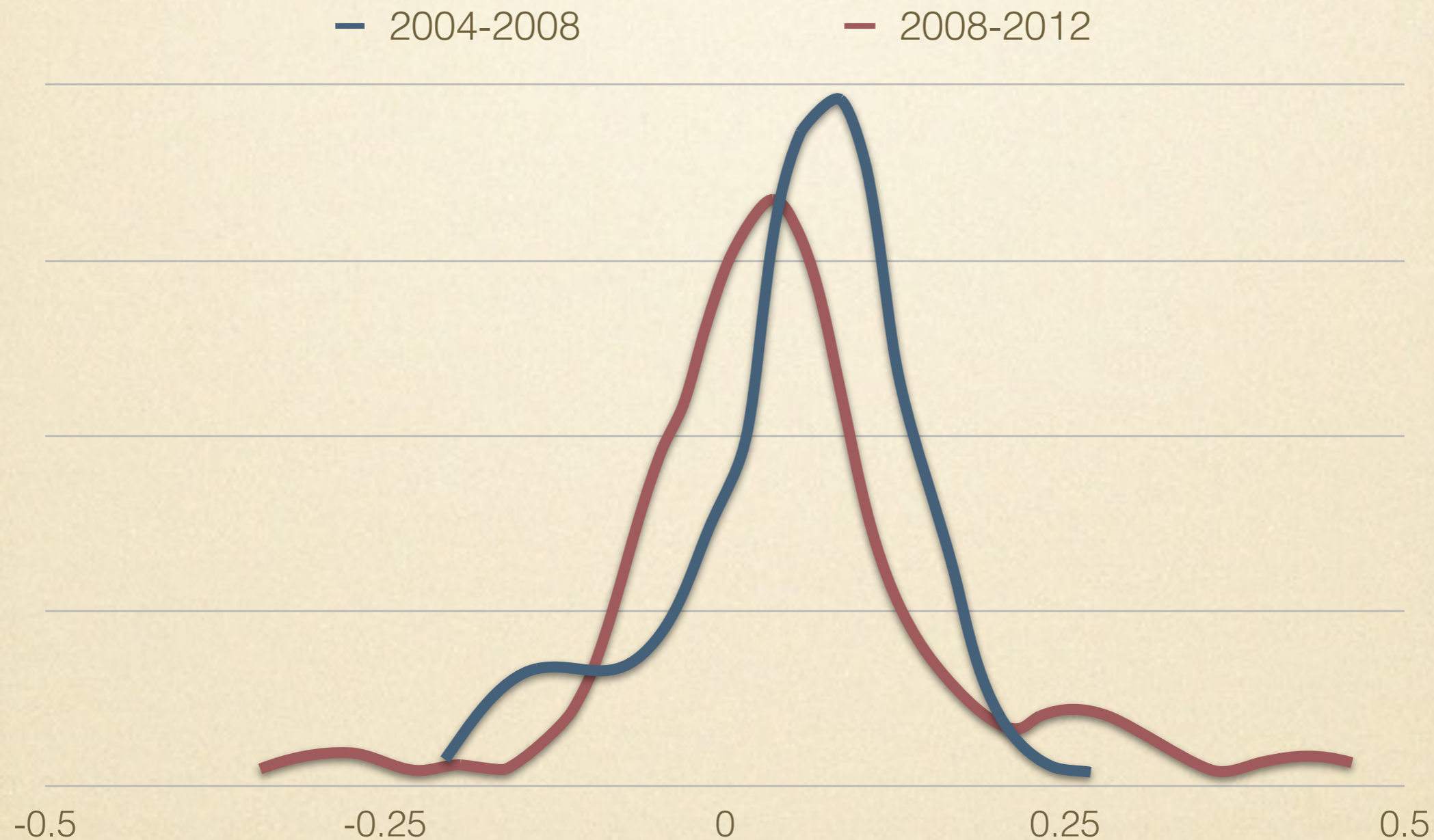


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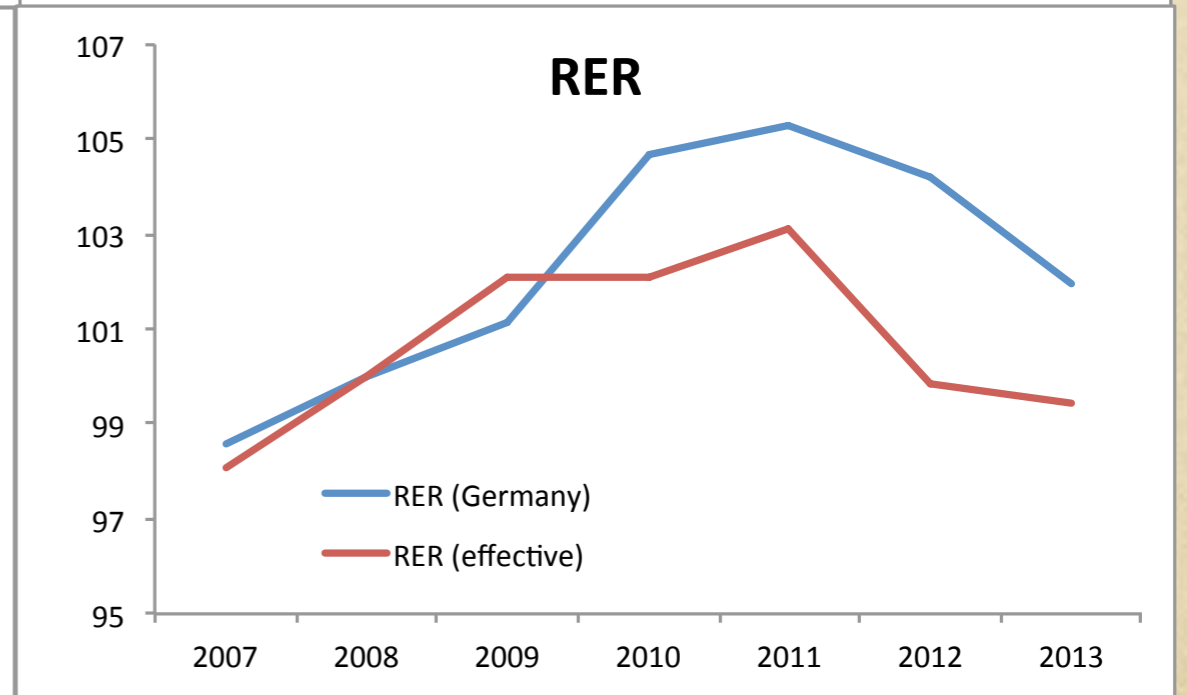
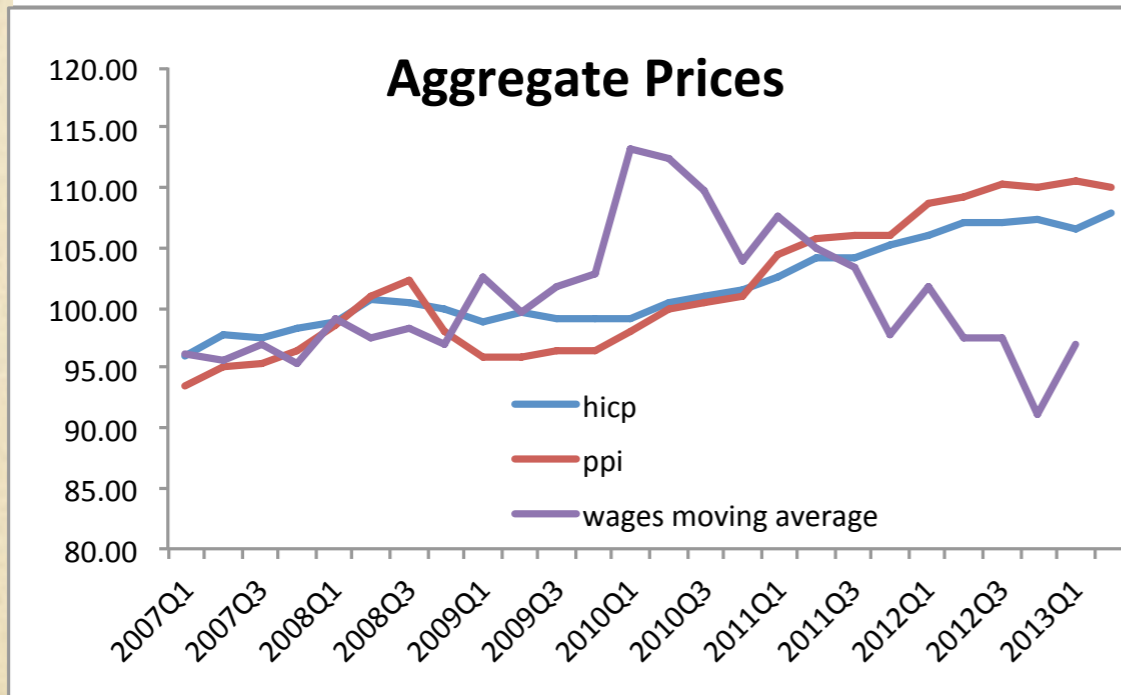
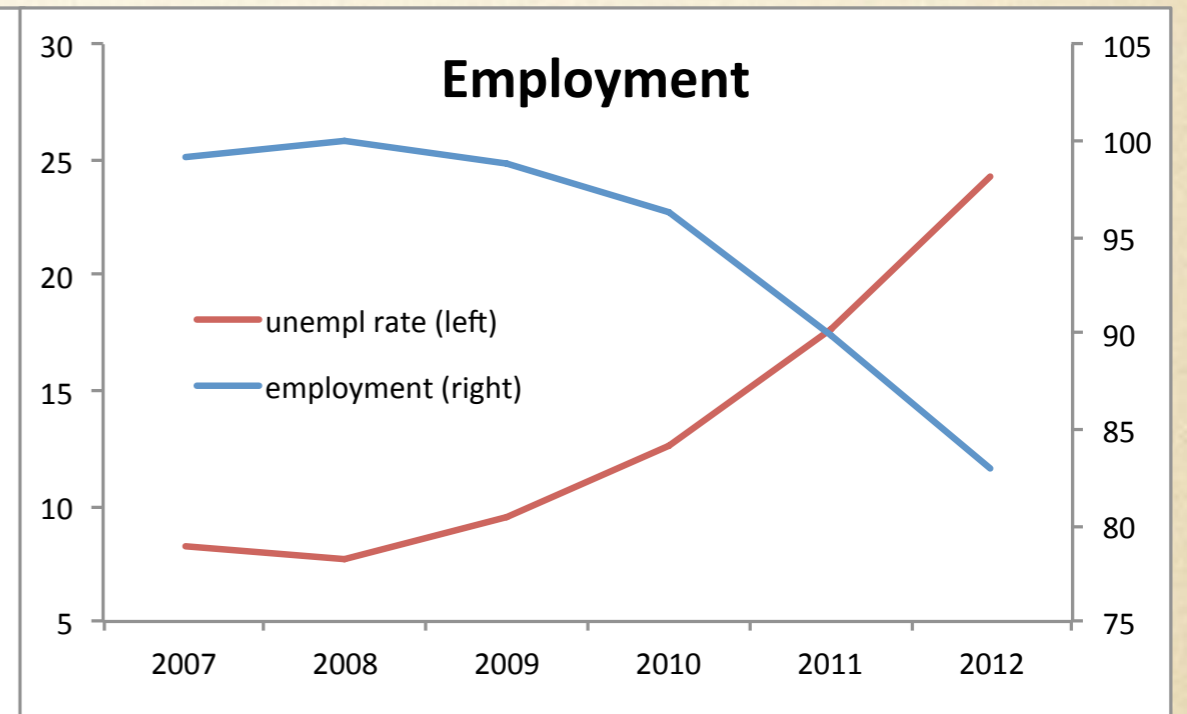
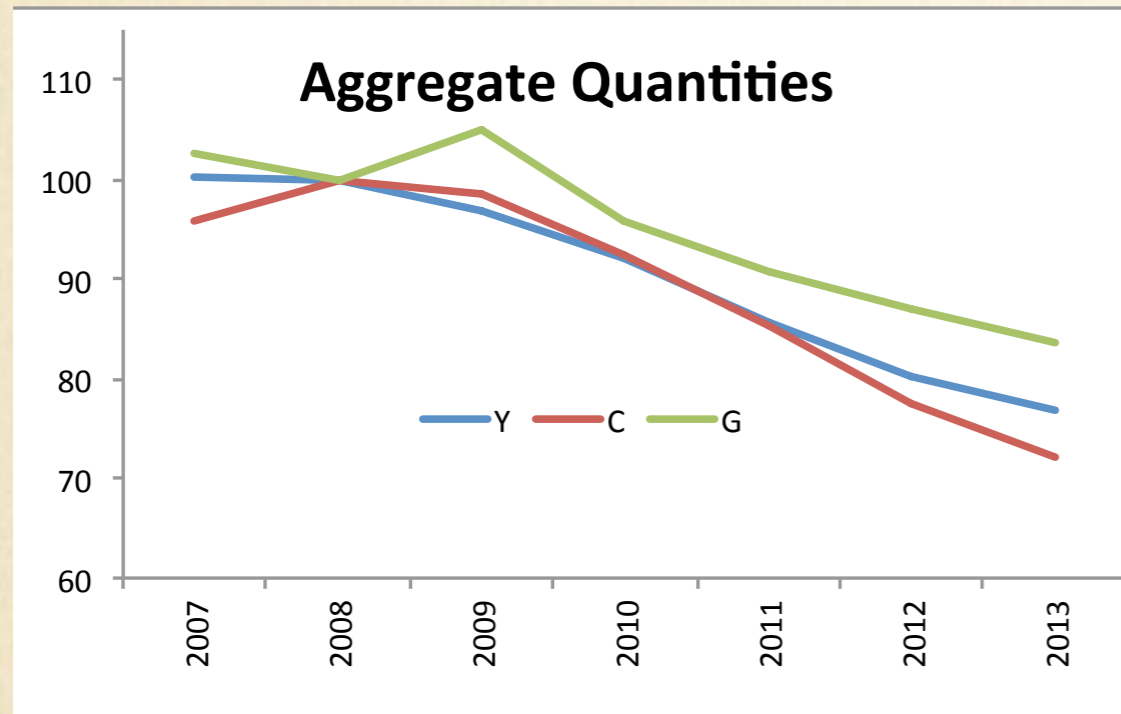


# Greece: Disaggregated RER CPI

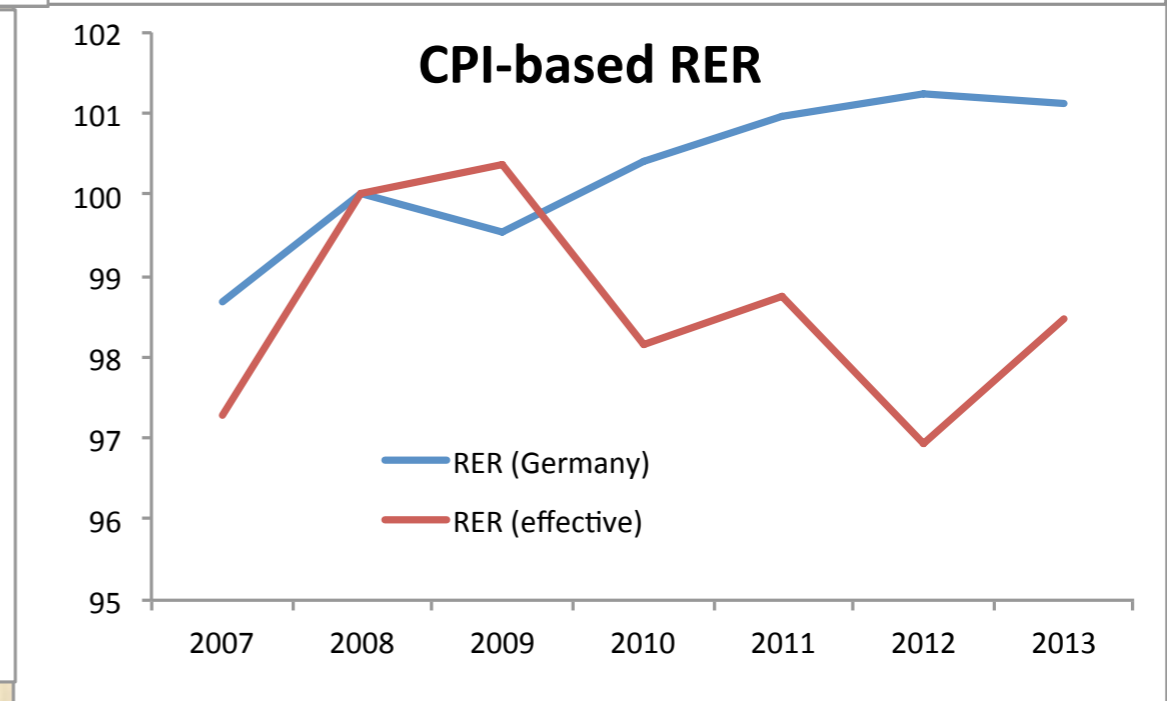
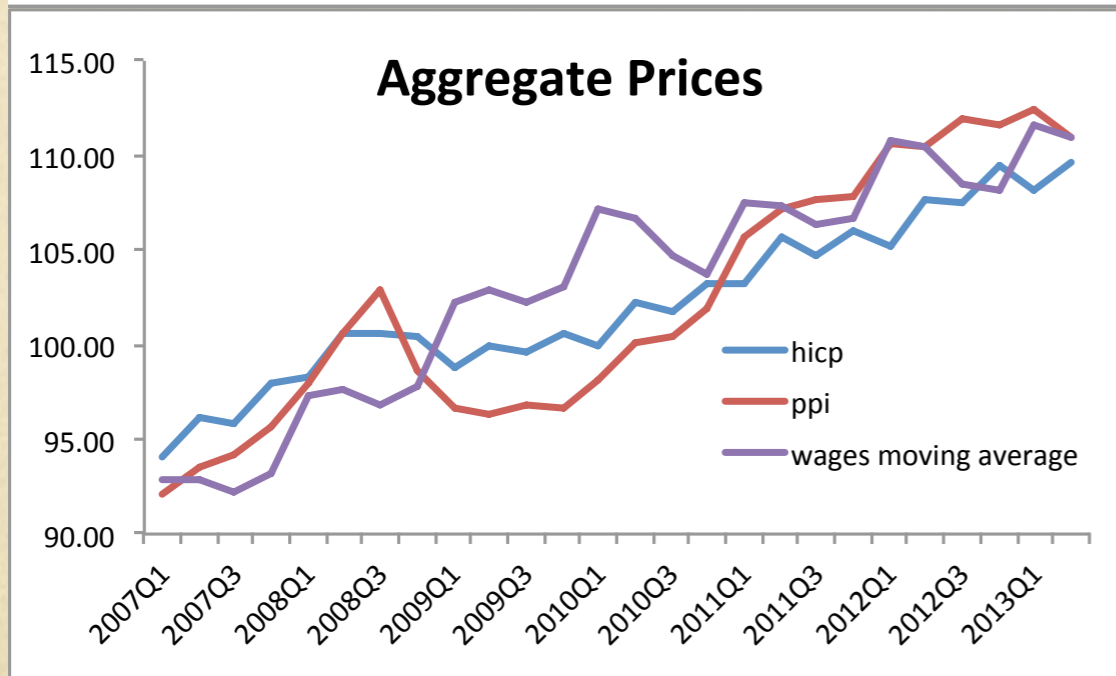
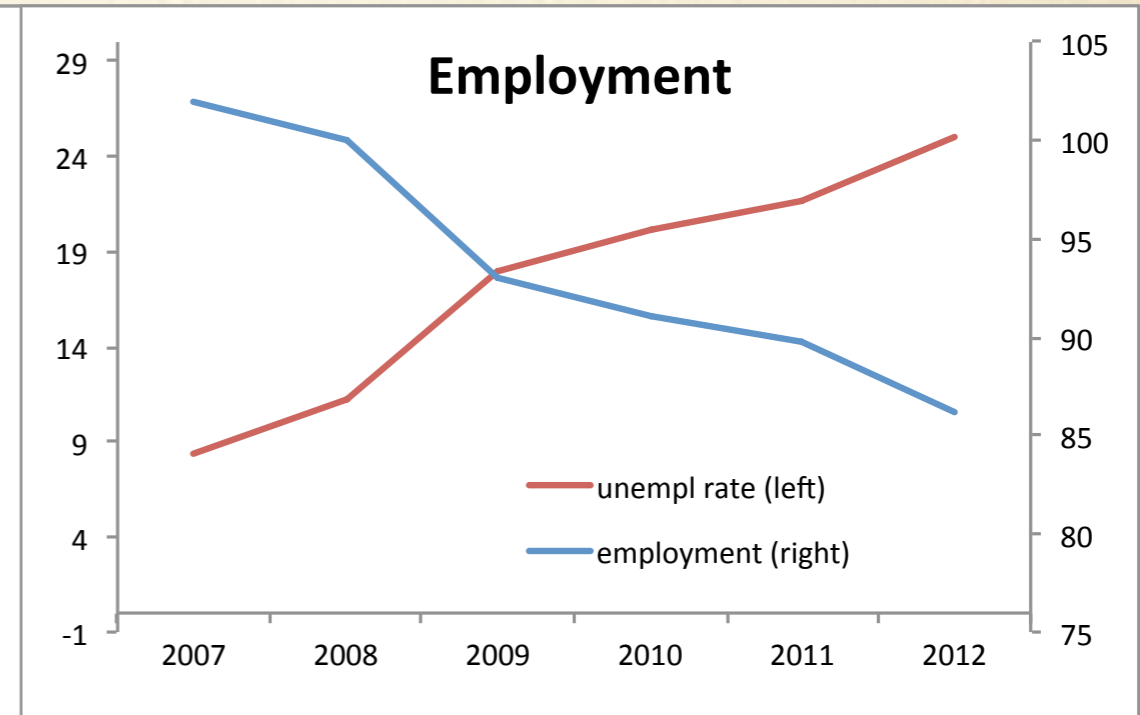
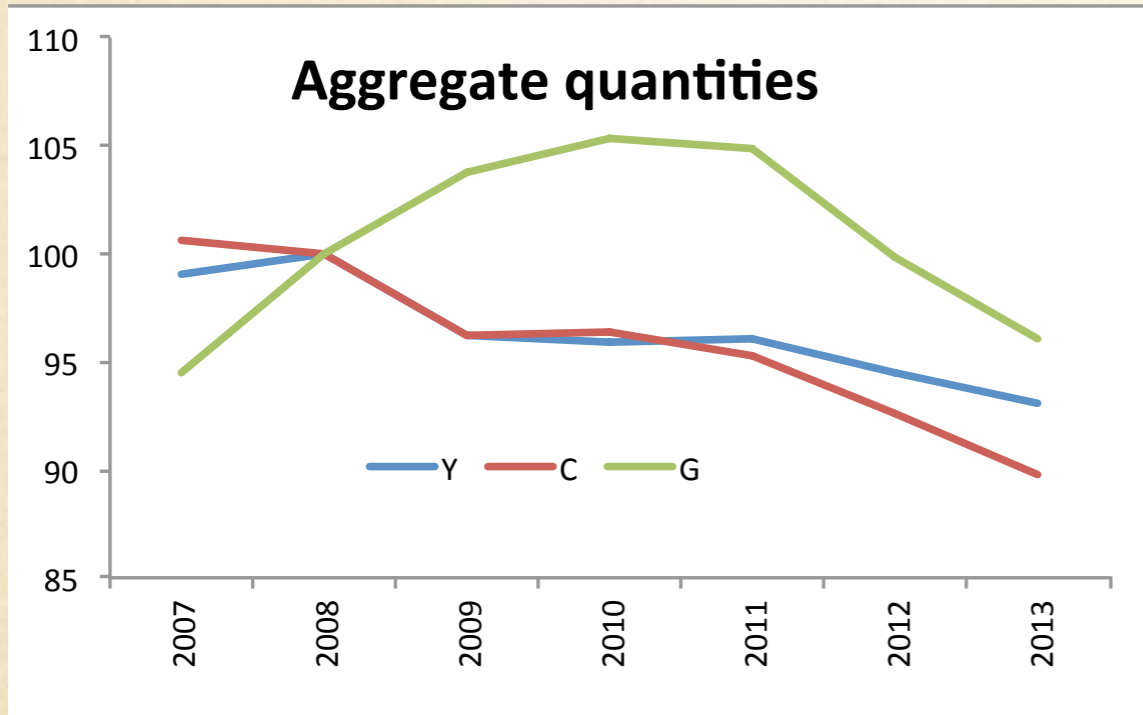
Items with largest depreciation	$\Delta \log RER$		Items with largest depreciation	$\Delta \log RER$
Pharm products	-0.36		Hospital services	0.14
Accomm services	-0.25		Financial services n.e.c.	0.16
Oils and fats	-0.15		Tobacco	0.18
Newspapers, periodicals	-0.12		Passenger transport by road	0.23
Passenger transp by water	-0.10		Insurance transport	0.24
Durables for ind,outdoor recr.	-0.10		Other services pers. transp. equip.	0.27
Motor cycles, bicycles and	-0.10		Liquid fuels	0.27
Motor cars	-0.09		Fuels, lubric personal transp. equip	0.28
Fruit	-0.08		Combined passenger transport	0.29
Passenger transport by air	-0.07		Spirits	0.30
Solid fuels	-0.07		Gas	0.36
Package holidays	-0.07		Passenger transport by railway	0.43



# Greece



# Spain





# Cyprus Deposits



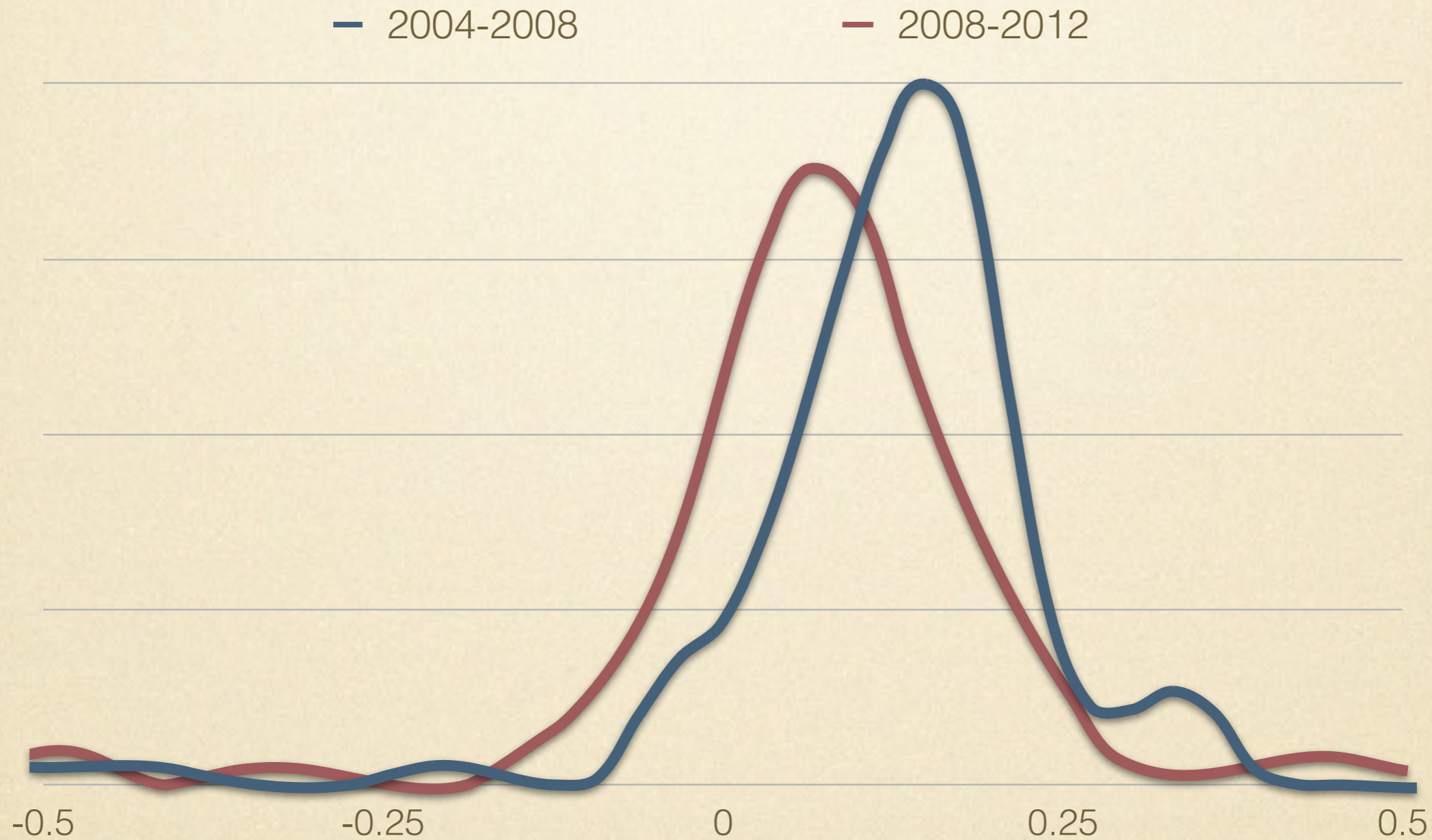
# Spain CPI



# Spain CPI

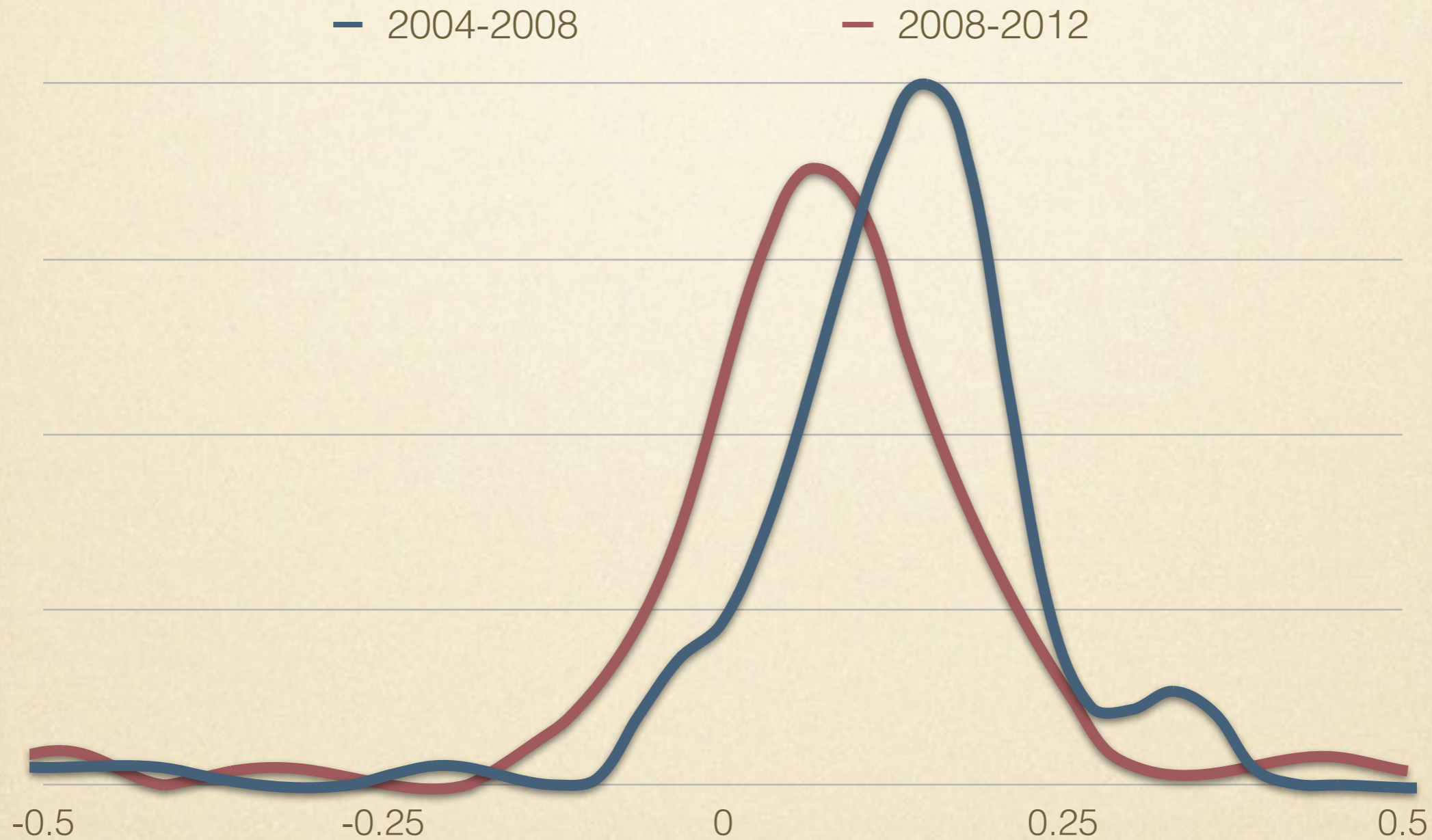


# Spain CPI





# Spain CPI



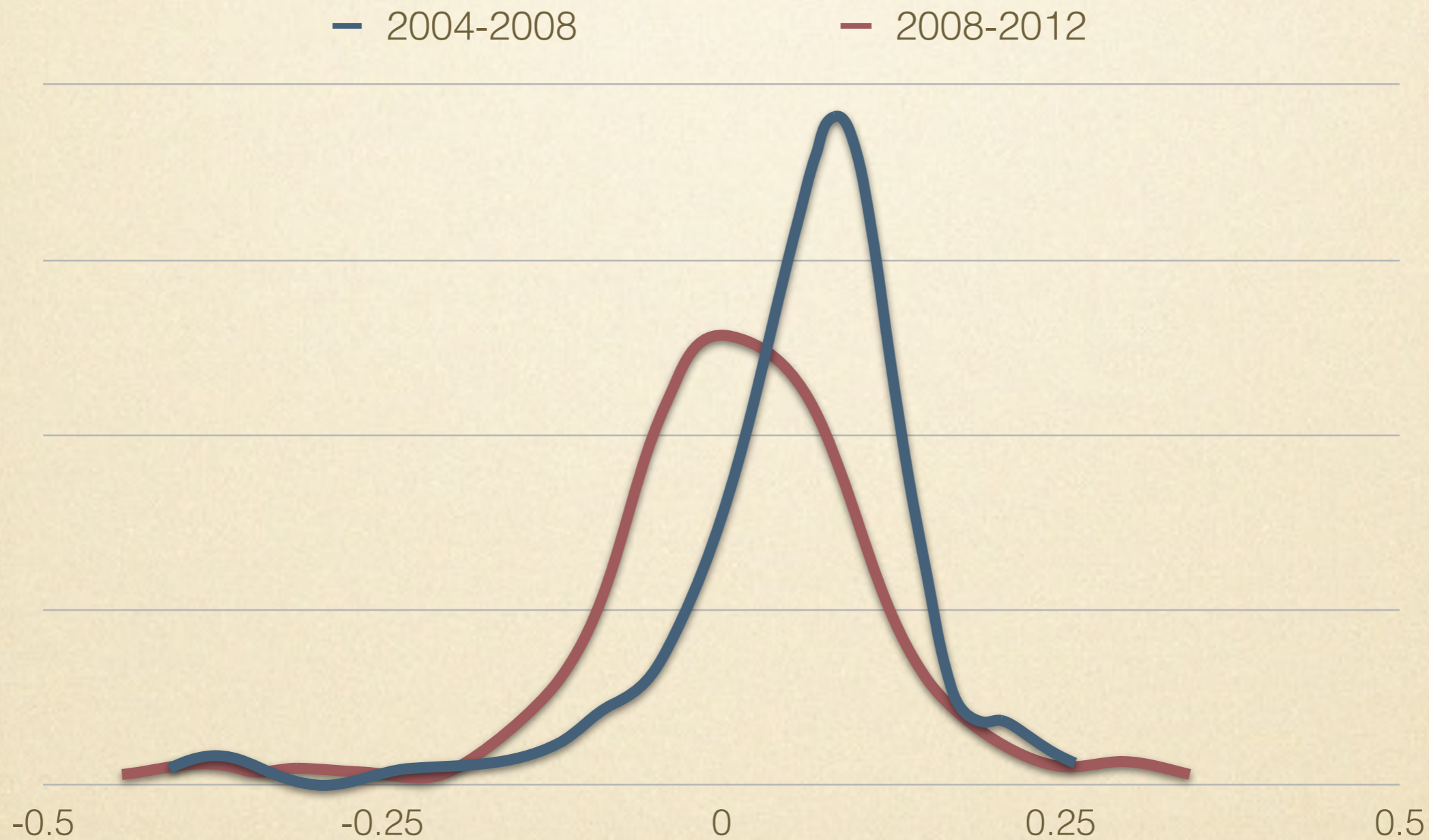
# Spain RER



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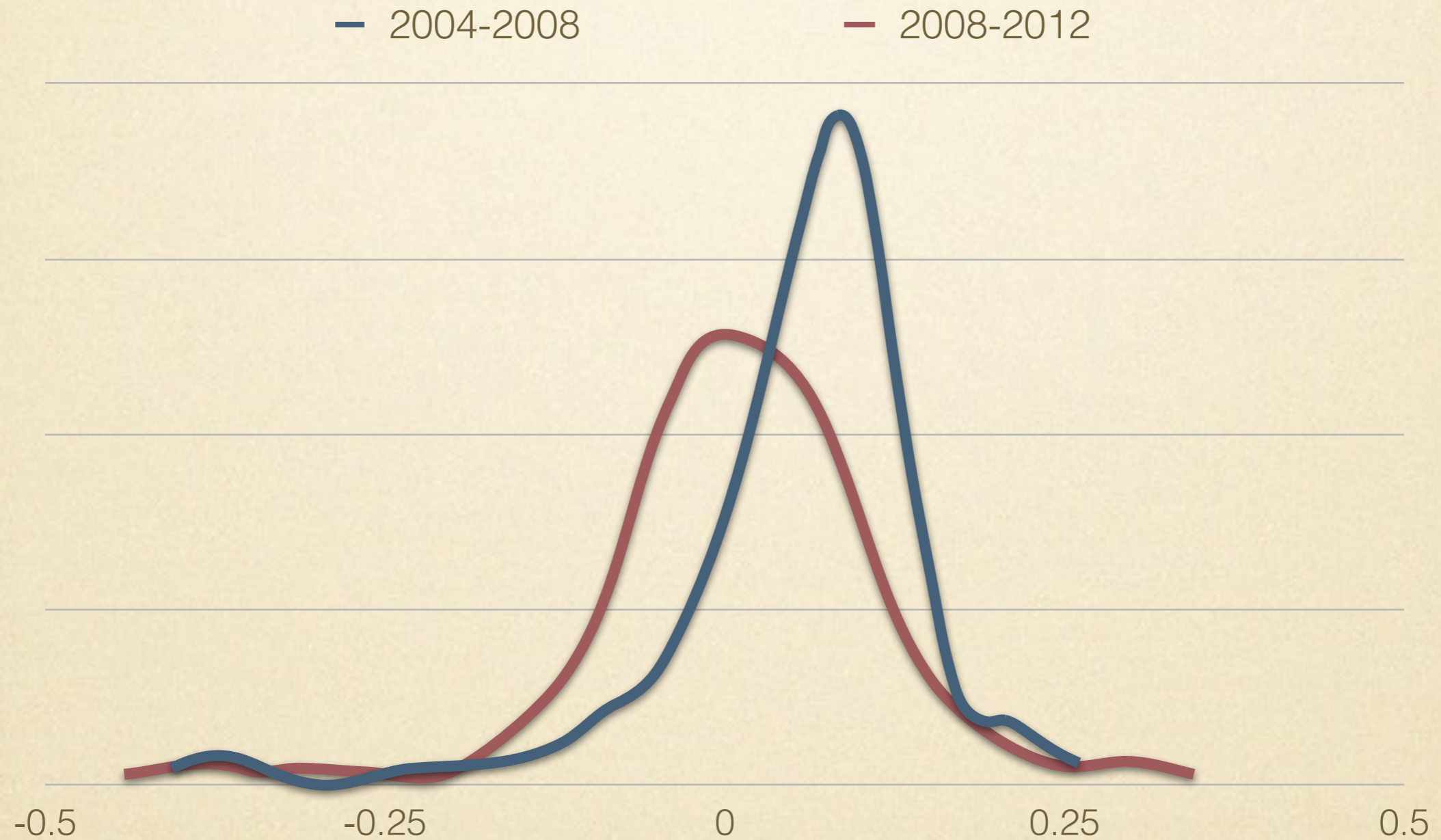


# Spain RER





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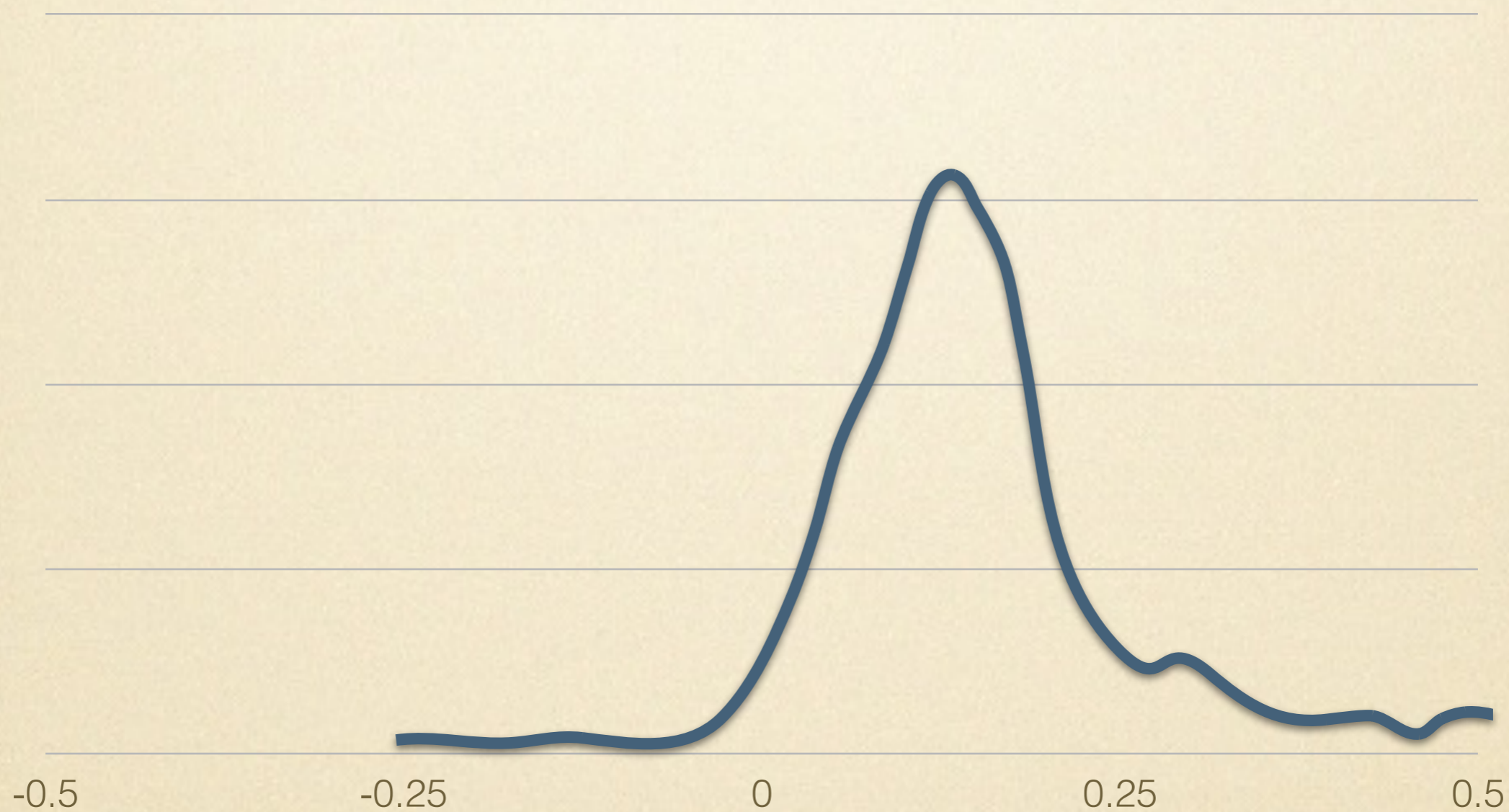
Spain PPI



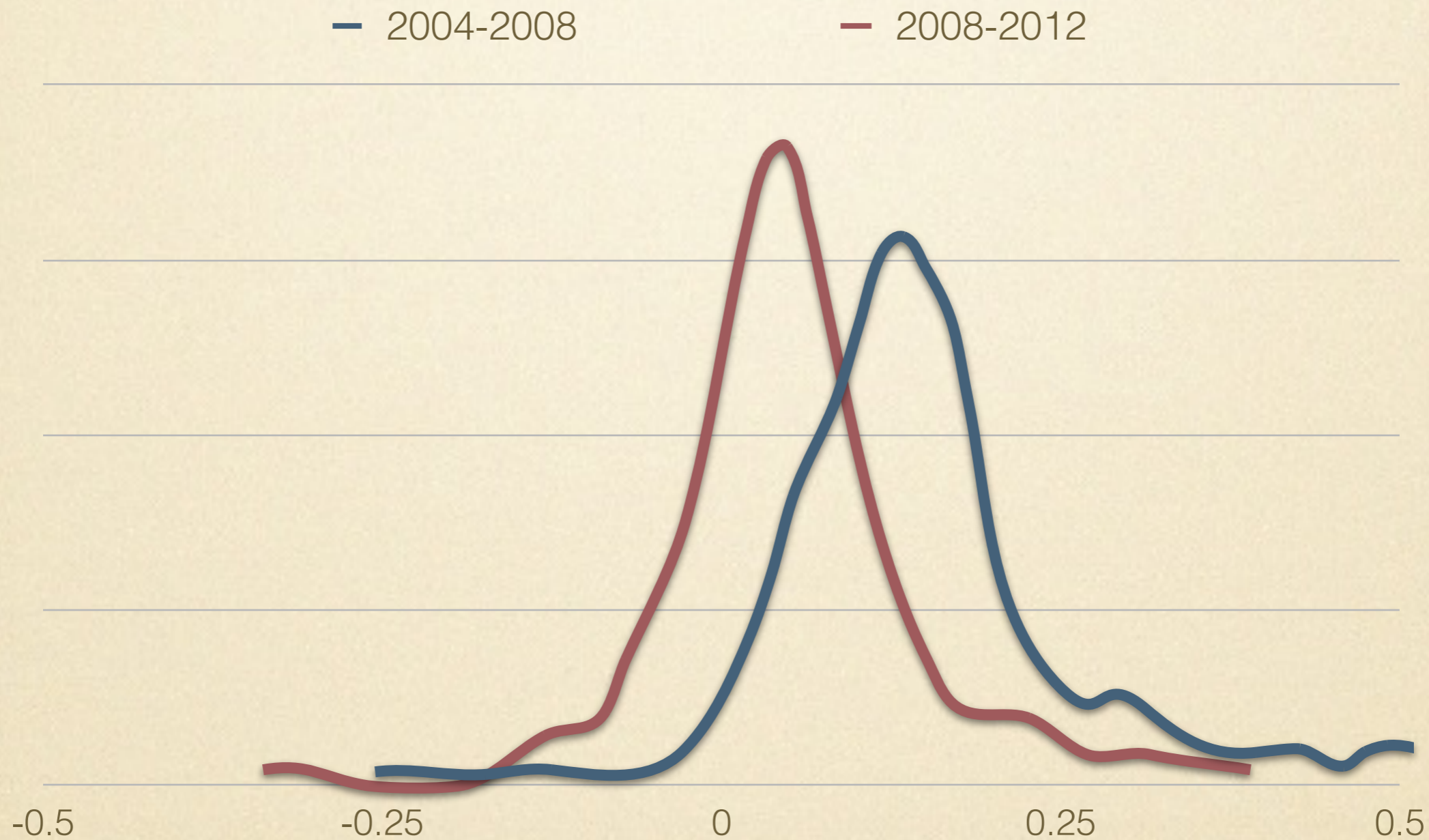
# Spain PPI

— 2004-2008

— 2008-2012

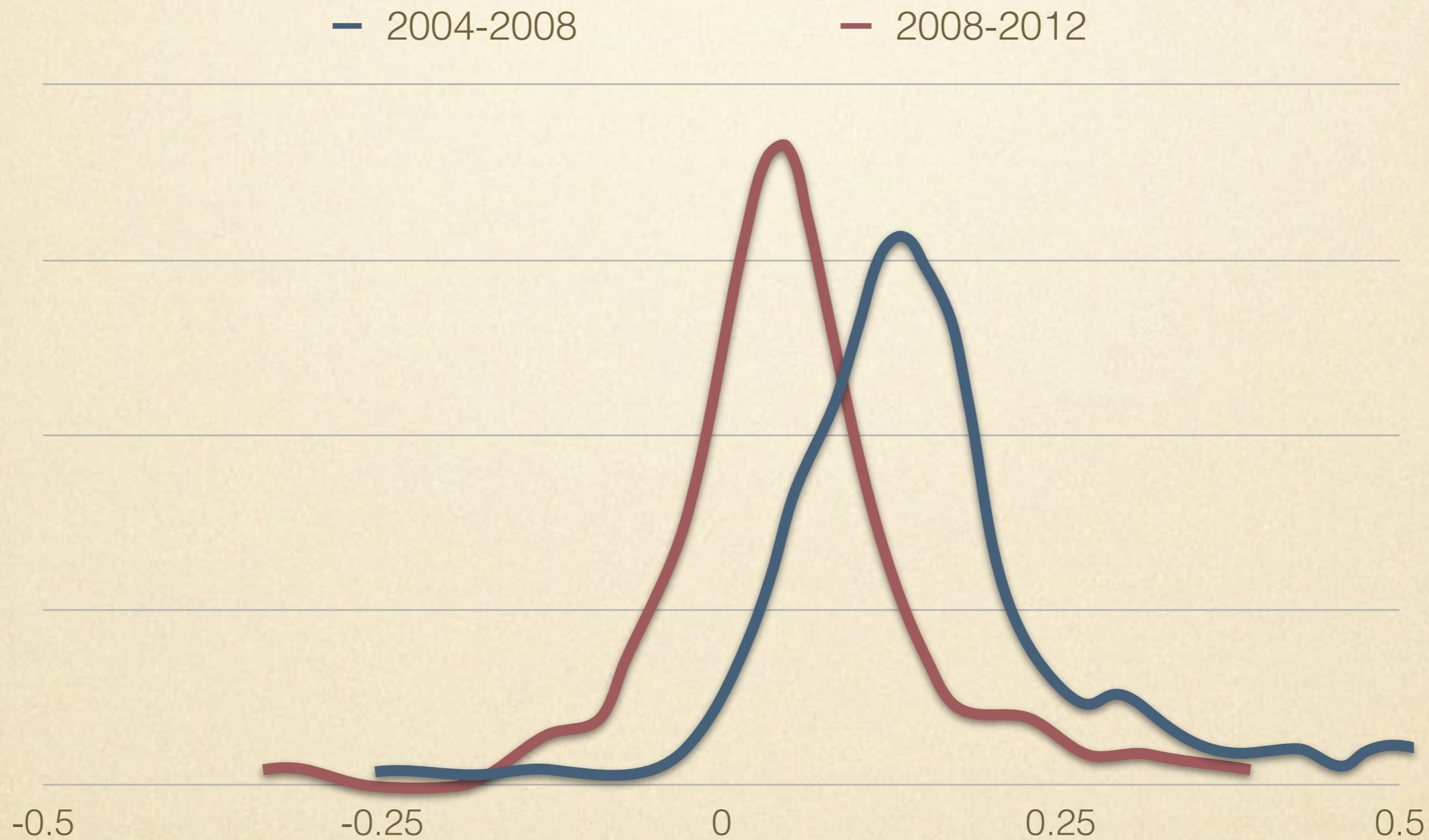


# Spain PPI

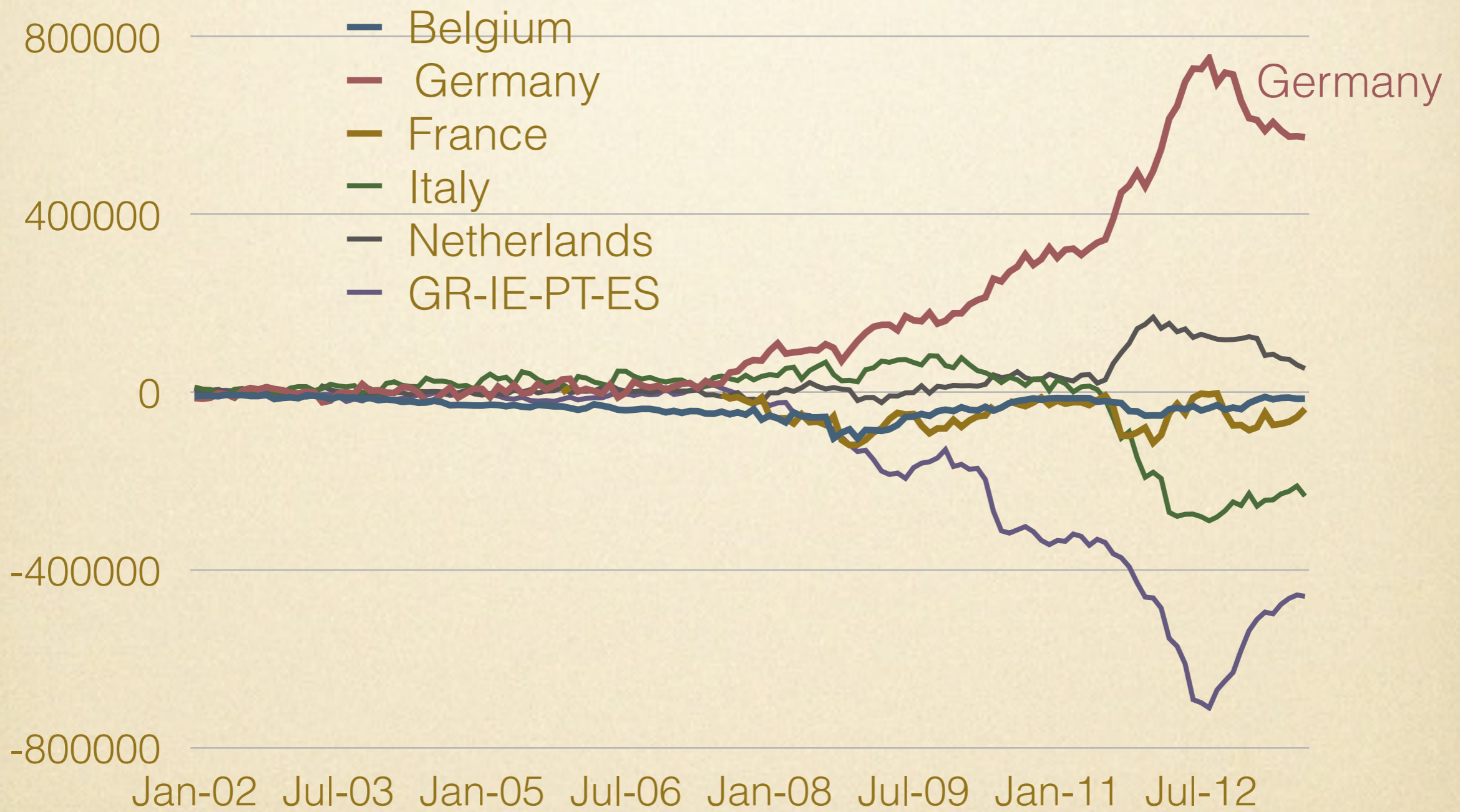




# Spain PPI



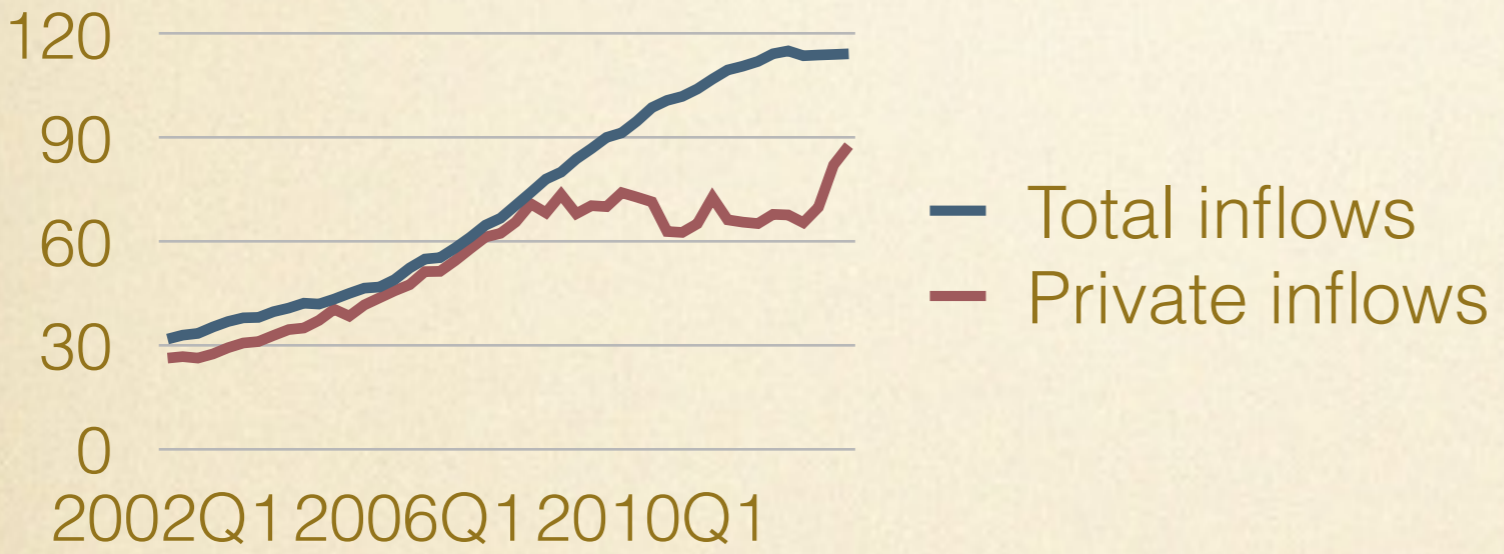
# Europe: Target2



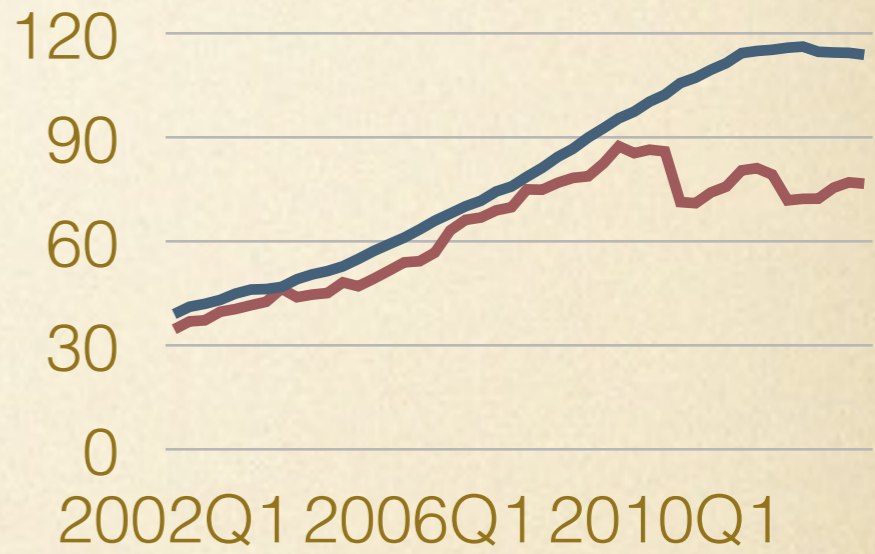


# Capital Flows: Total vs. Private

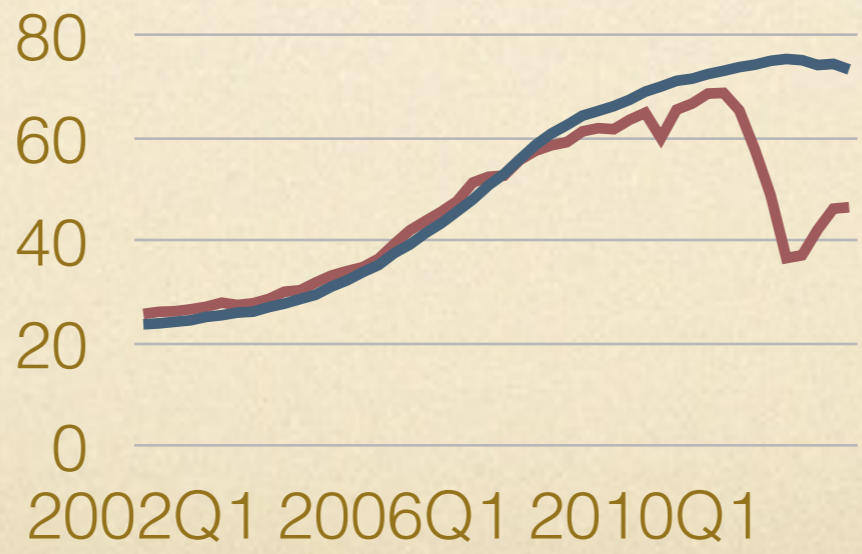
## Greece



## Portugal



## Spain



# Time Deposit Rates





# Lending Rates

