EC 380: Lecture 8

Trade Policy: Tariffs, Quotas and Subsidies

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Winter 2023

Prologue

Recap

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Today

- Effects of protectionism through **tariff rates and quotas**
- Inform ourselves on how interference with free trade impacts market

Key Topics

- Use market theory to explain effects of tariffs on market outcomes
- **Compare tariff data on inputs and outputs to compare effective and nominal protection levels**
- Comparing the **impact of quotas** relative to tariff rate adjustments
- Highlight forms of protection **difficult to observe**
- New **unconventional methods** of protectionism

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Important to distinguish between **effective rate of protection** and **nominal rate of protection**.

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$$(\mathrm{VA}^* - \mathrm{VA})/\mathrm{VA}$$

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Variable	No Tariff	10% Tariff: Final Good	50% Tariff: Input Good
Price of Domestic Final Good	1500		
Value of Imported Inputs	250		
Domestic VA	1250		
Effective Rate of Protection, %	0		

Inputs & Outputs

Now consider a case in which the **final good** receives a **10% tariff rate**

Variable	No Tariff	10% Tariff: Final Good	50% Tariff: Input Good
Price of Domestic Final Good	1500	1650	
Value of Imported Inputs	250	250	
Domestic VA	1250	1400	
Effective Rate of Protection, %	0	12	

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Effective Rate of Protection, %	0	12	

The scale of protectionism rises.

Inputs & Outputs

How does **key inputs tariff** affect protection on the final good?

Variable	No Tariff	10% Tariff: Final Good	50% Tariff: Input Good
Price of Domestic Final Good	1500	1650	1650
Value of Imported Inputs	250	250	375
Domestic VA	1250	1400	1275
Effective Rate of Protection, %	0	12	2

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Price of Domestic Final Good	1500	1650	1650
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Domestic VA	1250	1400	1275
Effective Rate of Protection, %	0	12	2

Protection is eroded! Down from 12% to 2%.

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- In practice, value-added is difficult to measure
- Rate of protection can scale beyond the 0-100% range, making it confusing for some users

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No tariff revenue for government $\Longrightarrow$ greater loss in economic welfare.

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- **Voluntary Export Restraint (VER):** Exporting country voluntarily agrees to limit exports for some period. This is usually a compromise made to avoid more extreme measures being levied by the importer country.

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> While this latter tactic have been limited in use following the Uruguay Round agreement, cases of it still crop up.

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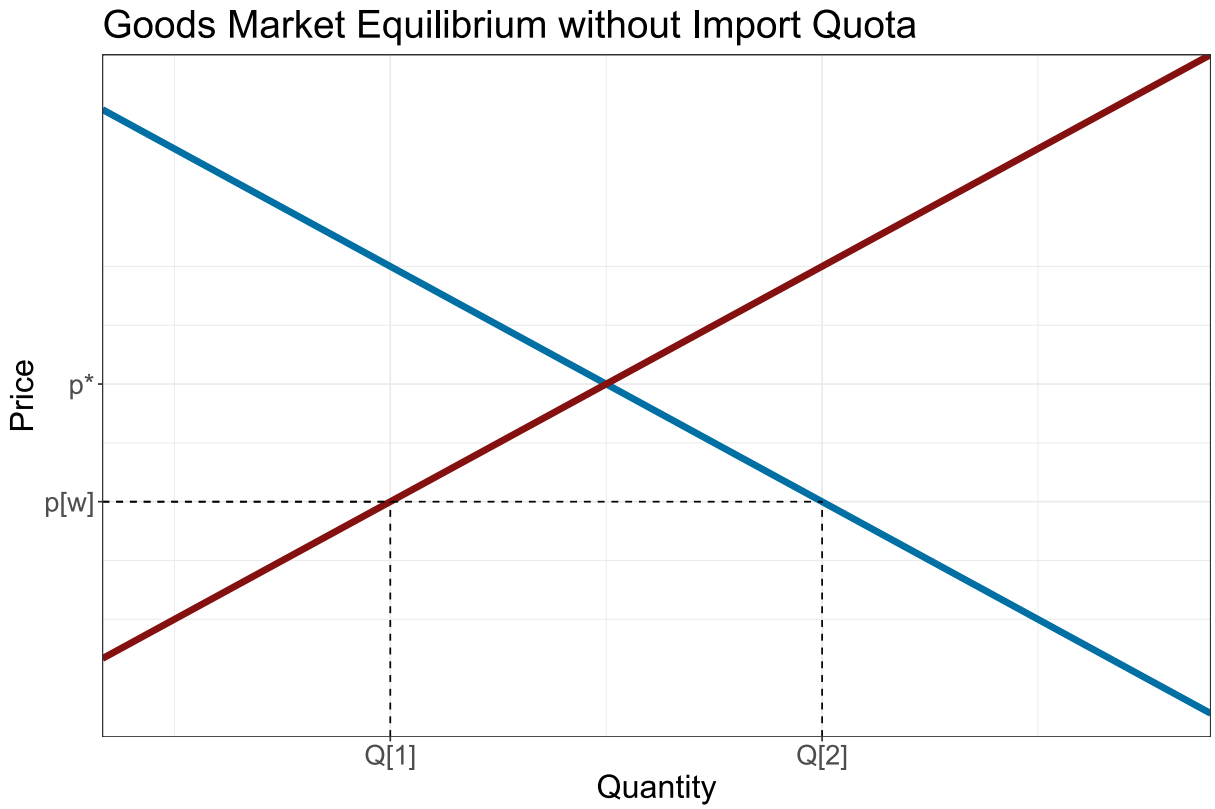

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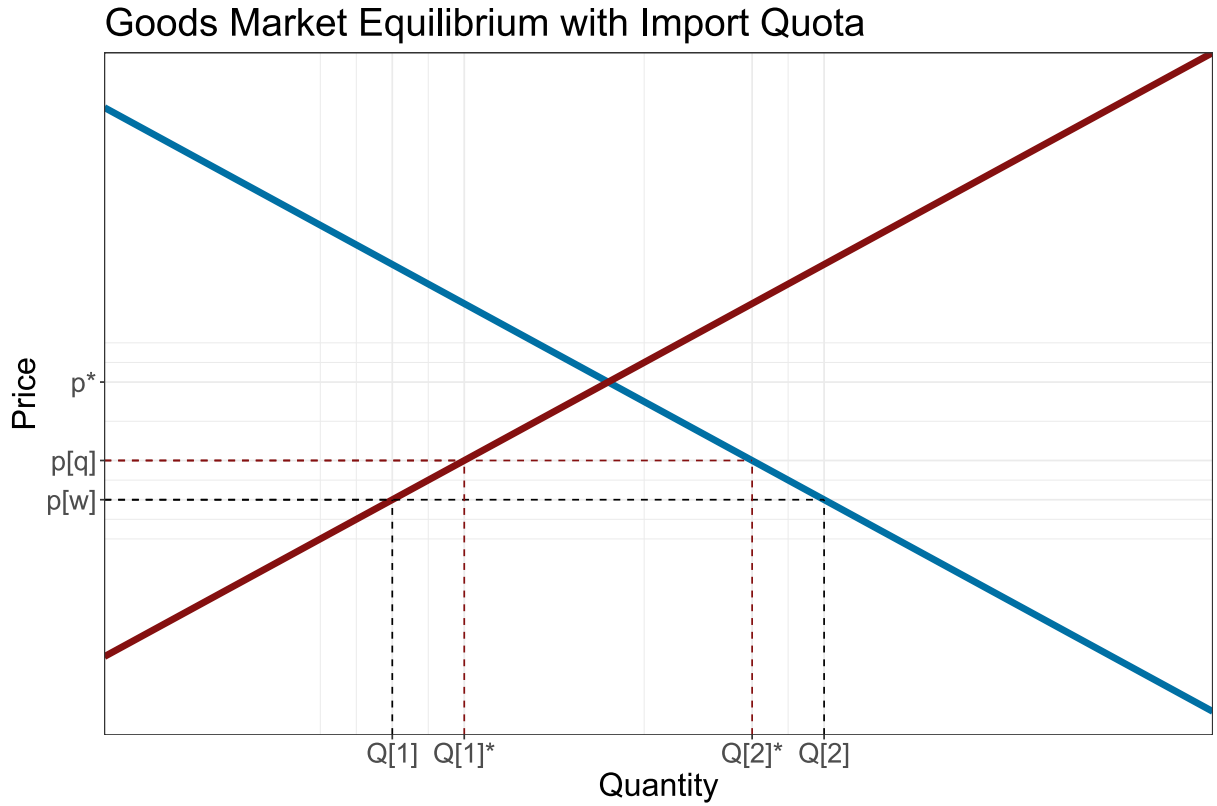

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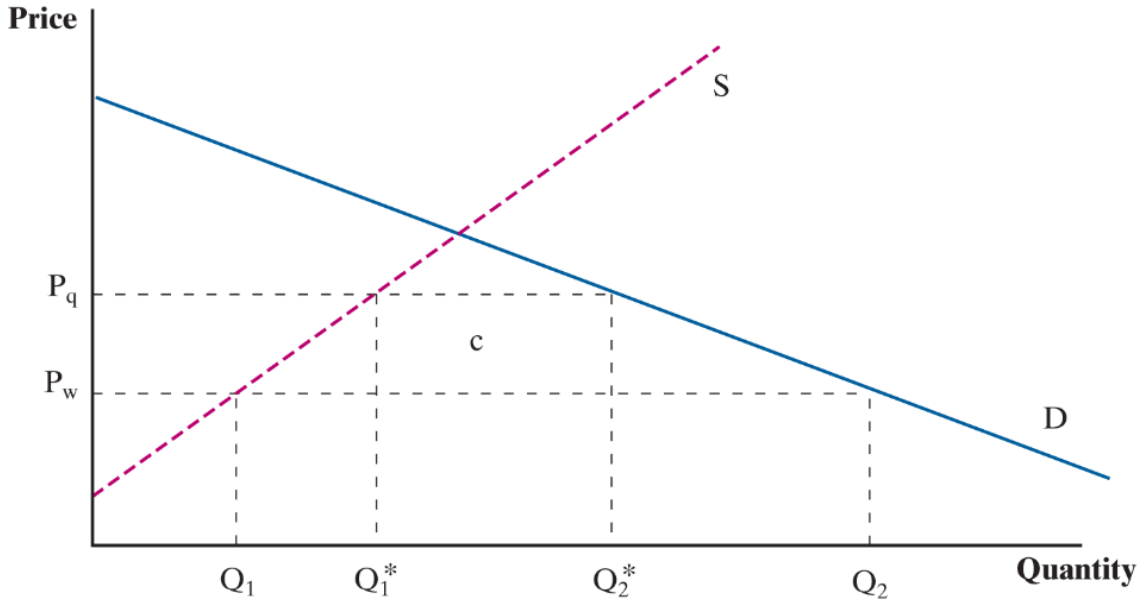

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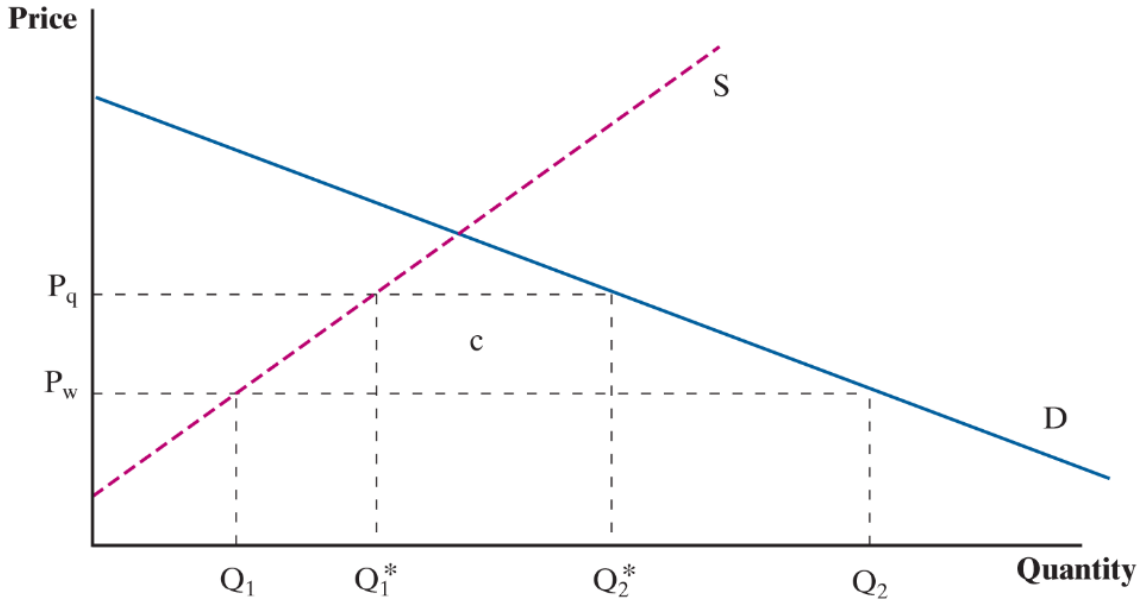

Compared to **tariff (small country) scenario**, instead of Home keeping c through tariff revenue, income is captured by the foreign producer.

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This assumes we are examining small country outcomes where world price is not responsive to domestic trade policies.

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This **Multifibre Agreement** (MFA) had its days numbered, given the increasing appeal of trade liberalization and the associated welfare gains across countries.

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MFA officially ended on January 1st 2005.

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US imports of textiles and apparel rose 40% between '04 an '05

Quota: Empirics (MFA)

TESTING THE THEORY OF TRADE POLICY: EVIDENCE FROM THE ABRUPT END OF THE MULTIFIBER ARRANGEMENT

James Harrigan and Geoffrey Barrows

Abstract—Quota restrictions on United States imports of apparel and textiles under the multifiber arrangement (MFA) ended abruptly in January 2005. This change in policy was large, predetermined, and fully anticipated, making it an ideal natural experiment for testing the theory of trade policy. Prices of quota-constrained categories from China fell by 38% in 2005, with smaller declines from other exporters. Prices in unconstrained categories from all countries changed little. We also find substantial quality downgrading in imports from China in previously constrained categories. The annual cost of the MFA to U.S. consumers was $63 per household.

I. Introduction

THE economic analysis of trade policy is as old as economics, but the ratio of convincing evidence to theory remains small.[1] The reason is simple: trade policies generally change gradually, making it hard to untangle the effects of policy from the effects of other factors that influence trade. A related empirical problem, highlighted by Trefler (1993), is the political endogeneity of protection, which creates the need for valid instrumental variables for protection in most analyses of the effects of trade policy.

This paper uses a natural experiment in U.S. trade policy to get around these thorny inference problems. The system anticipated, easily measured, and statistically exogenous change in trade policy provides the natural experiment that we use in this paper to test some simple theories about the effects of quotas.

We test two fundamental predictions: binding quotas raise prices and lead to "quality upgrading," that is, a shift in the mix of products under a given quota toward more expensive goods. These predictions are resoundingly confirmed: when the MFA ended, prices and quality of U.S. imports in previously quota-constrained categories fell dramatically, especially on quota-constrained goods from China. By contrast, nonconstrained imports showed no systematic changes in prices or quality. These results are highly robust, and require no restrictive assumptions on functional form or exogeneity.

We are also able to estimate what the end of the MFA meant to U.S. consumers in 2005: the equivalent variation was approximately $7 billion, which amounts to an annual gain per household of over $60. Most of this welfare gain was due to the dramatic drop in prices, and increase in quantities, from China.

Quota: Empirics (MFA)

FIGURE 1A.—PRICE CHANGES 2004–2005, TOP TWENTY EXPORTERS, ORDERED BY TOTAL PRICE CHANGE

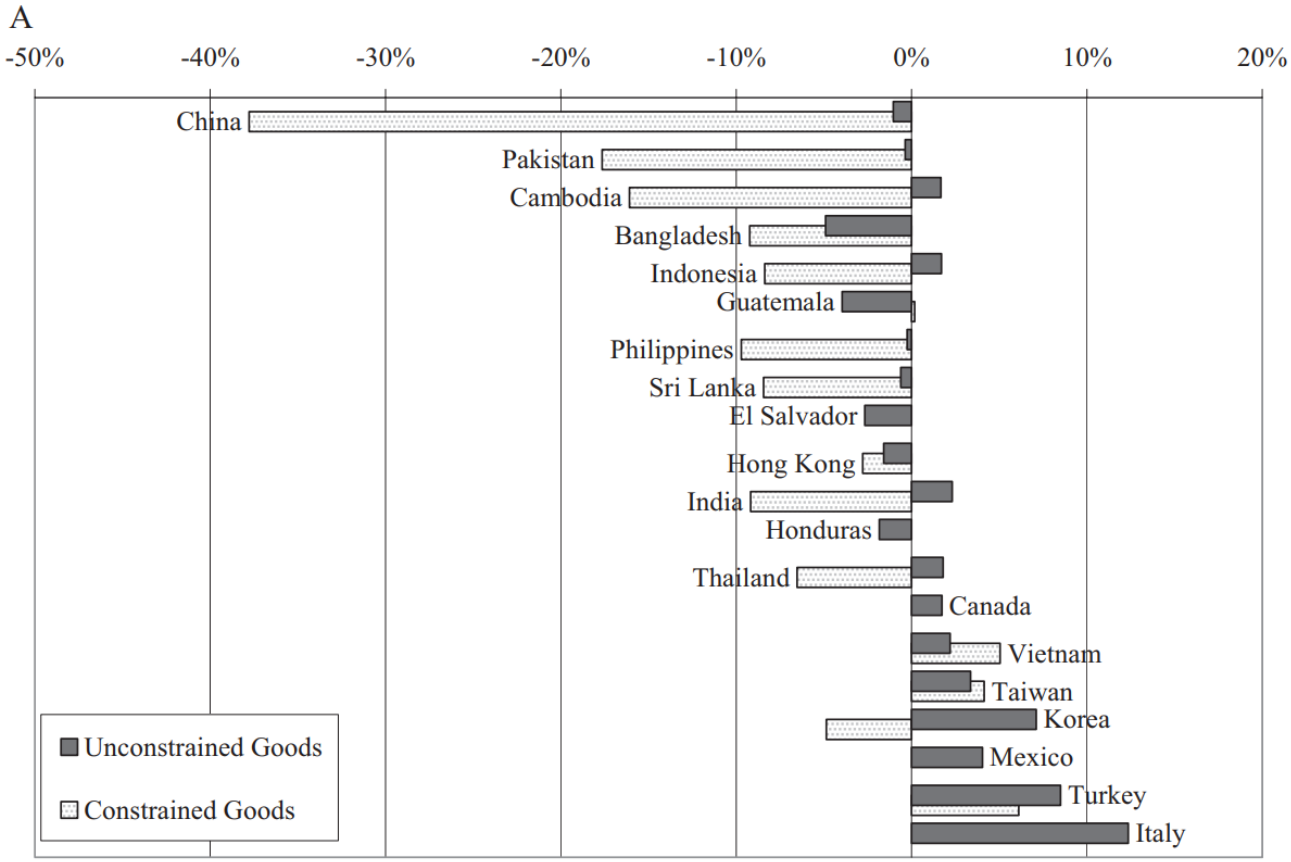

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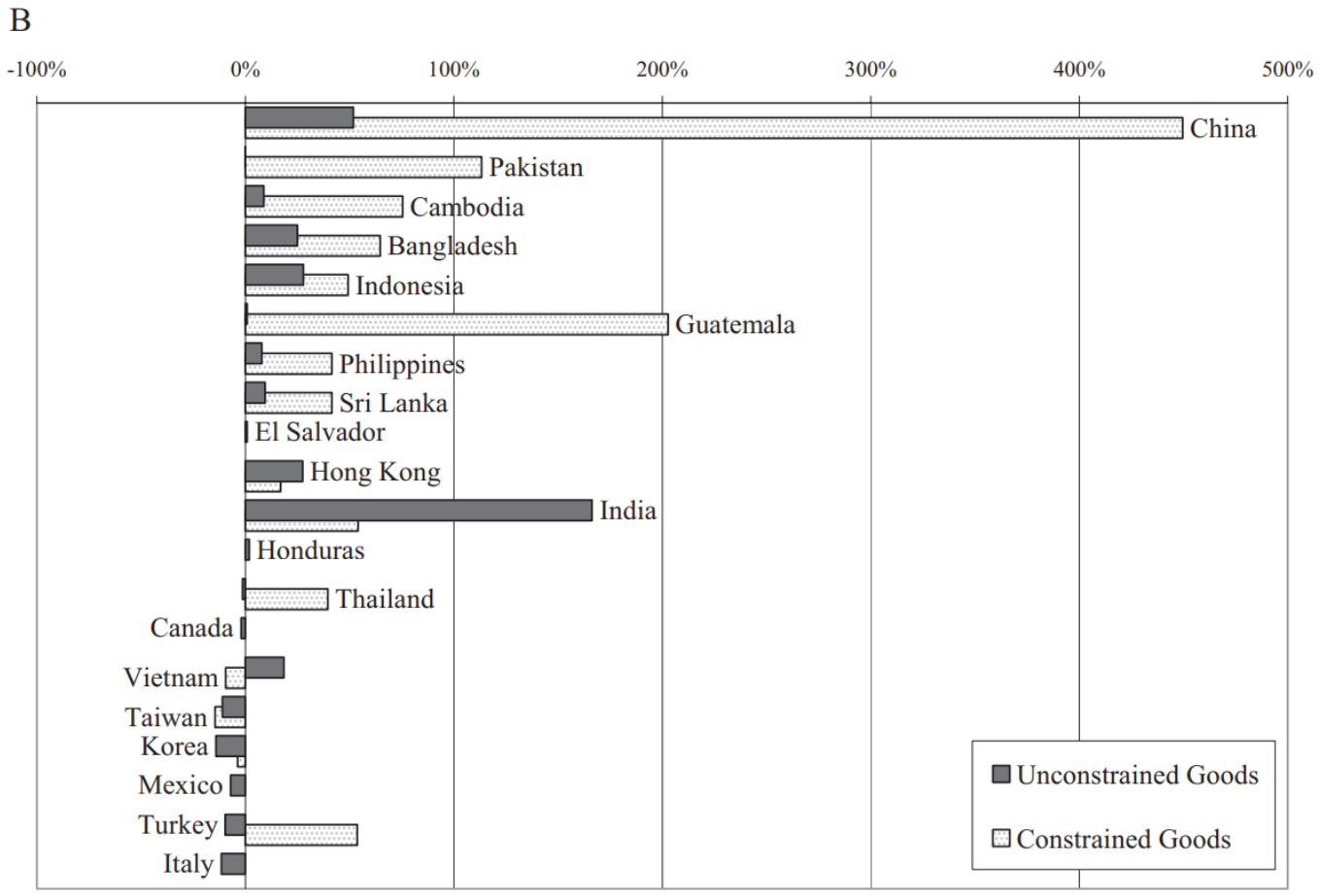
FIGURE 1B.—QUANTITY CHANGES 2004–2005, TOP TWENTY EXPORTERS, ORDERED BY TOTAL PRICE CHANGE



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These gains were shortlived between June '05 and '08 then returned thereafter.

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Economists divide these into two categories: Tariffs & NTBs (non-tariff barriers).

- NTBs can be subdivided into quotas and non-tariff measures
- NTMs are often hidden in that they are not presented as barriers even though they contribute a similar influence

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One common example is with respect to **cholorinated chicken** imports from US to UK

- Poultry meat that has been washed with chlorine
- Done to treat high levels of bacteria, a symptom of poor hygiene and low animal welfare conditions
- Practice of chlorine washing chicken is banned in the UK, but it is common practice in the US poultry industry

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Is this a legitimate NTB?

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Research from **Southampton University** finds that:

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Allowing for import compromises on UK/EU **animal welfare**

- On these US farms, chickens fed antibiotics to stop infection and chlorine-washed after slaughter to kill bacteria
- Doesn’t support good quality of life for chickens and reliance on antibiotics means lifesaving drugs are less effective for humans

Coordinating Trade Policy

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- Free Trade Agreement
- Preferential Trade Agreements
- Customs Unions

In Summary

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- Domestic producers tend to prefer quotas to tariffs
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Next time!

Trade agreements, joint policy outcomes and assessing recent history with our new knowledge