Do Free Trade Agreements Increase the New Goods Margin? Evidence from Korea

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Two possible margins of growth in trade

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- Intensive margin: growth in previously traded goods
- Extensive margin: growth in goods not previously traded
- Recent studies have identified the importance of extensive margin during periods of trade liberalization

Kehoe and Ruhl (2013, JPE)

- Consider an alternative definition
  - Intensive margin: growth in goods previously traded in "large" amounts
  - Extensive margin: growth in goods previously traded in "small" (or zero) amounts (labelled "least-traded goods")

- They examine the importance of these margins at the product level and find strong correlation between the initial trade composition and its post-liberalization growth. (eg. NAFTA)

What this paper does

- Use Kehoe and Ruhl's methodology to see how much of the growth in Korea's trade (1995–2013) is due to increased trade in these least-traded goods
- Compare FTA partners versus non-FTA partners
- Identify potential drivers – tariff barriers and relative prices

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- Compared to non-FTA partners, however, the growth is stronger with exports to non-FTA partners than exports to FTA partners. For imports, the growth is stronger from FTA partners.
- Removal of high tariff barriers through an FTA in the least-traded sectors may be associated with the growth in new goods margin in imports
- Relative prices of the least-traded goods fell for most countries that we consider.

Set-Up

- Sample period: 1995 – 2013
- FTA partners between 2004 and 2011: Chile, Singapore, EFTA, ASEAN, India, EU, Peru
- Non-FTA partners: China, Japan, the US
- Analyze both exports and imports.
- Disaggregation at HS code 6 digit level (around 5000 products)

Evidence of Strong Trade Growth Post-FTA

FTA Partner	Year of FTA	Average Growth Rate (pre-FTA years)	(post-FTA years)
Chile	2004	-0.6%	16.3%
Singapore	2006	3.7%	12.5%
EFTA	2006	1.0%	14.9%
ASEAN	2008	8.1%	11.1%
India	2010	14.1%	9.6%
EU	2011	6.4%	4.5%
Peru	2011	12.8%	20.0%
Average	–	6.5%	12.7%

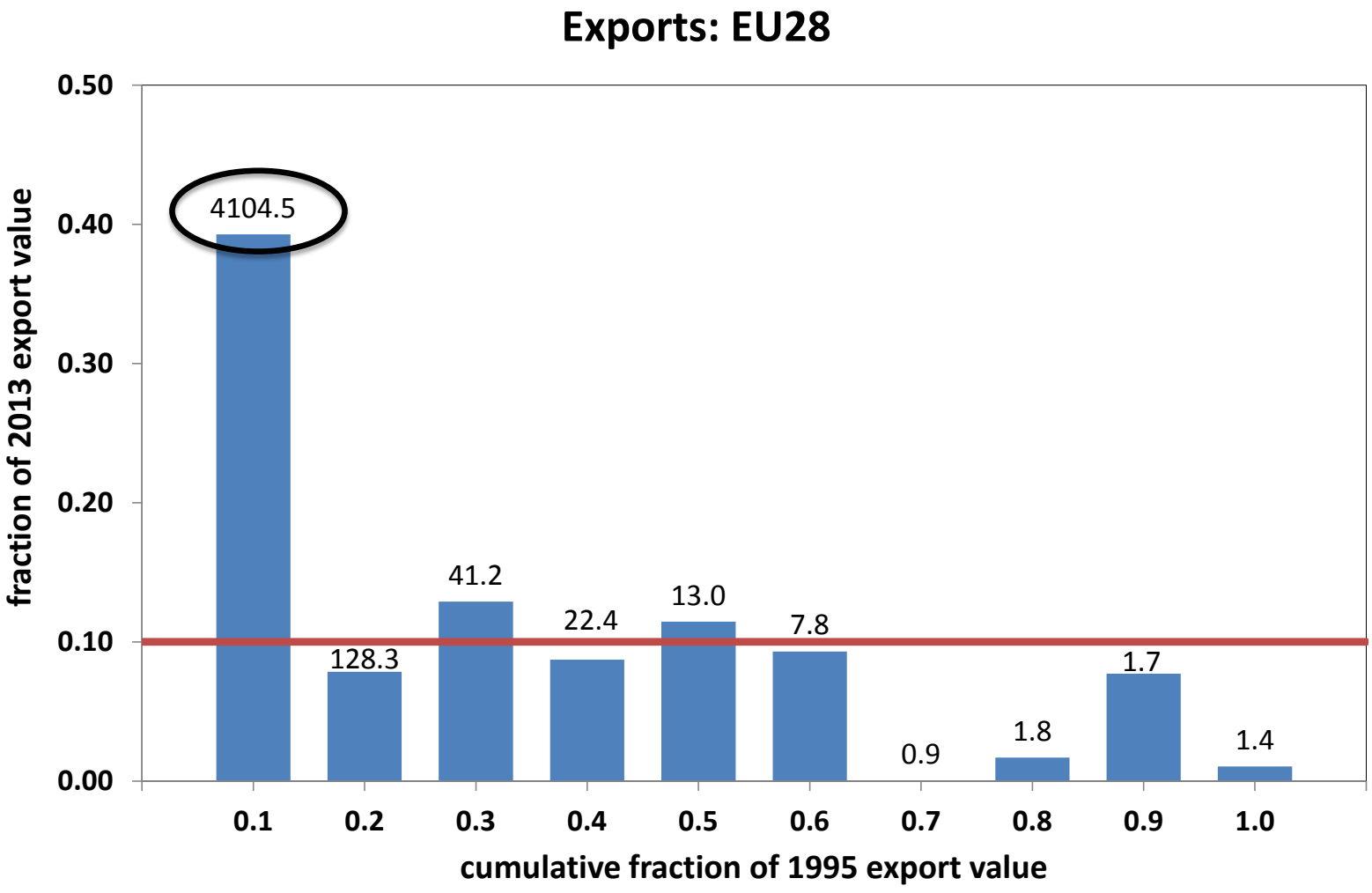
Trade Growth Comparison

Partner	Trade Share in 1995	Average Annual Growth Rate (1995–2004)	(2004–2013)
FTA partners	27.3%	6.0%	9.7%
USA + China + Japan	46.5%	6.8%	7.7%
Rest of the World	26.2%	8.2%	11.5%

Kehoe and Ruhl's Extensive Margin Methodology

- Look at bilateral trade data at the product level for each country-pair and trade flow across the whole sample period.
  - Rank each product from lowest value to highest value based on average over first 3 years
  - Create bins of products with each bin accounts for 10 percent of total exports. E.g. the first bin contains all the products that constitute bottom 10% of total exports in 1995. ("least-traded goods")
  - Compute each set's share of exports in 2013
- Refer to growth from codes in the first bin (least-traded products) as extensive margin growth (or "new goods margin").

Example - Korea's Exports to EU28



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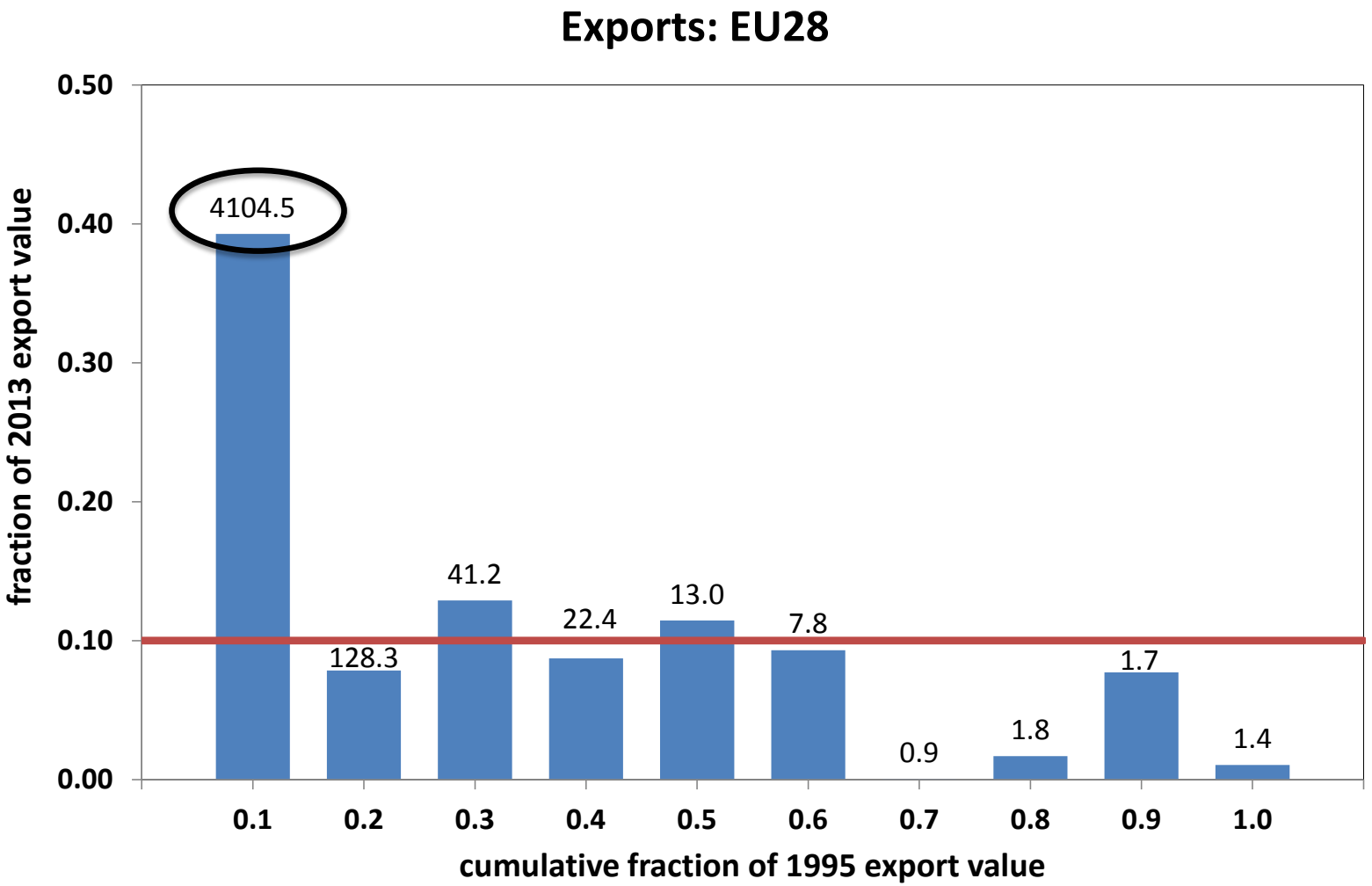
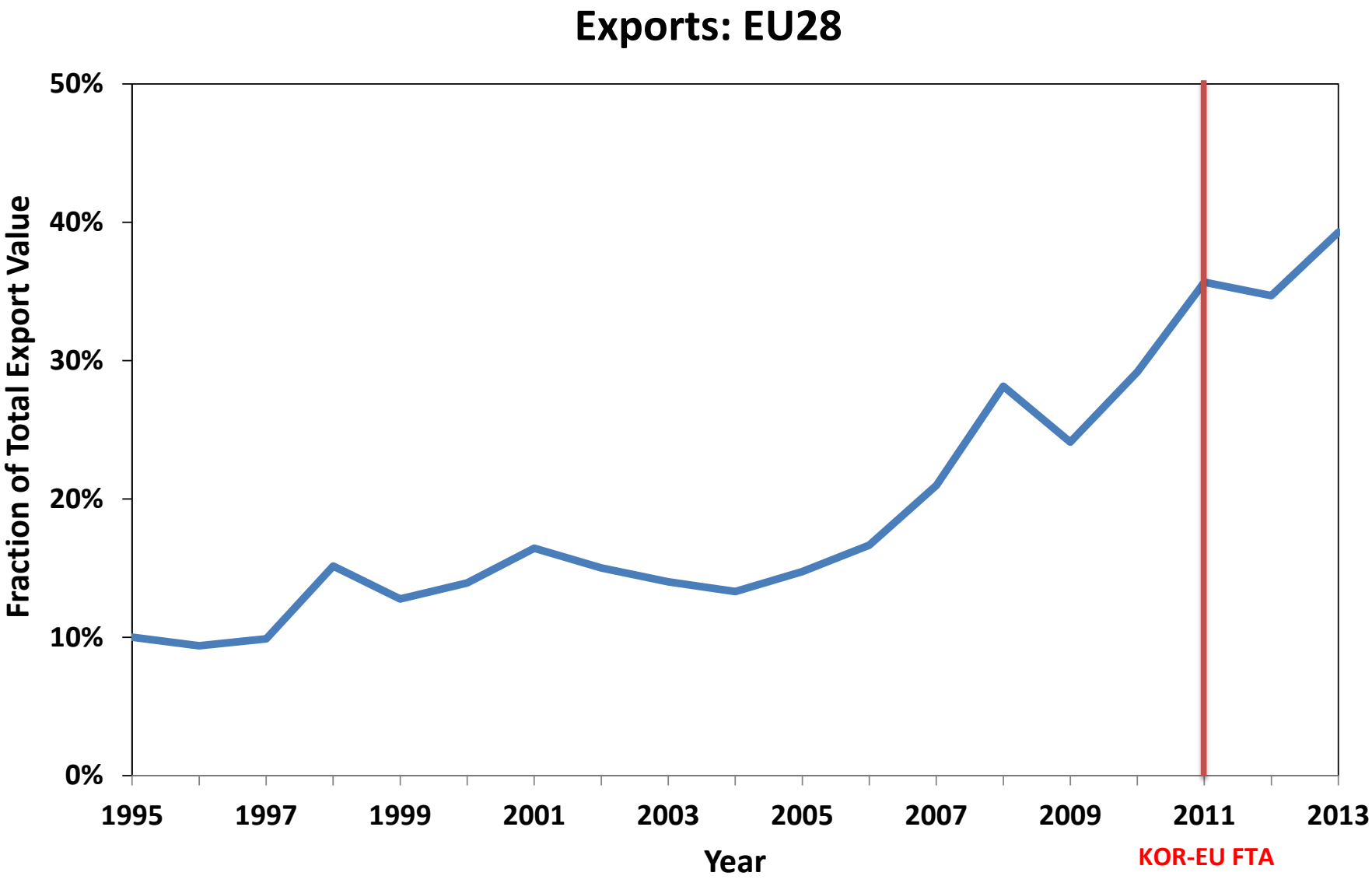


- Least-traded goods made up of 4104 products.
- Increases share from 10% in 1995 to around 40% in 2013.

Korea's Least-Traded Exports to EU28 (1995–2013)



Least-Traded Goods

- The bin that contains the least-traded goods takes almost 90% of all goods
- However, most of the least-traded goods are traded in low volumes.
- One tenth of the least-traded goods account for 90% of the growth by all of the least-traded goods.
- I call these goods "top gainers" of the least-traded goods.

Share of Least-Traded Exports in 2013

Partner	LTG	Top Gainers
Chile	31.9	27.8
Singapore	11.1	8.0
EFTA	31.5	28.1
ASEAN	18.6	16.3
India	45.2	43.8
EU 28	39.3	35.1
Peru	38.1	35.9
Weighted Mean (FTA)	**28.3**	**24.9**

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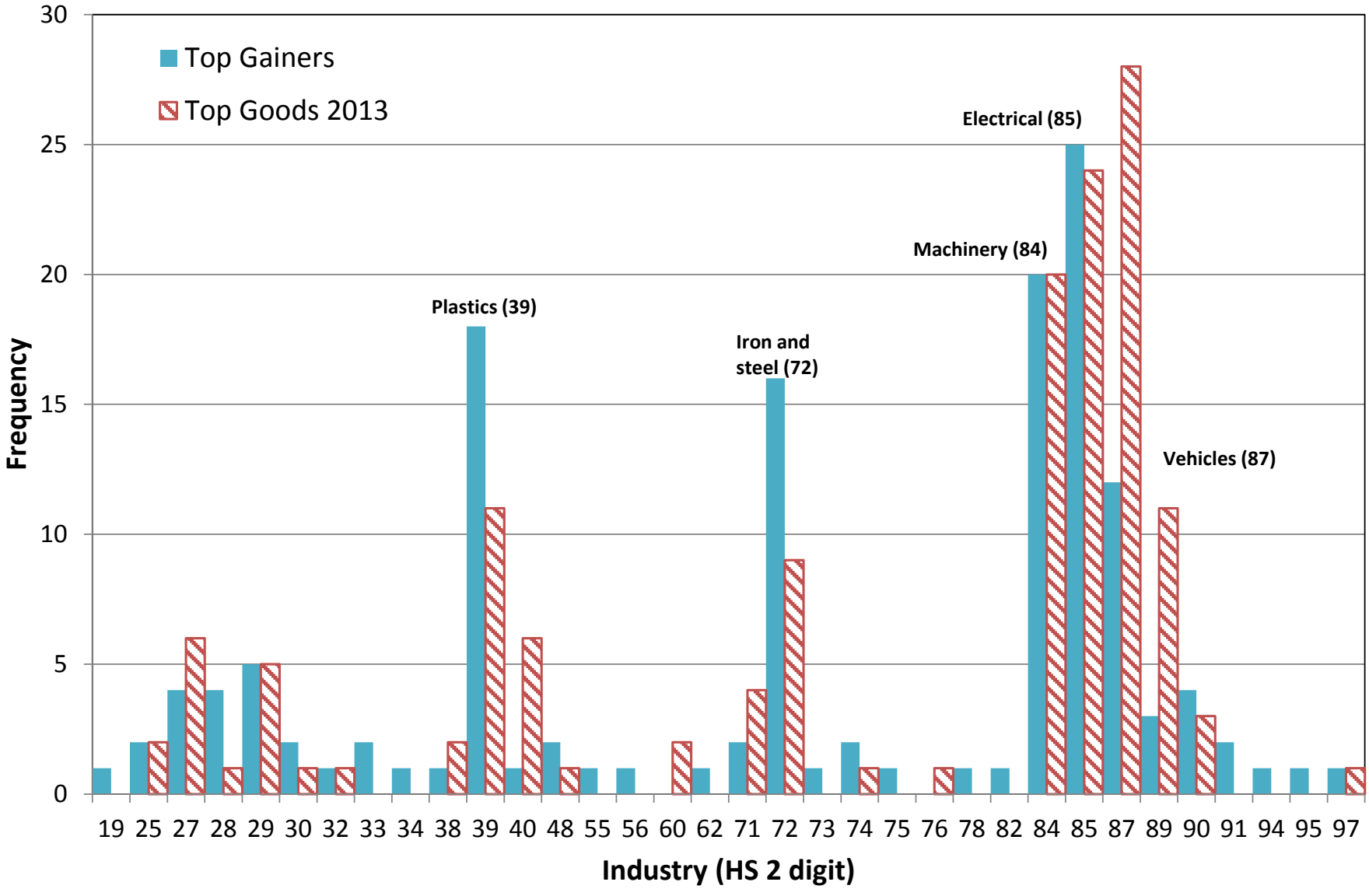
EU 28	39.3	35.1
Peru	38.1	35.9
Weighted Mean (FTA)	**28.3**	**24.9**
USA	35.4	31.1
China	42.1	41.2
Japan	33.4	29.7
Weighted Mean (Non-FTA)	**35.9**	**32.5**

Industry Distribution of Least-Traded Exports



Least-Traded Exports (1995–2013) Summary

- Share of the least-traded exports to the FTA countries grows from 10% to around 28%.
- This growth is mainly driven by a small subset of goods ("top gainers").
- Industry distribution shows overlap in areas of extensive and intensive margin of export growth.
- For non-FTA countries, share of least-traded exports grows even larger from 10% to 36%.

Share of Least-Traded Imports in 2013

Partner	LTG	Top Gainers
Chile	26.6	20.2
Singapore	25.4	23.2
EFTA	30.0	28.1
ASEAN	28.9	25.9
India	27.0	23.8
EU 28	23.9	21.9
Peru	69.3	68.1
Weighted Mean (FTA)	**25.9**	**23.5**

Share of Least-Traded Imports in 2013

Partner	LTG	Top Gainers
Chile	26.6	20.2
Singapore	25.4	23.2
EFTA	30.0	28.1
ASEAN	28.9	25.9
India	27.0	23.8
EU 28	23.9	21.9
Peru	69.3	68.1
Weighted Mean (FTA)	**25.9**	**23.5**
USA	21.7	16.0
China	46.5	45.4
Japan	21.5	18.3
Weighted Mean (Non-FTA)	**24.2**	**20.2**

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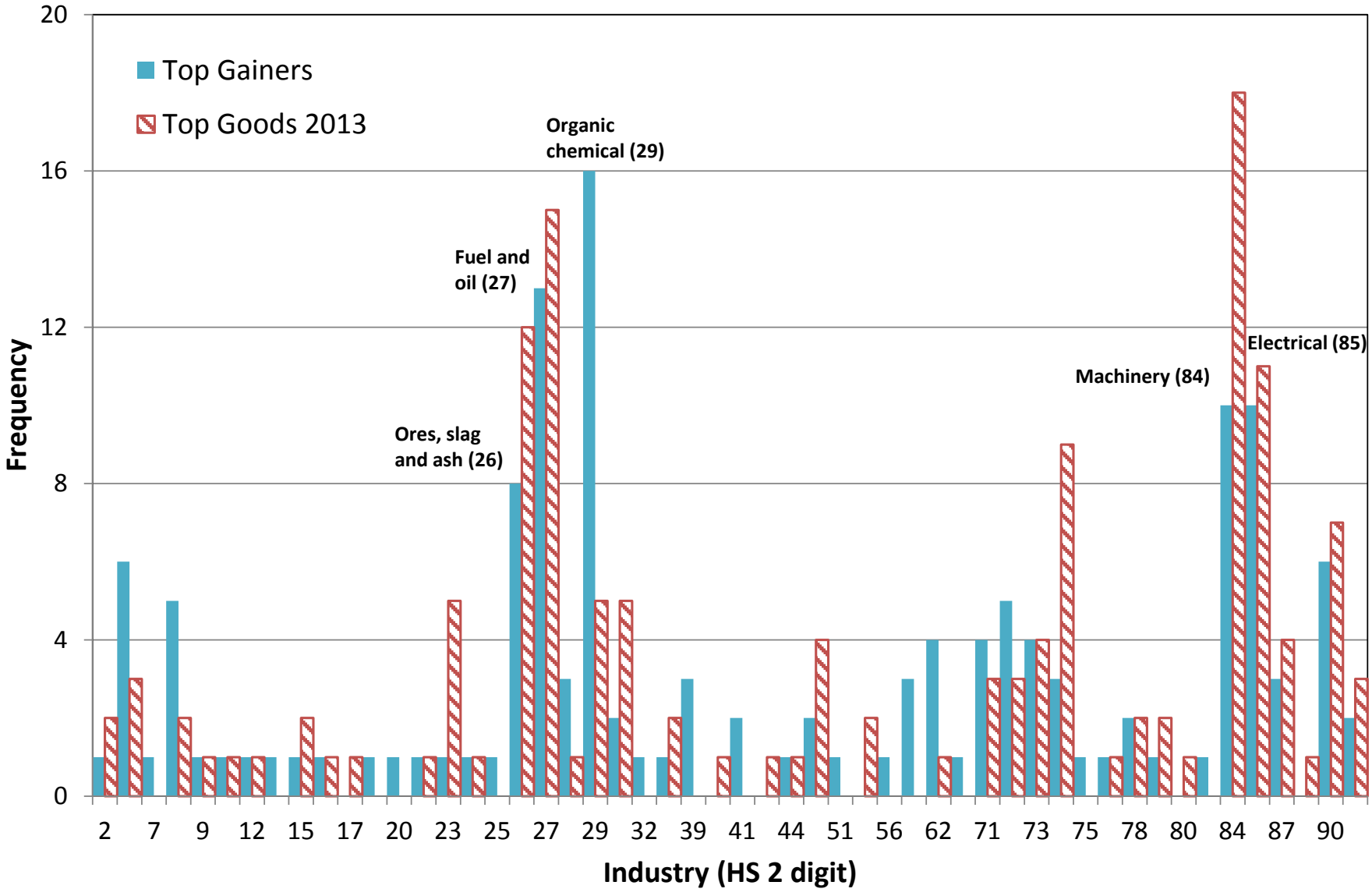

Least-Traded Imports (1995–2013) Summary

- Share of the least-traded exports to the FTA countries grows from 10% to around 26%.
- This growth is mainly driven by the top gainers
- Industry distribution shows some overlap in areas of extensive and intensive margin of import growth
- For non-FTA countries, share of least-traded exports grows slightly less from 10% to 24%.

Potential Driving Forces

- Were tariff barriers high in the least-traded sectors? Can the tariff differentials explain the different outcome between imports and exports?

- Did the prices of least-traded goods relative to other types of goods fall? Did relative prices move differently between imports and exports?

Role of Tariffs

- On average, Korean tariff rates are higher than its FTA partners.
- From our data, Korean tariffs on imports were generally higher on the least-traded goods than on other goods.

Origin of Imports	Weighted Average (%)		
	(Top Gainer)	(Least-traded)	(Others)
Chile	10.4	4.2	3.7
Singapore	5.6	5.9	4.4
EFTA	5.8	6.8	6.4
ASEAN	9.2	8.2	5.7
India	10.4	7.7	6.8
EU 28	7.4	7.5	8.9
Peru	5.1	8.4	3.6
Average	**7.7**	**7.0**	**5.6**

Role of Tariffs

- While import tariffs are mostly higher on the least-traded goods, such patterns are weaker on the export tariffs.

Export Destinations	Weighted Average (%)		
	(Top Gainer)	(Least-traded)	(Others)
Chile	9.0	9.0	9.0
Singapore	0.0	0.0	0.0
EFTA	1.2	0.8	0.5
ASEAN	6.4	6.6	5.0
India	29.5	30.3	27.5
EU 28	3.2	3.9	3.4
Peru	12.2	13.1	13.4
Average	**8.8**	**9.1**	**8.4**

Simple logit regression (Debaere and Mostashari, 2012)

- $Y_{i,j,k}$ equals unity if the trade value is 0 in 1995 but positive in 2013 for exports of good k from country i to j and zero otherwise.
- Regress $Y_{i,j,k}$ on $\Delta \log(1 + \tau_{j,k})$

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Partner	Import		Export	
	Coefficient	S.E.	Coefficient	S.E.
Chile	1.265	0.440 ***	–	–
Singapore	0.894	0.275 ***	–	–
EFTA	0.084	0.375	-1.790	1.054
ASEAN	0.619	0.209 ***	0.365	0.758
India	0.417	0.223 *	1.505	0.513***
EU 28	2.236	0.247 ***	-0.583	1.076
Peru	1.029	0.371 ***	-15.550	2.205***

- New goods margin in imports is associated with the removal of tariff barriers in highly protected sectors. No such impact in exports.

Role of Relative Prices

- Decreases in the relative prices of the least-traded goods (possibly driven by productivity gains in the industry that produces these goods) can generate an increase in the new goods margin
- From our data, I derive unit prices. Lots of observations were dropped due to missing quantity or zero trade volume.
- I look at median changes and price deflators for least-traded goods and other goods.

Unit Price Changes (1995– 2013) (Median, Percent)

Partner	Exports			Imports		
	Top LTG	All LTG	Other	Top LTG	All LTG	Other
FTA Average	**45.7**	**42.0**	**47.9**	**40.2**	**40.3**	**56.5**
Non-FTA Average	**48.5**	**45.3**	**46.3**	**52.9**	**56.4**	**64.8**
World	**62.4**	**46.9**	**46.9**	**20.2**	**13.8**	**27.5**

Price Deflator in 2013 (1995=100)

	Exports			Imports		
	Top LTG	All LTG	Other	Top LTG	All LTG	Other
FTA Average	**93.9**	**87.2**	**195.6**	**106.8**	**96.8**	**184.3**
Non-FTA Average	**56.1**	**57.5**	**180.9**	**82.9**	**84.5**	**143.5**
World	**103.6**	**102.5**	**178.1**	**83.4**	**78.8**	**204.2**

Conclusion

- Document significant growth in the trade of the least-traded goods with FTA
- Industry distribution of least-traded goods shows overlapping of extensive and intensive margin
- Some of these growth in new goods can be explained by high tariffs and fall in the relative prices