

International Economics

6. Increasing Returns to Scale and Imperfect Competition: Additional Empirics

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1. Intraindustry trade and scale economies: the North American Auto Pact of 1964

From: Krugman & Obstfeld (2006), chapter 6

Before 1965, tariff protection by Canada and the United States produced a Canadian auto industry that was largely self-sufficient, neither importing nor exporting much. The Canadian industry was controlled by the same firms as the U.S. industry, but these firms found it cheaper to have largely separate production systems than to pay the tariffs. Thus, the Canadian industry was in effect a miniature version of the U.S. industry, at about 1/10th the scale.

The Canadian subsidiaries of U.S. firms found that small scale was a substantial disadvantage. This was partly because Canadian plants had to be smaller than their U.S. counterparts. Perhaps more important, U.S. plants could often be “dedicated” – i.e. devoted to producing a single model or component – while Canadian plants had to produce several different things, requiring the plants to shut down periodically to change over from producing one item to producing another, to hold larger inventories, to use less specialized machinery, etc. The Canadian auto industry had a labor productivity about 30 percent lower than that of the United States.

1. Intraindustry trade and scale economies: the North American Auto Pact of 1964

In an effort to remove these problems, the United States and Canada agreed in 1964 to establish a free trade area in automobiles (subject to certain restrictions). This allowed the auto companies to reorganize their production. Canadian subsidiaries of the auto firms sharply cut the number of products made in Canada. For example, General Motors cut in half the models assembled in Canada.

The overall level of Canadian production and employment was, however, maintained. This was achieved by importing from the United States products no longer made in Canada and exporting products Canada continued to make. In 1962, Canada exported \$16 million worth of automotive products to the U.S. while importing \$519 million worth. By 1968 the numbers were \$2.4 and \$2.9 billion, respectively! In other words, both exports and imports increased sharply due to intraindustry trade.

The gains seem to have been substantial. By the early 1970s the Canadian industry was comparable to the U.S. industry in productivity.

2.1 Post-war economic integration: the European Economic Community

- In 1957 the major countries of continental Europe established a free trade area in manufacturing goods, the Common Market or European Economic Community (EEC).
- The result was rapid growth in trade: trade within the EEC grew twice as fast as world trade as a whole during the 1960s.
- Single Market reforms of 1992 further liberalized trade by eliminating rules and regulations governing flow of goods within Europe.
- Growth in trade was almost entirely intraindustry rather than interindustry trade, implying that there was no drastic economic dislocation.
- Growth in inter-European trade presented far fewer social and political problems than anticipated, reflecting the theoretical prediction that all factors can win when IRS are a main cause of trade.

2.2 New evidence on the gains from trade in Europe

From: Robert Feenstra, R. of World Econ., 2006

- Study deals with three sources of gains from trade that are predicted by models of monopolistic competition:
 - a **fall in prices** due to tariff reductions because of greater competition between firms (closely related to scale economies);
 - **increase in product variety**;
 - **self-selection of firms** with survival of most efficient.

2.2 New evidence on the gains from trade in Europe

- Survey of empirical evidence for Europe since 1992 Single Market Programme shows:
 - Solid evidence for markup reductions in manufacturing and construction, but not in services. Furthermore, the introduction of the Euro has had additional benefits in the form of an average increase in trade in the range of 8-15% (Baldwin 2006), with indirect (though very small) price reduction effects. Generally, prices have become more similar across countries and trade has grown within the EU area.

2.2 New evidence on the gains from trade in Europe

- No direct empirical evidence for Europe yet on gains from trade from increased product variety, but they are likely to be similar to those recently estimated for the U.S. by Broda & Weinstein (2006), i.e. gains from trade due to increased import variety of around 2.6 percent of GDP in 2001! (Feenstra expects results to be even higher for internal EU trade because of higher trade to GDP ratio).

2.2 New evidence on the gains from trade in Europe

- Recent studies for France have shown that only a small fraction of firms in any industry produce for the export market, but these firms account for very large share of total sales in industry. Implication is that these firms are more productive than other firms, confirming theory which predicts that after trade liberalization least efficient firms will exit market, more efficient firms will expand foreign sales, while those in the mid-range of efficiency will concentrate on domestic sales. Similar findings as for U.S. and Canada.

3. Movie industry economics

From: Krugman & Obstfeld (2006), chapter 6

What is the United States' most important export sector?

The answer depends to some extent on definitions and could be agriculture or aircraft. However, by any measure one of the biggest exporters in the U.S. is the entertainment sector, movies in particular. Since 1994, American movie companies have been receiving over half of their box office receipts from overseas sales. In 2000, rental fees generated by exports of films and tape were \$8.9 billion – more than domestic box office receipts. American films dominated ticket sales in much of the world, accounting for 82 percent of box office receipts in Germany, 65 percent in Japan, and 58 percent in France.

Why is the United States the world's dominant exporter of entertainment?

There are important advantages arising from the sheer size of the American market. A film aimed primarily at the French or Italian markets, which are of course far smaller than that of the U.S., cannot justify the huge budgets of many American films. Thus, films from these countries are typically dramas or comedies whose appeal often fails to survive dubbing or subtitles.

3. Movie industry economics

Meanwhile, American films can transcend the language barrier with lavish productions and spectacular special effects. [Of course, Hollywood movies typically also have much larger advertisement budgets than smaller productions.]

However, an important part of the American dominance in the industry also comes from the external economies created by the immense concentration of entertainment firms in Hollywood. Hollywood clearly generates two of the three types of external economies we have seen: specialized suppliers and labor market pooling. While the final product is provided by movie studios and television networks, these in turn draw on a complex web of independent producers, casting and talent agencies, legal firms, special effects experts, etc. And the need for labor market pooling is obvious to anyone who has watched the credits at the end of a movie: each production requires a huge but temporary army that includes cameramen, makeup artists, musicians, stunt men and women, gaffers, grips....and actors and actresses, of course.

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Whether it also generates the third kind of external economies – knowledge spillovers – is less certain. If there is any knowledge to spill over, surely it does so better in the intense social environment of Hollywood than it could elsewhere.

An indication of the force of Hollywood's external economies has been its persistent ability to draw talent from outside the U.S. from Garbo to Bergman and Schwarzenegger and Forster, "American" films have often been made by ambitious foreigners who moved to Hollywood – and in the end reached a larger audience even in their original nations than they could have if they had remained at home.

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Is Hollywood unique? No, similar forces have led to emergence of several other entertainment complexes.

In India, whose film market has been protected from American domination partly by government policy and partly by cultural differences, a movie-making cluster known as “Bollywood” has emerged in Mumbai [and has apparently surpassed Hollywood in size].

A substantial film industry catering to Chinese speakers has emerged in Hong Kong. And a specialty industry producing Spanish-language *telenovelas* for television programs all over Latin America has emerged in Caracas, Venezuela. This last entertainment complex has discovered some unexpected export markets: television viewers in Russia, it turns out, identify more readily with the characters in Latin American soap operas than with those in U.S. productions.

4. Lessons from empirical studies on scale economies and gains from trade

- Large part of world trade is intraindustry trade (IIT), which cannot be explained through comparative advantage. Instead, it reflects economies of scale.
- IIT varies across goods: chemicals, computers, industrial machinery, and precision instruments tend to have percentage of IIT in highly developed economies; all of these products are subject to technological differentiation and scale economies. IIT is relatively small in most countries for clothing and fuels, indicating that trade in these sectors is largely driven by comparative advantage.

4. Lessons from empirical studies on scale economies and gains from trade

- There is empirical evidence for gains from trade due to scale economies: increased trade tends to reduce price markups and increase production.
- In addition, trade also leads to increased product variety and a reduction in the number of firms, with an increase in overall productivity and the most efficient firms exporting part of their products. Both factors lead to gains from trade and are in line with theoretical predictions.
- Much empirical work remains to be done: in particular, it is difficult to distinguish gains from trade from other sources of welfare or productivity increases and to distinguish the exact causes of these gains.