Comments on: "Pass-through of Exchange Rates and Competition between Mexico and China" Paul Bergin and Robert Feenstra

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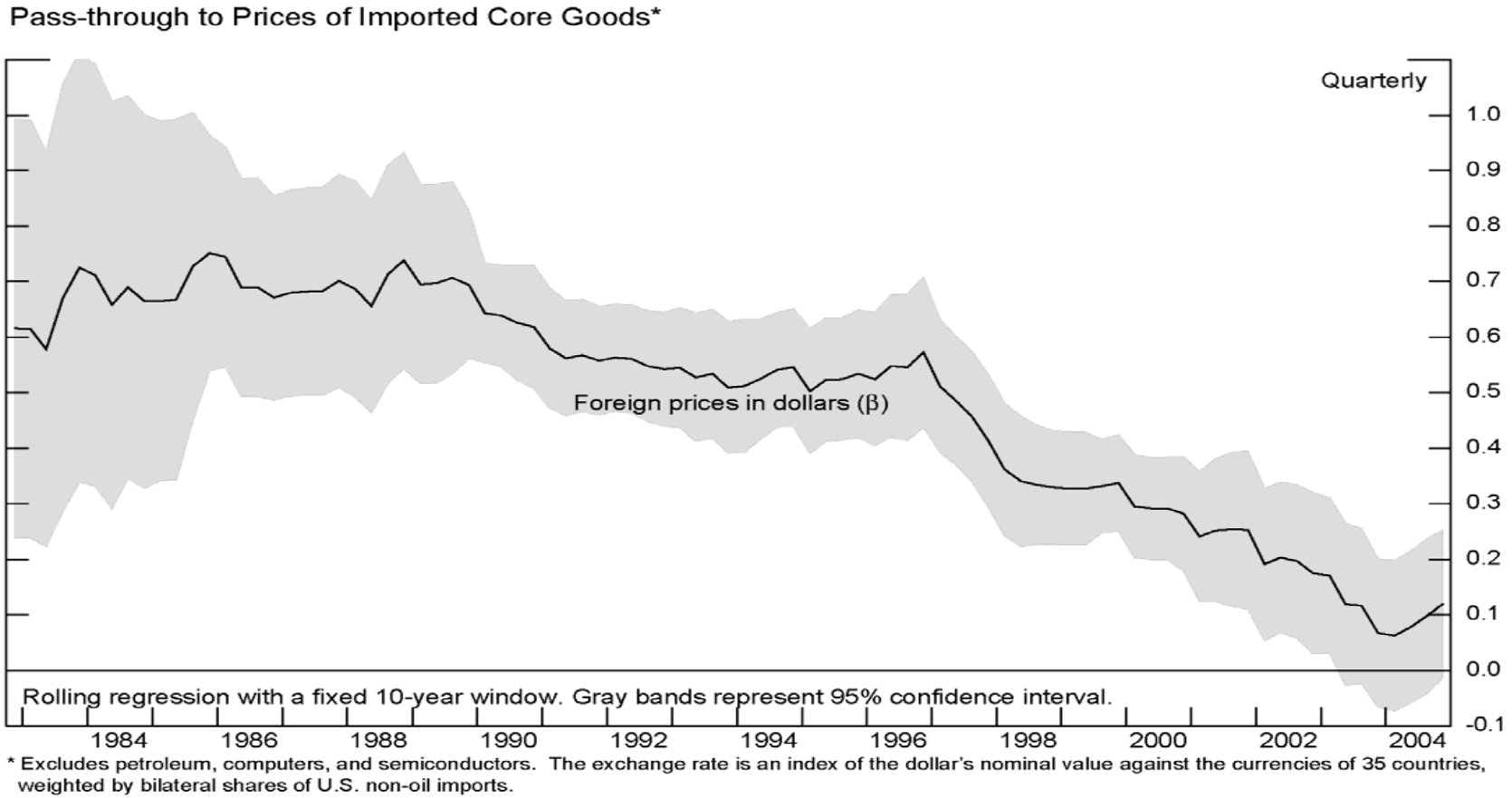
Bergin and Feenstra paper

- Issue of importance to Fed
- Sophisticated theoretical modeling
- Careful empirical research

The Secular Decline in Pass-through to U.S. Import Prices



* Excludes petroleum, computers, and semiconductors. The exchange rate is an index of the dollar's nominal value against the currencies of 35 countries, weighted by bilateral shares of U.S. non-oil imports.

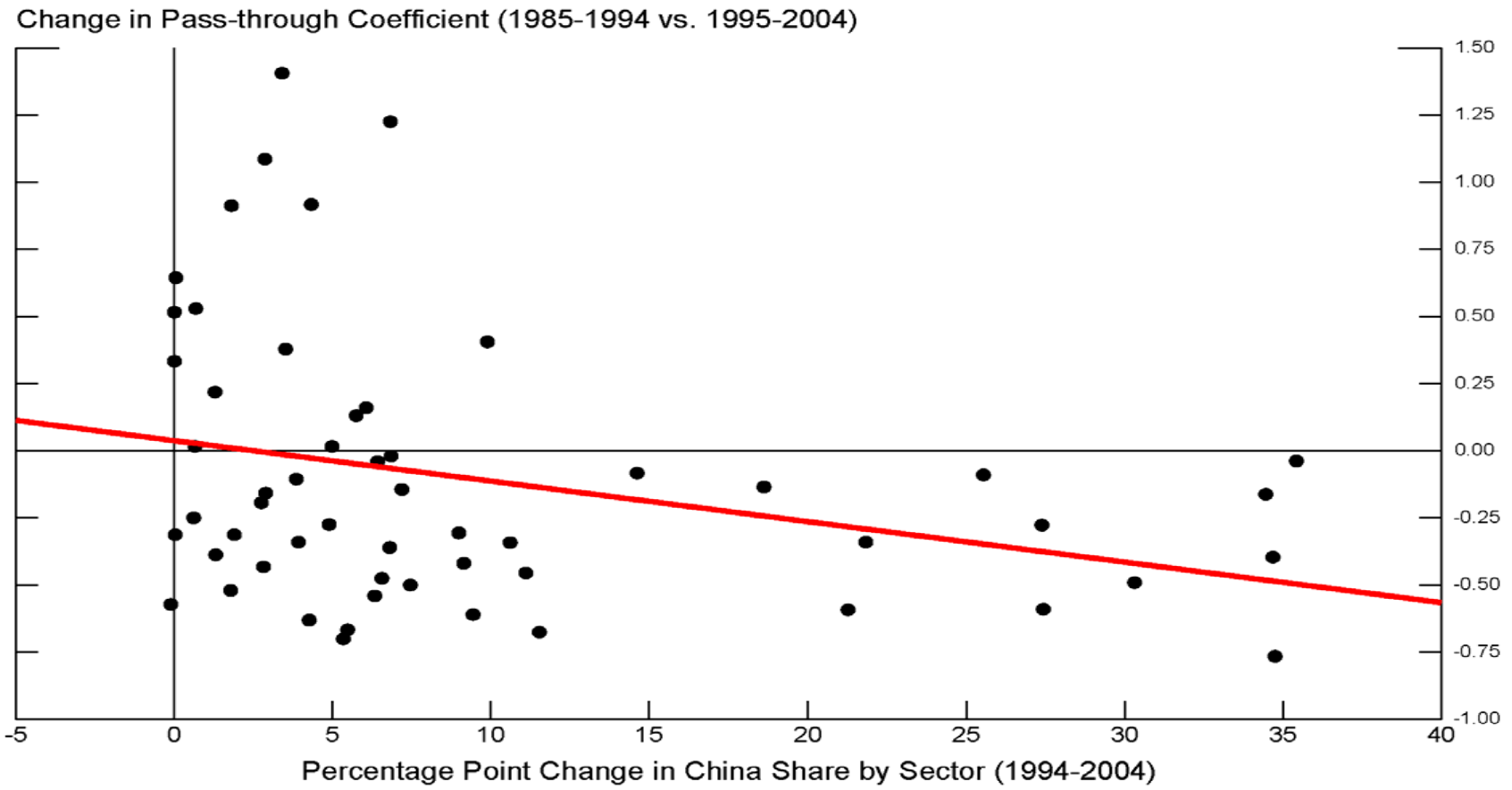
Marazzi, Sheets, and Vigfusson et.al. (2005), "Exchange Rate Pass-through to U.S. Import Prices: Some New Evidence"

Declining Passthrough is Important

Implies changes in the dollar have had declining effect on

- U.S. consumer prices
- Real net exports
- U.S. economic activity

U.S. Non-oil Imports from China and Pass-through



Marazzi, Sheets, and Vigfusson et.al. (2005), “Exchange Rate Pass-through to U.S. Import Prices: Some New Evidence”

Basic setup

- U.S. imports differentiated goods from Mexico and China
- What happens when dollar falls against Mexican peso while remaining fixed against Chinese RMB?

- Sophisticated theoretical modeling

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- Tim Kehoe can do the heavy lifting

- Skip to main theoretical results
- Distinction between bilateral and multilateral exchange rate passthrough

Bilateral Passthrough (BP)

- Imports from Mexico
- BP = $\frac{d\ln(e_x p_x)}{d\ln e_x} = 1 - \frac{N_y}{(2(N_y + N_x) - 1)} > 0$
- Imports from China

$$\frac{\mathrm{d}\ln(\bar{\mathrm{e}}_y \mathrm{p}_y)}{\mathrm{d}\ln \mathrm{e}_x} = \frac{\mathrm{N}_x}{(2\mathrm{N} - 1)} > 0$$

Multilateral Passthrough (MP)

$$MP = \frac{d\ \ln P_M}{d\ \ln E_m} = \frac{Mex.share * d\ \ln P_{mex} + Chi.share * d\ \ln P_{chi}}{Mex.share * d\ \ln E_{\$/mex}}$$

$$= \frac{Mex.share*BP*d\ \ln E_{\$/mex} + Chi.share*d\ \ln P_{chi}}{Mex.share * d\ \ln E_{\$/mex}}$$

- Mex.share = share of Mex imports in total U.S. imports
- BP = bilateral passthrough for Mexican imports

Multilateral Passthrough (MP)

$$MP = \frac{d\ lnP_M}{d\ lnE_m} = \frac{Mex.share * d\ lnP_{mex} + 0}{Mex.share * d\ lnE_{\$/mex}}$$

$$= \frac{Mex.share*BP*d\ lnE_{\$/mex}}{Mex.share * d\ lnE_{\$/mex}} = BP$$

- When $BP < 1$ and $d\ lnP_{chi} = 0$, $MP < 1$

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$$= \frac{Mex.share*BP*d\ \ln E_{\$/mex} + Chi.share*d\ \ln P_{chi}}{Mex.share * d\ \ln E_{\$/mex}}$$

- When $BP < 1$ and $d\ \ln P_{chi} > 0$, MP ? 1

Multilateral Passthrough

$$\frac{d \ln P_m}{d \ln E_m} = 1 - \frac{N_y}{\left(2\left(N_y + N_x\right) - 1\right)}\left(\frac{s_x - s_y}{s_x}\right) < 1 \quad iff \quad s_x > s_y$$

- Sx: per-firm share of Mexico in US imports
- Sy: per-firm share of China in US imports

Multilateral Passthrough

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- Sx: per-firm share of Mexico in US imports
- Sy: per-firm share of China in US imports

- When dollar falls against peso, MP minimized when:
  - Per-firm share of China in US imports is low, so that
  - Overall China share in US imports is low, and thus
  - Multilateral dollar falls by more

Quibbles about Sx, Sy

- Per-firm share of imports
  - Fuzzy concept
  - Data?
- Does per-firm share reflect bias in consumer preferences?
- Do Chinese firms suffer from anti-Chinese bias?

Another quibble: role of US producers

- Dornbusch (1987): Presence of competing U.S. producers is what lowers passthrough
- Bergin-Feenstra model: U.S. firms don't produce the imported good.
- Premise of Bergin-Feenstra paper: rise of China increases number of fixed-exchange-rate producers relative to floating-rate producers
  - This reduces passthrough

	Imports/ U.S. GDP	Imports from China/ U.S. GDP	Other imports/ U.S. GDP
1990	7.5%	0.3%	7.3%
2006	11.8%	2.2%	9.6%
Diff.	4.3%	1.9%	2.3%

Note: imports exclude oil.

Final theoretical quibble

- Bergin-Feenstra model:
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  - China's low cost and competitive threat irrelevant

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- Bergin-Feenstra model:
  - Nothing special about China except peg to dollar
  - China's low cost and competitive threat irrelevant
- Alternative scenario:
  - Heavy Chinese competition
  - … restrain other foreign producers from raising prices when dollar moves against them
  - …induces them to lower prices when dollar moves in their favor
  - Implies asymmetric passthrough, depending on whether dollar rising or falling

Empirical work

- Reasonable
- Carefully implemented
- Result that Chinese competition lowers passthrough is plausible

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Table 2A. Consumer goods, capital goods, autos and chemicals (Enduse 1-4)							
	FE-OLS				PMG		
Exchange rate	0.400**	0.416**	0.448**	0.480**	0.400**	0.430**	0.427**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)
Export price	0.337**	0.328**	0.330**	0.324**	0.195**	0.206**	0.212**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
Share*exch rate		0.025**	-0.401**	-0.945**		-0.598**	-0.618**
		(0.01)	(0.12)	(0.16)		(0.13)	(0.15)
China share			1.87**	4.01**			
			(0.55)	(0.68)			
Import tariff				-0.187			-0.159
				(0.12)			(0.11)
Share*time				-0.017			
				(0.016)			
Share*(1-share)				0.712**			
				(0.17)			
Observations	2,905	2,905	2,905	2,905	2,634	2,634	2,634
R^2 or ϕ	0.641	0.642	0.644	0.647	ϕ=-0.17**	ϕ=-.18**	ϕ=-0.18**

Dependent variable: U.S. Import Price Inflation* (73 end-use categories, 1997-2002)

	Coefficient
China share	0.04
(S.E.)	(0.03)
Change in China Share	-0.79**
(S.E.)	(0.38)
Lagged Import Price Inflation	0.38**
(S.E.)	(0.09)

*Kamin, Marazzi, and Schindler (2006), "The Impact of Chinese Exports on Global Import Prices" *Review of International Economics*.

**Significant at 5% level.

Can empirical work distinguish between different reasons for China's effect on passthrough?

- Bergin-Feenstra:
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- Bergin-Feenstra:
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- Test 1 – add another explanatory variable:

  [change in exchange rate]*[import share of other countries with pegs to dollar]

  - If Bergin-Feenstra are right, coefficient on that variable should be same as coefficient on:

    [change in exchange rate]*[China import share]

Can empirical work distinguish between different reasons for China's effect on passthrough?

- Bergin-Feenstra:
  - Effect only from fixed peg to dollar
- Alternative model:
  - Reflects China's competitive, low-cost position
- Test 2: Take

  [change in exchange rate]*[China import share]

  and separate into two different variables:
  - one for dollar appreciations
  - one for dollar depreciations

  - Bergin-Feenstra: coefficient negative for both
  - Alternative: coefficient 0 for appreciations, negative for depreciations

Conclusion

- Interesting, careful, rigorous paper
- Not the final word on China and passthrough
- Desirable extensions:
  - Role of U.S. producers
  - Role of China's low-cost competitive effect