“New trade”, “new geography”, and the troubles of manufacturing

Paul Krugman 8/12/08
Outline:

1. The original motivations of new trade theory
2. From new trade to new geography
3. Everything old is new again – and that’s the problem
Once upon a time, comparative advantage looked pretty good as a description of trade ...

Composition of British trade circa 1910

- Exports
  - Nonmanufactures: 70%
  - Manufactures: 30%
- Imports
  - Nonmanufactures: 80%
  - Manufactures: 20%
... but over time it got hard to see much difference between what countries exported and what they imported
Furthermore, trade increasingly seemed to be between similar countries.
More broadly, rise of intraindustry trade

Source: Brülhart 2008 for this Report.
Note: The Grubel-Lloyd index is the fraction of total trade that is accounted for by intraindustry trade.
And growing localization of trade
What was going on?

Why not ask Adam Smith?

The pin factory
The problem of market structure

Price, cost

Quantity

AC

MC
My rules for research:

1. Listen to the Gentiles

2. Question the question

3. Dare to be silly

4. Simplify, simplify
Once the problem of market structure had been finessed, the combination of increasing returns and comparative advantage provided a compelling explanation of trade patterns:

Manufactures | Agriculture
---|---
Home | Foreign

Interindustry

Intraindustry
What have we learned since 1985?

1. The return of gravity

2. System-level analysis applied to comparative advantage (e.g., Eaton-Kortum)

3. Firms in international trade (e.g., Melitz)
From trade to geography: The home market effect (cheating version)

Home market size $S$, Foreign market size $S^*$

Fixed cost of opening plant $F$, transport cost $\tau$ per unit

Assume $S > S^*$

If $F > \tau S^*$, minimize total costs by having only one plant located in Home, from which you export

Obvious point (which it took a decade to notice): if location decisions by firms affect market size, possibility of a self-reinforcing process. No need to assume agglomeration economies, we can derive them – and see that they don’t always prevail
Core-periphery model (strategically sloppy version)

Let $S$ be size of overall market, $\mu$ be share of “footloose” workers in overall demand, $\tau$ be unit transport cost. Fixed costs $F$. Assume “rooted” workers evenly divided between two locations

Is a concentration of all footloose workers in one location an equilibrium? Sales to “periphery” are $S (1- \mu)/2$. Cost of opening a new plant are $F$. So concentration in “core” sustainable only if

$$F > \tau S (1- \mu)/2$$

or

$$F/S > \tau (1- \mu)/2$$

$F/S$ is economies of scale, $\tau$ transport costs, $\mu$ the importance of industries not tied to immobile resources
The case of the U.S. manufacturing belt
What formed the belt?

Meyer (1983): “The critical time occurred in the antebellum years; regions had to develop industrial systems by about 1860 to become part of the belt and to participate significantly in late nineteenth century industrialization.”

What happened circa 1850-1860?

The criterion: \( F/S > \tau (1- \mu)/2 \)

Large-scale production => higher \( F/S \)

Railroads => lower \( \tau \)

Industrialization => higher \( \mu \)

So America went through a sort of “phase transition”
Rise of specialization to about 1925 – but what about later? Is the world becoming more classical again?

Maybe – and maybe in trade too, where North-South trade, presumably reflecting comparative advantage, is on the rise.

So increasing returns may represent the wave of the past, not the future – but that’s also important to know.
Problems facing workers in advanced economies:

Increasing inequality

Decline of “good jobs”

To some extent, both may be explained by the decline of increasing returns as a force in the world economy

Consider the case of the traditional US auto industry
From Klier and Rubinstein (2006)
Jobs decline is concentrated in the Midwest

US & Michigan/Indiana/Ohio employment and US production

- MI/IN/OH Jobs
- Rest of US jobs
- US Production

Chart showing employment trends from 1990 to 2005.
Conclusion:

Increasing returns have been a powerful force shaping the world economy.

That force may actually be in decline.

But that decline itself is a key to understanding much of what is happening in the world today.