The Great Trade Collapse of 2008 and its Subsequent Recovery

Meredith A. Crowley
Federal Reserve Bank of Chicago*
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Questions

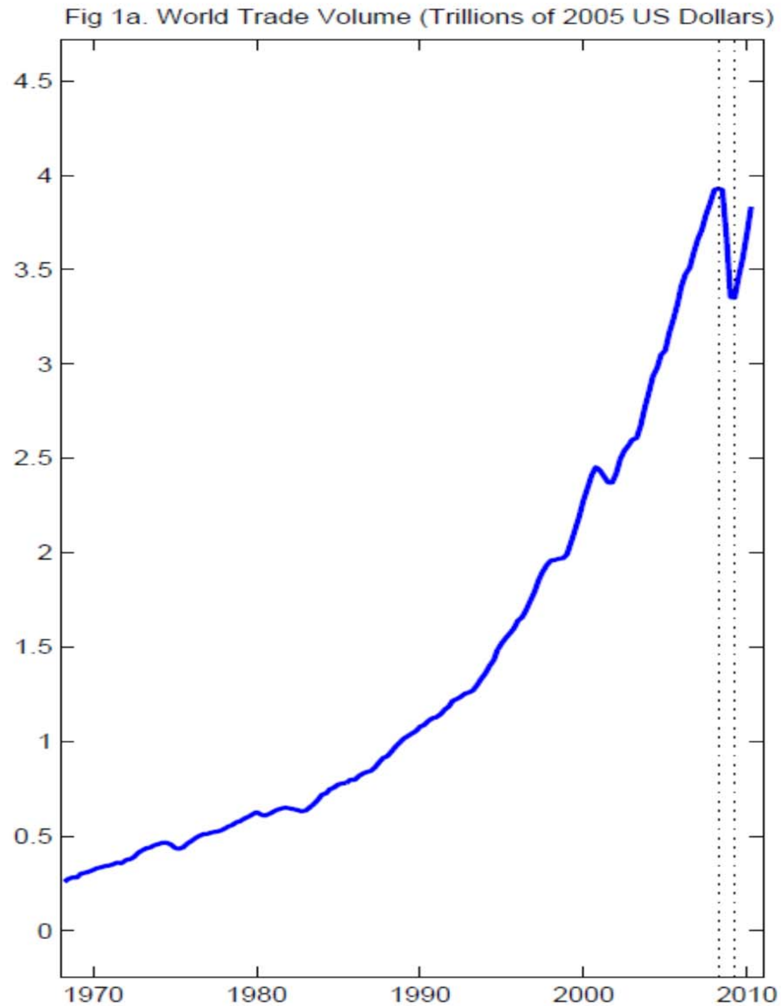
1. What is the Great Trade Collapse of 2008? How has the trade recovery progressed so far?

2. What were the causes of the Great Trade Collapse?

3. What conclusions have economists drawn so far about the quantitative importance of different factors behind the collapse and recovery?

Figure 1: The Great Collapse in World Trade 2008q2 – 2009q2

World Trade in Good & Services (X + M)/2



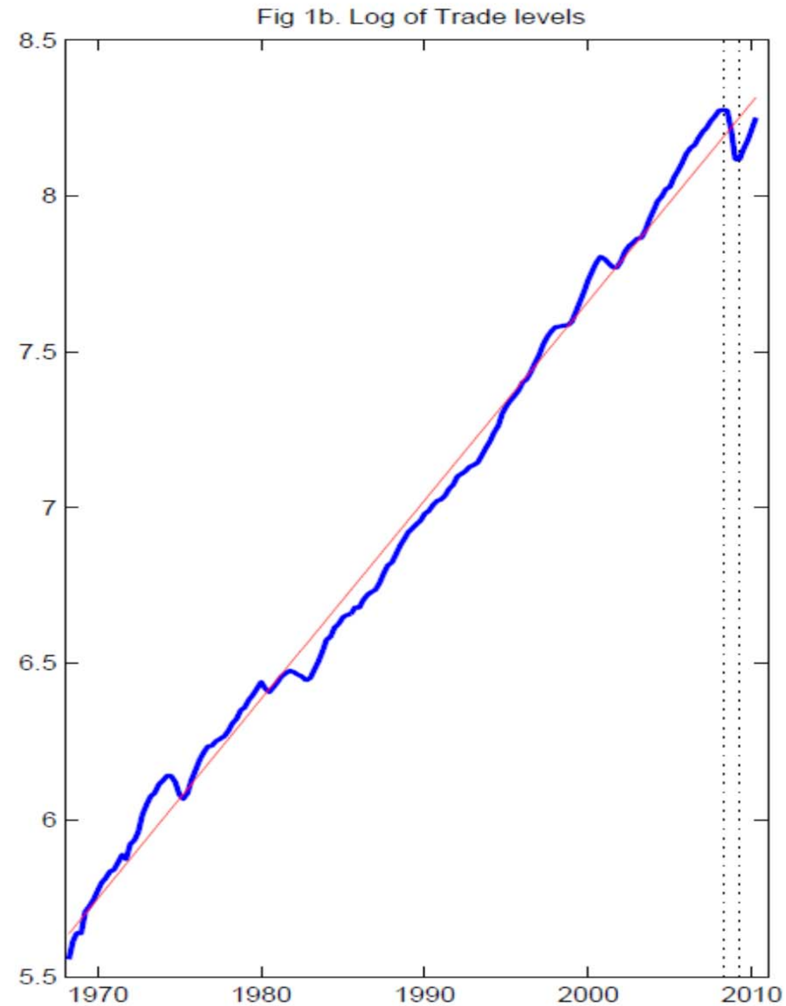


Figure 2: The Great Collapse in US Trade 2008q2 – 2009q2

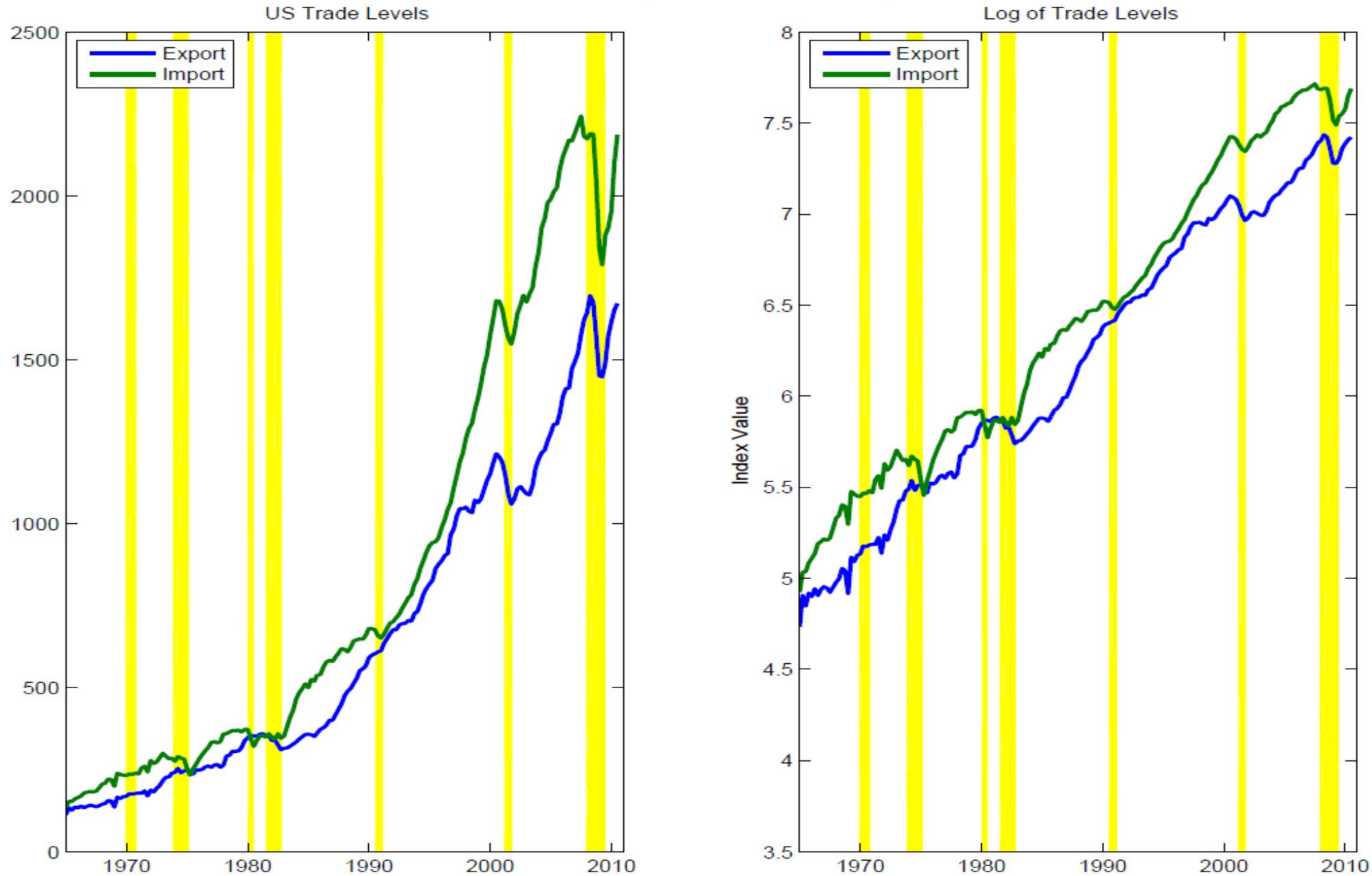


Figure 3: Contractions and Recoveries of US and World Trade

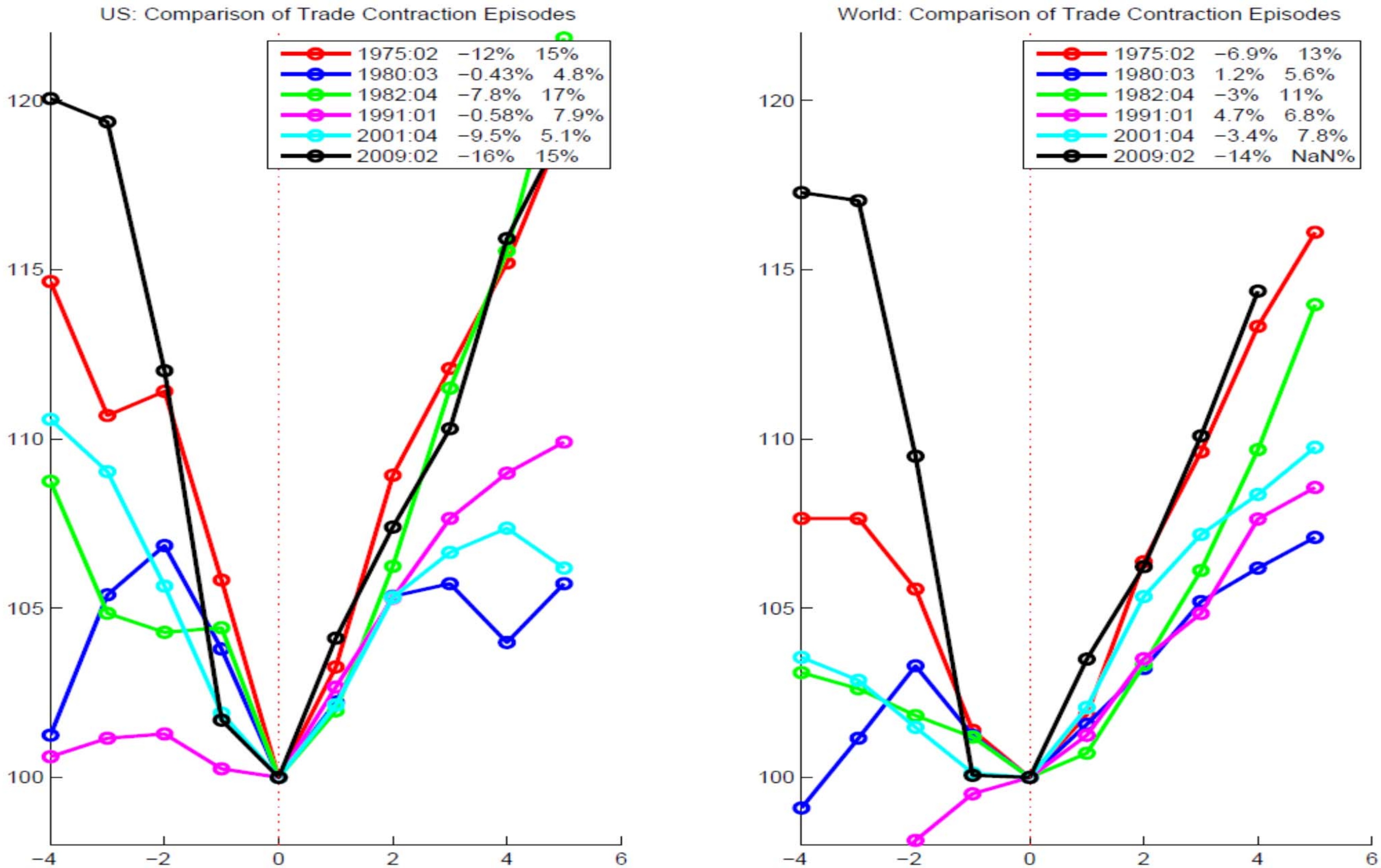


Figure 4: Contractions and Recoveries of US Imports and Exports

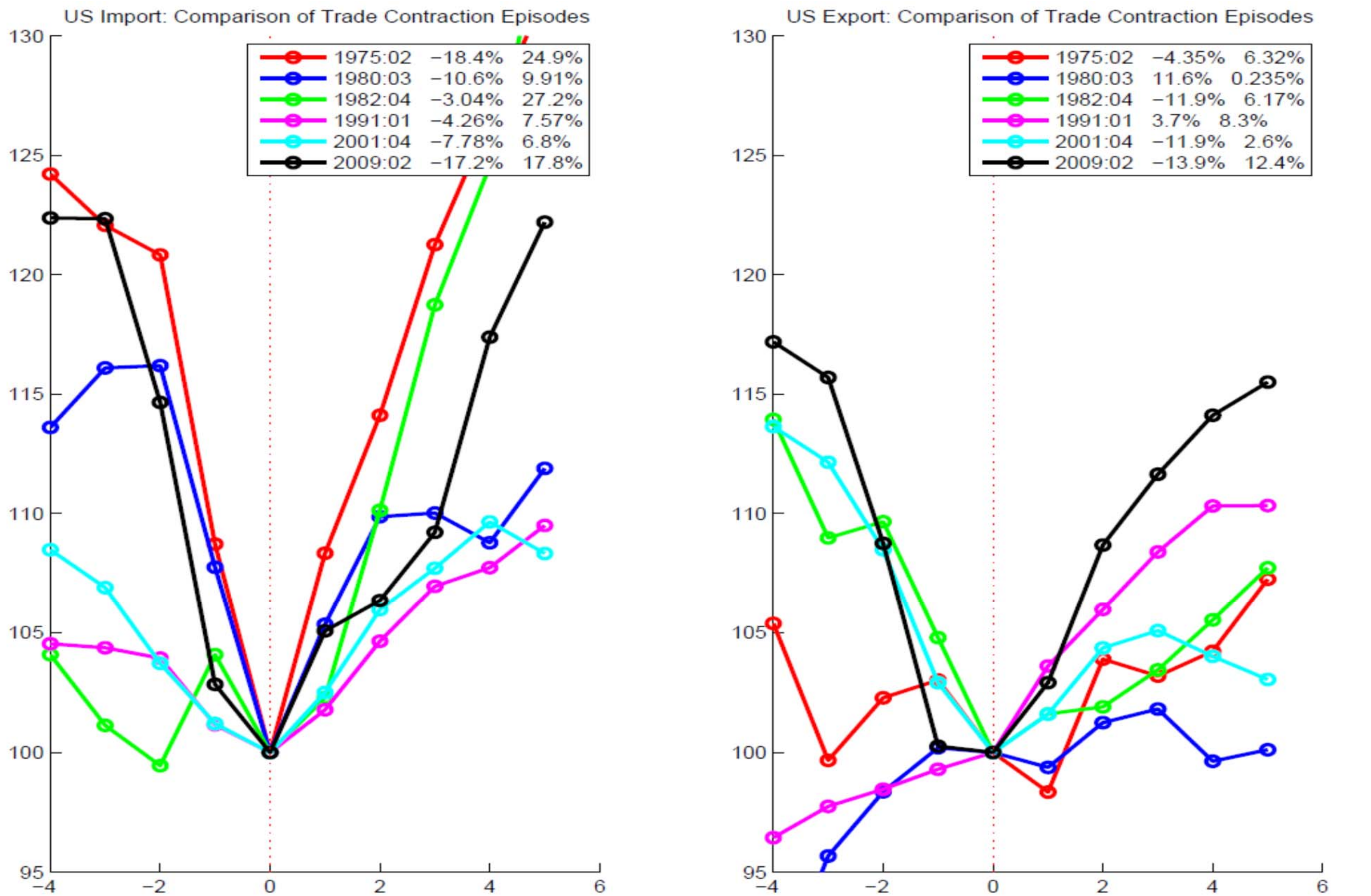


Figure 5: Trade to GDP Ratios

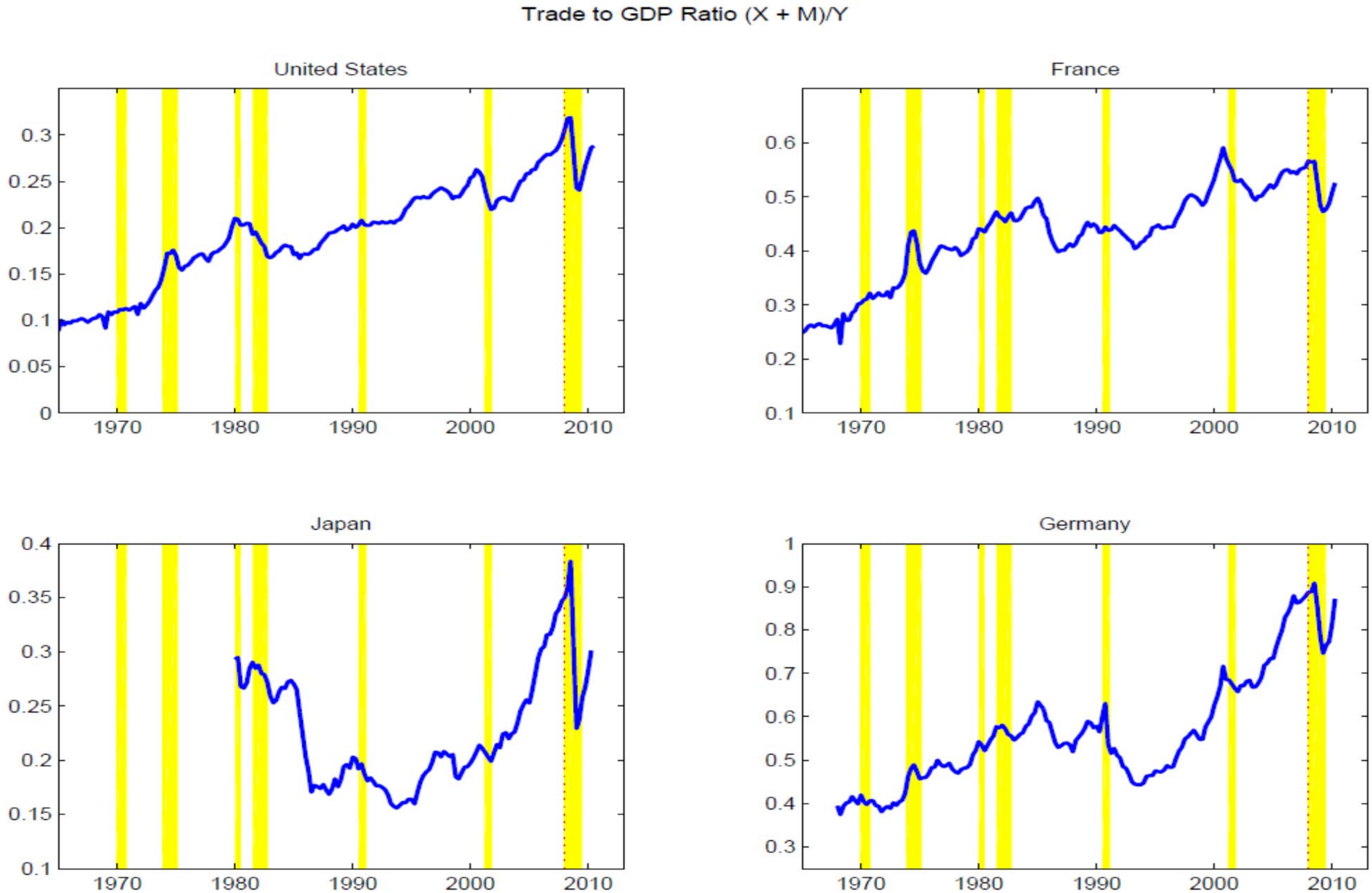


Figure 6: The Decline in Trade vs. GDP 2008Q2 to 2009Q2

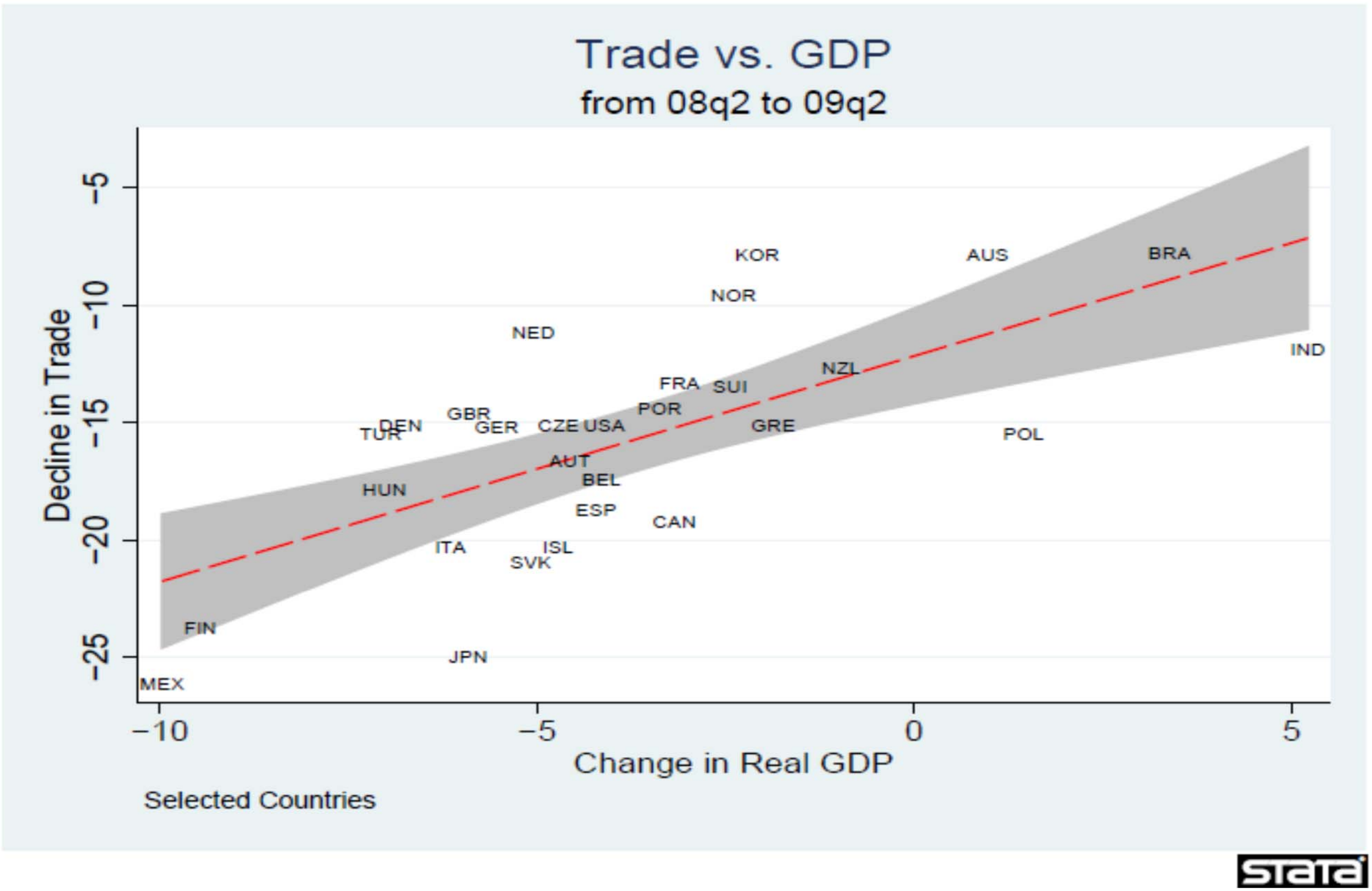
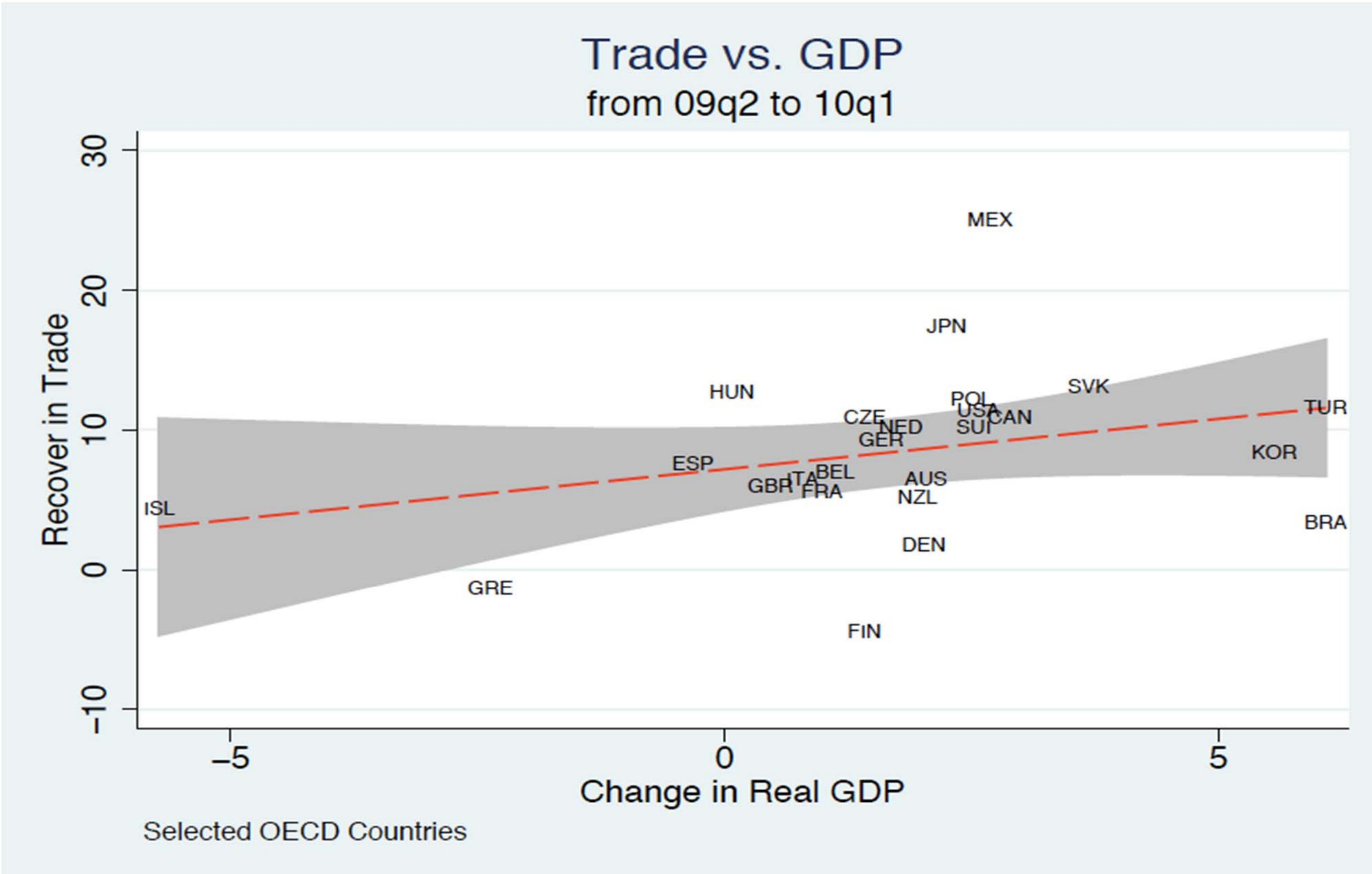


Figure 7:Recovery in Trade and GDP 2009Q2 to 2010Q1



What we learned from the data

- The trade collapse was severe and steep.
- Trade fell more than GDP
- The trade collapse was highly synchronized across countries

What caused the sharp decline in world trade? Some hypotheses…

1. Demand-side explanations
   – Reduced income led to reduced demand for all goods
   – Disintegration of vertical supply chains?
   – Compositional differences between imports and income?

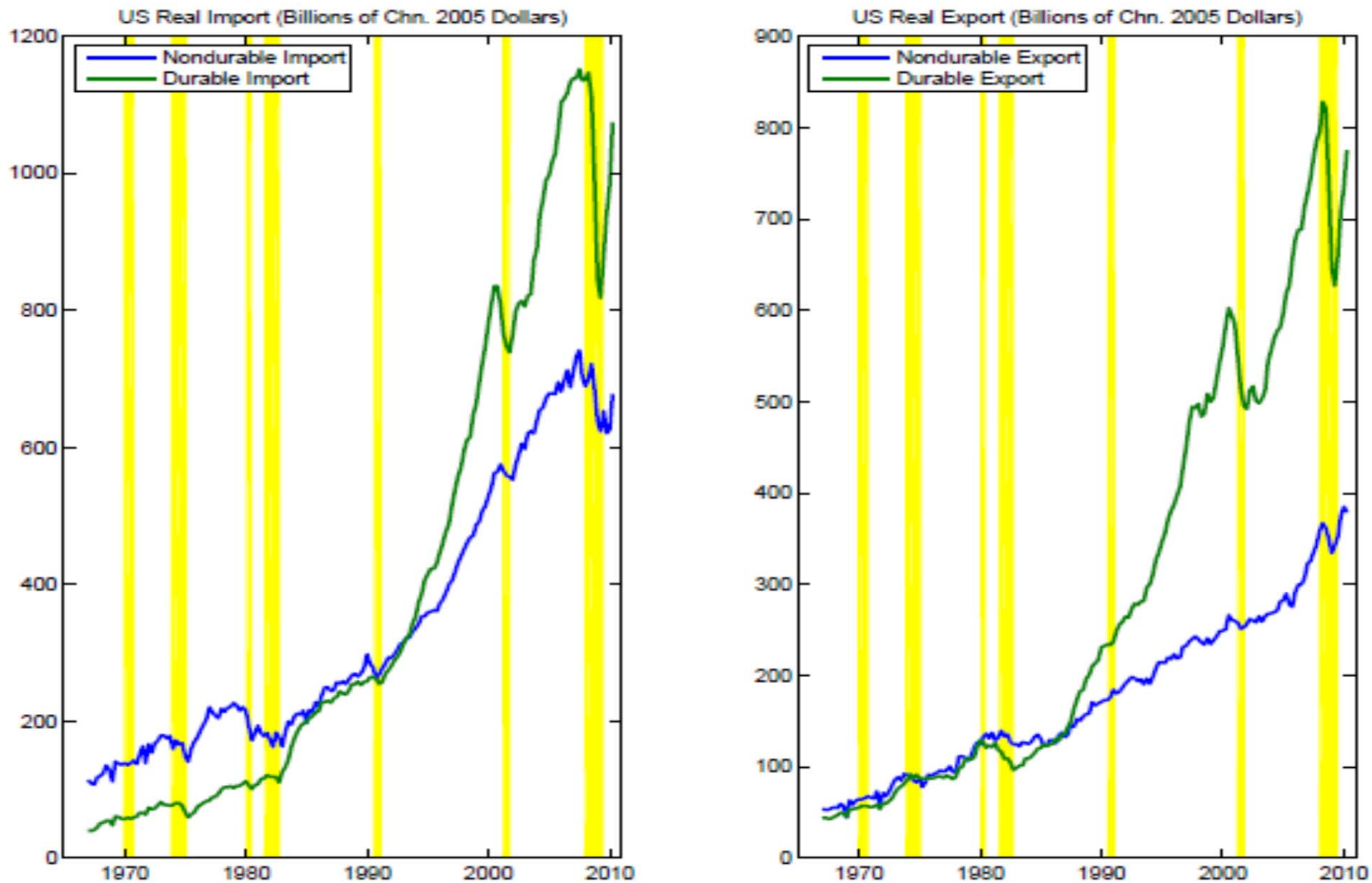
2. Supply-side explanations
   – Increases in costs associated with exporting.
   – Difficulties in obtaining trade financing during the financial crisis?
   – An increase in trade protection?

Is it surprising that trade collapsed?

- Cumulative decline in US real GDP 2008Q2 to 2009Q2: 4.1%
- Cumulative decline in US real imports 2008Q2 to 2009Q2: 18.3%

Authors	Sample period	Import elasticity w.r.t. income	Predicted decline in imports	Predicted decline/Actual decline in imports
Houthakker and Magee (1969)	1951-66	1.51	6.2%	0.34
Hooper, Johnson and Marquez (2000)	1961-94	1.79	7.3	0.40
Chinn (2004)	1975-2003	2.29	9.4	0.51
Cardarelli and Rebucci (2007)	1972-2006	2.03	8.3	0.45
Crane, Crowley and Quayyum (2007)	1960-2006	1.93	7.9	0.43

Figure 10: US imports and exports of durables and non-durables



How significant was trade finance as a cause of the collapse? Different types of “trade finance”

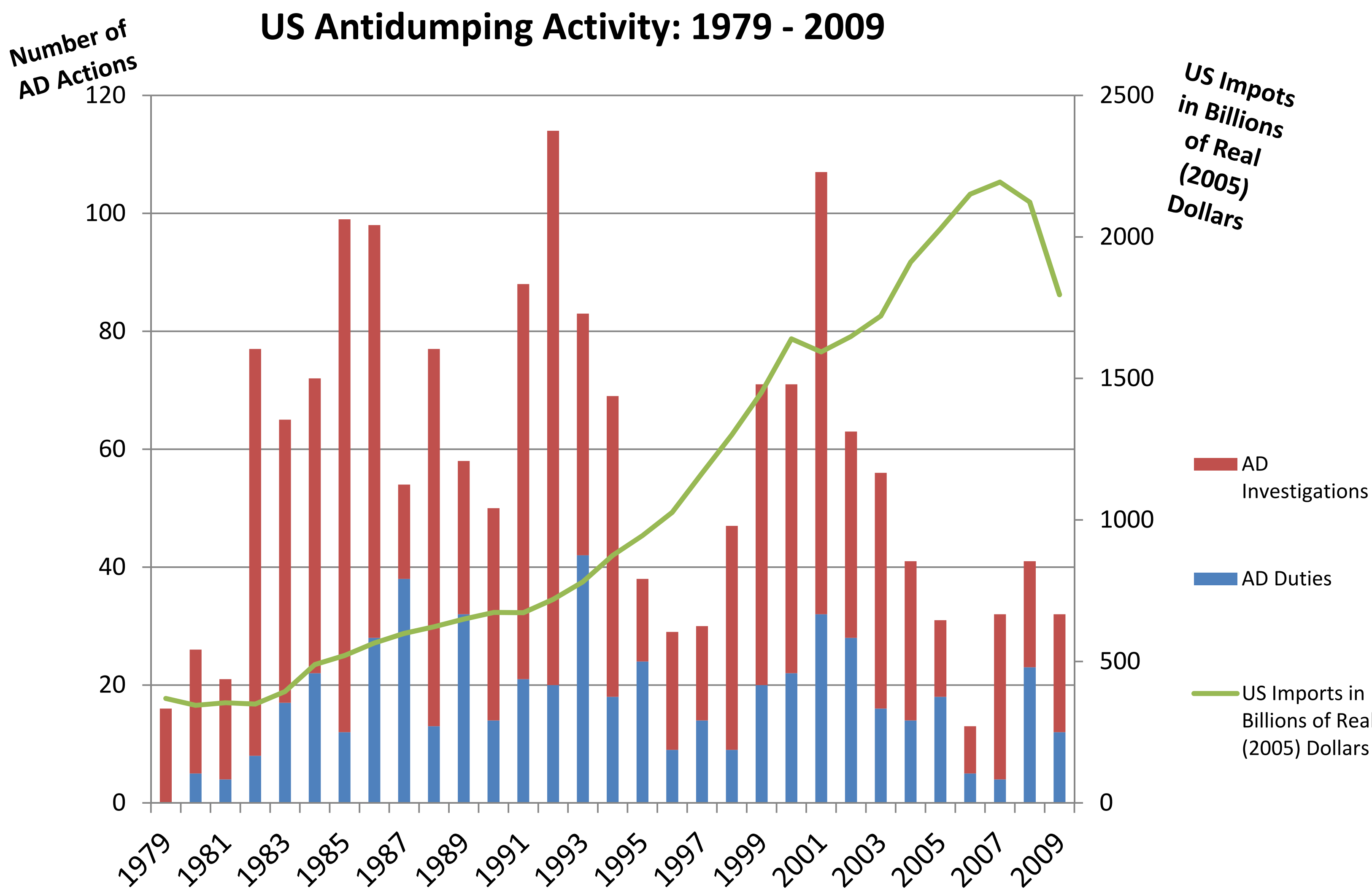
- Payment methods for international trade
  - 80-85% of world trade takes place on an “open account” – payment is made after goods are received
  - 15-20% of world trade financed through “letters of credit” or “documentary collections” – the buyer’s bank makes payment after document verification

- Insurance for international trade
  - 9% of world trade was insured with export credit insurance – insurance that pays out in the event of non-payment by the foreign buyer - in 2008

- Working capital loans
  - Long lags between shipment of goods and payment receipt (30-90 days longer than domestic transactions) mean that working capital loans are important to exporters.

- Trade credit
  - In some sectors, the seller to extends credit directly to the buyer.

How significant was rising trade protection to the collapse?



Recent Research on the Great Trade Collapse

1. Levchenko, Lewis and Tesar (2009)
2. Eaton, Kortum, Neiman and Romalis (2010)
3. Chor and Manova (2010)
4. Alessandria, Kaboski, and Midrigan (2010)

Levchenko, Lewis and Tesar (2009)

1. How important was declining aggregate demand in explaining the collapse in the US?
   – "Trade wedge" analysis of macro data

2. Other explanations for the trade collapse
   – Cross-sectional industry analysis of
      - Vertical linkages
      - Financial constraints
      - Differences in composition of trade v. domestic demand

Levchenko, Lewis and Tesar (2009) "Trade wedge" analysis

- Changes in relative prices and aggregate demand explain only 60% of the decline in imports for the US

Country	Trade wedge = log deviation
US	-40%
Japan	-60%
Germany, France, Italy	-25%
Korea, Turkey, Czech Republic	-20 to -30 %

Levchenko, Lewis and Tesar (2009)
Results from cross-sectional industry analysis

1. Vertical linkages: goods that are used intensively as intermediates experienced larger percentage drops in imports and exports.
2. Trade credit: sectors which extend (high accounts payable/cost of goods sold) or which use (high accounts receivable/sales) trade credit more intensively did NOT experience differential changes in trade flows.
3. Composition: cross-sectionally, imports and exports contracted more in sectors in which US industrial production contracted more. Imports in durable sectors contracted 9.2 percentage points more than non-durable sectors.

Eaton, Kortum, Neiman, Romalis (2010)
A "wedge" analysis of global trade flows

- Merge a gravity model of trade with a 3 sector model of production in order to decompose the collapse in world trade into constituent causes.
  - demand shocks
  - trade deficit shocks
  - productivity shocks
  - trade friction shocks

- Important features:
  - A general equilibrium model of 23 countries
  - 3 sectors: durable manufacturing, non-durable manufacturing and non-manufacturing.
  - A detailed input-output structure for each country

Eaton, Kortum, Neiman, Romalis (2010)

Findings:

1. A decrease in demand for manufactures explains 80% of the decline in the global trade/GDP ratio.
   – Decreased demand for durables explains 65% of the decline in the trade/GDP ratio.

2. Increases in trade frictions (difficulties with trade finance and rising trade protection) reduced trade in China and Japan but had little or no impact on other countries.

Chor and Manova (2010)

How did tight credit affect trade volumes?

1. Did countries with higher borrowing costs export less to the US during the crisis?
   - Exploit cross-country and inter-temporal variation in the interbank rate and monthly exports to the US

2. Did sectors that are more reliant on financing export less to the US during the crisis?
   - Exploit cross-sector dependence on financing and inter-temporal changes in the interbank rate

Chor and Manova (2010)

In a cross-country analysis, Chor and Manova find…

- a 1% increase in the cost of bank financing is associated with a 16% fall in that country's exports to the US
- After controlling for exporting-country industrial production, the effect of the interbank rate on exports is not significant.

In a cross-country, cross-sector analysis, Chor and Manova find…

- Sectors reliant on external finance had a slightly weaker export.
- Sectors with lots of tangible assets exported more.
- Sectors that regularly receive credit from buyers did relatively better during the crisis.

Alessandria, Koboski and Midrigan (2010)

- What role did inventory investment play in the Great Trade Collapse?
- When a firm's inventory to sales ratio rises during a recession, the firm will cut back on its inventory investment. If the transaction costs associated with imported inventories are higher than domestically-produced inventories, we could observe a dramatic decline in imports similar to that observed during the Great Trade Collapse.

Conclusions

1. The consensus among economists seems to be that the leading cause of the Great Trade Collapse was a general fall in global demand. Most of the action occurred in the durables sectors.

2. There is some evidence that difficultly in obtaining trade financing was a contributing factor to the Great Trade Collapse.

3. The quantitative analyses of the Great Trade Collapse suggest that we should observe a dramatic increase in trade – a Great Trade Recovery – that outpaces the growth of GDP.