

Discussion of “Endogenous Trade
Participation with Incomplete Exchange Rate
Pass-Through” by Yuko Imura

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5th BoC-ECB Workshop, Frankfurt, June 2013

Last paper of conference, valuable contribution by recent PhD. (Originally chapter of very interesting dissertation)

Representative of state-of-art frontier in open-economy IRBC/DSGE models.

While policy evaluation not a primary objective, easy to see how model can be expanded in that direction

Brings together two areas of research:

- Extensive margin. Entry/continuation costs in export market induce endogenous, state-dependent entry/exit decisions among exporters
- Nominal rigidities. Individual firms reset their nominal prices infrequently

Not first paper to focus on interaction between these two elements, but pushes forward literature on pass-through in some important dimensions

Let's review basic intuition

Firms are more likely to export if

- higher current productivity makes them more willing to incur trade costs
- their prices are closer to a forward-looking target price consistent with productivity and the economy's aggregate state.

Beachhead effect revisited (Baldwin 1988, Baldwin Krugman 1989, Dixit 1989...)

Once a forward-looking firm has entered export market, exit may be costly (re-entering export market in the future will involve another payment of the entry cost)

So large fraction of current exporters choose to continue exporting in the next period, even if they face current losses.

Generates persistence in firms' export decisions.

Also, incumbent exporters unable to adjust prices take into account both productivity and price for their continuation decision.

” In any given period, the number and types of firms choosing to export and their effective prices influence the aggregate speed of adjustment of prices to exchange rate movements, and may have implications for the degree of pass-through.”

Pass-through redux

In the data short-run pass-through in the U.S. around 25%

With price rigidities and Local Currency Pricing, short-run pass-through is zero until a producer adjusts its price.

But with endogenous trade participation, exporters with older prices are more likely to exit than those with newer prices. So frequency of price adjustment among exporters is higher, expect more pass-through.

Turns out that export decisions are primarily influenced by productivity and trade cost differences rather than price-age differences.

Bottom line: incomplete exchange rate pass-through arising from price rigidity survives additional realism of exporter entry and exit.

In the paper, complete dichotomy between frictions on real side of economy and smoothness on the financial side...

Assumption of complete international markets interacted with no shocks besides productivity and money growth.

By post-Great-Recession standards, this is rather conservative. E.g., even remaining well inside IRBC paradigm, Perri-Quadrini argue that country-specific productivity shocks are unable to generate enough GDP comovement across countries unless they are internationally correlated.

Yet, quite interestingly, sticky and entry model yields realistic international comovements.

One could argue these are model refinements rather than innovative, fresh research directions

Where is key improvement over existing literature?

A look at Table 3

Table 3: Business cycle moments

	Data	Sticky		Flexible	
		(1) EE	(2) No EE	(3) EE	(4) No EE
Standard deviations (in %)					
GDP	1.42	1.42	1.49	1.33	1.32
Standard deviations relative to GDP					
Consumption	0.83	0.43	0.41	0.54	0.54
Investment	2.73	4.88	4.85	3.52	3.45
Labor	0.65	1.26	1.40	0.42	0.44
Net exports/GDP	0.15	0.20	0.16	0.15	0.12
Correlations with GDP					
Consumption	0.84	0.87	0.86	0.94	0.93
Investment	0.94	0.94	0.96	0.97	0.97
Labor	0.86	0.79	0.82	0.97	0.96
Net exports/GDP	-0.31	-0.35	-0.38	-0.26	-0.26
Autocorrelations					
GDP	0.86	0.66	0.63	0.69	0.69
Consumption	0.88	0.80	0.80	0.73	0.73
Investment	0.88	0.50	0.50	0.66	0.66
Labor	0.90	0.40	0.40	0.66	0.65
International correlations					
GDP	0.41	0.34	0.39	0.06	0.03
Consumption	0.21	0.56	0.54	0.65	0.64
Investment	0.18	0.17	0.30	-0.32	-0.32
Labor	0.27	0.46	0.54	-0.31	-0.40

In the data:

cross-country correlation of investment = .18

cross-country correlation of employment = .27

A benchmark flex price IRBC model without entry (column 4) yields:

cross-country correlation of investment = -.32

cross-country correlation of employment = -.40

No good.

Maybe entry helps....

Not quite

A flex price model with entry (column 3) yields:

cross-country correlation of investment = $-.32$ (same as above)

cross-country correlation of employment = $-.31$ (slightly better, but still off)

So flex prices are bad... Let's try sticky without entry (column 2)

cross-country correlation of investment = .30 (way too much!)

cross-country correlation of employment = .54 (off in the opposite direction!)

That's why you need both sticky *and* entry (column 1)

cross-country correlation of investment = .17 (very good!)

cross-country correlation of employment = .46 (still high, but closer to data)

In sum,

- In standard two-country models with complete asset markets, cross-country correlations of investment and employment are negative while reverse is true in the data
- To resolve the puzzle, *while retaining complete markets*, allow some degree of microeconomic-level nominal price rigidity
- Absent entry and exit, a relatively minimal degree of micro-level price rigidity generates strong comovement
- With extensive margin export decisions, these positive correlations are weakened, thereby improving quantitative performance of the model.

Notice complete markets are retained.

Bug or feature?

After all, with incomplete markets (endogenous or not) cross-country correlations have correct sign (Kehoe and Perri 2002, Heathcote and Perri 2002)

Back to Table 3

Compare column 3 (flex price, no entry) and 4 (flex price, entry)

Most business cycle moments are very similar

You may conclude that introducing entry costs has little effects on net export dynamics and other international business cycle moments (precisely conclusion by Alessandria and Choi 2007)

Maybe this is because working assumption (flex prices)

According to author:

” This is not the case for some macroeconomic aggregates when price rigidities are introduced. In addition to the cross-country correlations discussed above, introduction of entry/exit mechanism has more distinct effects on the impulse responses of the export price index and total exports following an aggregate productivity shock”

Ok. But if we compare column 1 (sticky price, no entry) and 2 (sticky price, entry)...

Well, frankly not much of a difference...

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More on Table 3

Consumption correlation across countries:

in the data = 0.21

in the benchmark IRBC model (column 4) = .64

in the sticky and entry model (column 1) = .56.

Closer to data but still too high.

Consumption-output anomaly does not disappear

GDP correlation across countries:

in the data = 0.41

in the benchmark IRBC model = .03 (way too low)

in the sticky and entry model = .34 (nice, but...).

... but in the model consumption still more correlated across countries than output.

On net exports and business cycles

Overwhelming evidence on counter-cyclical behavior of net exports.

In fact, correlation net exports/GDP and GDP:

In the data = -0.31

In the sticky and entry model = -0.35

Cool. But.

But countercyclical net exports means absorption more volatile than output.

Just as a reminder:

In the absence of investment, consumption smoothing mechanism leads to procyclical net exports.

Output up, Consumption constant, Saving up, Investment constant, Net exports
= Saving minus Investment up

Oops.

Highly pro-cyclical investment may do the trick.

Problem: in the model investment is **way** more volatile than output

Standard deviation of investment relative to GDP

In the data = 2.73

In the benchmark IRBC model = 3.45

In the sticky and entry model = 4.88

To match business cycle statistics, you also need consumption variability to be large enough (around 80% of output volatility).

Instead:

consumption too smooth in benchmark IRBC model (around 50% of output volatility)

consumption **way** too smooth in sticky plus entry model (43%).

Not too good. Need some mechanism to generate enough consumption variability.

Maybe Raffo 2008: GHH preferences do the trick.

Conclusion

Non-negligible contribution to the IRBC/DSGE literature with firms' entry/exit.
Successful revisitation of issues in exchange rate pass-through economics

Price rigidities confirmed as essential business cycle frictions, extensive margin emerges as qualitatively less crucial but quantitatively significant. Problems and puzzles remain...

Next steps: incomplete markets and monetary transmission. Analytical framework begs for extensions to trade/current account adjustment scenarios and policy evaluation exercises.