

International Trade Theory and Policy Revisited*

Lepi T. TARMIDI**

The ideas which are here expressed so laboriously are extremely simple and should be obvious. The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds.

J.M. Keynes

The General Theory of Employment, Interest and Money, Preface p. viii,
December 13, 1935.

Introduction

There are theories that are only good as an academic exercise, but it becomes dangerous if someone tries to apply it in the real situation, since the real world is much more complex than can be caught by a simple theory or model. The IMF and the World Bank are advocating free trade and comparative advantage to developing countries in distress due to the financial crisis, as was the case in East Asia in 1997 and 1998. They argued that you must increase your efficiency in order to be able to compete in the world market, and increase your productivity if someone else can sell at a lower price. E.g., during the first years of the financial crisis, they put pressure and insisted on Indonesia to administer a zero tariff on all food imports. All over the world, agriculture is the most protective sector in the economy and where in the world is there a zero tariff for food imports, except for Singapore and Hong Kong, and Indonesia during the crisis. Ricardian and neo-classical trade theories fail piteously when applied to the real world situation, precisely because

* The paper is a revised version of an earlier paper with the same title presented at the Seminar "Perubahan Struktural dalam Rangka Penyehatan Ekonomi", organized by the Postgraduate Program of the Department of Economics of the University of Indonesia in conjunction with the Indonesian Economists' Association, Jakarta, December 8-9, 2004.

I would like to thank Prof. Hiroshi Ohta from the Graduate School of International Cooperation Studies, Kobe University, for taking his precious time to give useful comments to an earlier draft.

** Visiting Professor, Graduate School of International Cooperation Studies, Kobe University. Professor of Economics, University of Indonesia, Jakarta, Indonesia.

of the use of many restricted assumptions, and this is what the present article is going to show.

Ricardian and neo-classical trade theories as presently being taught at universities are far from sufficient to explain the process of international trade and the gains emanating from trade in a real world situation, and hence needs further explorations and revisions. Students should be made aware and warned against the weaknesses and pitfalls of the assumptions and not treat theories as an absolute truth that is readily applicable. Unfortunately, many trade theorists use these simple theories, which are based on many assumptions, to derive at practical policy implications. (Compare Ruigrok: 78). Here the devil lies in the assumptions as is already known for many years. Hence the paper is a warning to practitioners and government officials not to use theories uncritically for implementing policy measures.

There were attempts though to lift-up the limited assumption of two goods, two countries and one factor of production model into a more realistic model of many goods, many countries and many factors, and also to dismantle the unrealistic assumption of perfect market competition. The present paper tries to develop some new aspects to theoretical thinking in international trade theory to make the theory closer to reality and be more applicable in the real world. The paper will look at international competition and the practice of trade distortions like import protection, subsidies and dumping. Because of trade distortions in practice, existing trade theories which are based on the assumption of perfect competition, can not be applied in the real world. Therefore, a new assumption should be added to existing trade models, namely, free trade void of distortions. The contribution of the paper will be to find answers to these questions, if not all but at least partially.

The Theory of Comparative Advantage with One Factor

The theory of comparative advantage in international trade states that: "A country has a **comparative advantage** in producing a good if the opportunity cost of producing that good in terms of other goods is lower in that country than it is in other countries.... *Trade between two countries can benefit both*

countries if each country exports the goods in which it has a comparative advantage. This is a statement about possibilities, not about what will actually happen... international production and trade is determined in the marketplace where supply and demand rule.” (Krugman & Obstfeld: 12).

The theory makes the restricted assumptions of two countries, Home and Foreign (using Krugman and Obstfeld example), two goods and one factor of production, labor. Labor here is used as a measurement representing the price of goods by Adam Smith, because:

“Labour, therefore, is the real measure of the exchangeable value of all commodities.... Labour was the first price, the original purchase - money that was paid for all things..... Labour alone, therefore, never varying in its own value, is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared. It is their real price; money is their nominal price only.” (Smith: Book I Ch V: 30-3).

Now assume further that unit labor requirements to produce good 1 and good 2 in Home is a_1 and a_2 and in Foreign respectively a_1^* and a_2^* . Home has an absolute advantage in producing good 1 if $a_1 < a_1^*$ and Foreign in producing good 2 if $a_2 > a_2^*$.

“If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage.” (Smith: Book IV Ch. II, 424).

The theory of comparative advantage, also known as Ricardian trade theory, proves that trade will take place giving profits to both parties even if one of the countries has no absolute advantage in producing both goods. Home will have an absolute advantage in both goods over Foreign, if $a_1 < a_1^*$ and $a_2 < a_2^*$, or Foreign has an absolute advantage in both goods if $a_1 > a_1^*$ and $a_2 > a_2^*$.

Home has a comparative advantage in the production of good 1 if its relative labor productivity in good 1 is higher than in good 2, than is the case in Foreign: $a_1/a_2 < a_1^*/a_2^*$ or if $a_1/a_1^* < a_2/a_2^*$.

In a model of two countries and two goods, if Home has a comparative advantage in good 1, it is compelling that Foreign must have a comparative advantage in good 2, or vice versa. Hence Home will specialize in producing good 1 and Foreign in good 2. International trade theory concludes that it is comparative advantage that matters and not absolute advantage (see Krugman & Obstfeld: 34). Krugman repeated this statement again and again in his debates with other economists and leading figures (Krugman; Foreign Affairs).

“But an absolute productivity advantage over other countries in producing a good is neither a necessary nor a sufficient condition for having a *comparative* advantage in that good.... *The competitive advantage of an industry depends not only on its productivity relative to the foreign industry, but also on the domestic wage rate relative to the foreign wage rate.* A country's wage rate, in turn, depends on relative productivity in its other industries.” (Krugman & Obstfeld: 24).

Hence the Ricardian comparative advantage theory can also be stated in terms of comparative unit labor costs instead of labor productivity (Bhagwati: 321). “Goods will always be produced where it is cheaper to make them. The cost of making some good is the unit labor requirement times the wage rate” (Krugman and Obstfeld: 27). Good i will be produced in Home if the costs (C_i) is lower than in Foreign (C_i^*). Since in a perfect competitive market, costs equal price, it is the same as saying that the absolute price of good i should be lower in Home than in Foreign. Now let a_i stands for the unit labor requirement of producing good i in the Home country and a_i^* for the unit labor requirement in the Foreign country. If w is the wage rate per hour in Home and w^* in Foreign, then it will be cheaper to produce good i in Home if

$$wa_i < w^*a_i^* \text{ or if } a_i/a_i^* < w^*/w.$$

Vice versa, it will be cheaper to produce good i in Foreign if the following condition is fulfilled: $a_i^*/a_i < w/w^*$. (Krugman and Obstfeld: 27).

Wage rate in a country in turn depends on the one hand on the average

nominal wage level in that country and the exchange rate between the two countries in order to come to a common denominator to compare wage rates. Wages in each country might fluctuate over time and so do exchange rates. Hence

$$w/w^* = w.e/w^*.e^*$$

e will be equal to 1 if Home is the anchor currency, e.g. US dollar, and e^* is the exchange rate of Foreign in terms of US dollar.

Labor productivity again differs from country to country, not so much because of different physical strength, but because of gender, the quality of human resources (education) and the use of technology as embodied in the factor capital. An American worker has at the utmost twice the physical strength than his Indian counterpart. But an American farmer can till some 5 ha land alone using a huge tractor while his Indonesian counterpart with simple tools manages only 0.5 ha. An African village hen without feeding does lay eggs only once in a week, but an American hen produces every day an egg and bigger ones at that.

To explain the Ricardian trade theory, the model incorporates a large number of assumptions, and these are: "(1) only two nations and two commodities, (2) free trade, (3) perfect mobility of labor within each nation but immobility between the two nations, (4) constant costs of production, (5) no transportation costs, (6) no technical change, and (7) the labor theory of value." (Salvatore: 40). In addition there is also the assumption of perfect competition and the absence of trade distortions in the international market. (Compare also Bhagwati and Srinivasan: 9).

Though the Ricardian trade theory of comparative advantage is in essence a static model, but it can be also interpreted in a dynamic way. A good that has comparative advantage today may not be so in a couple of years, and vice versa, a good that has no comparative advantage today may change in the future into a comparative advantage good. If at a certain point of time the price of a certain commodity jumps up drastically due to a big surge in

demand, there will be reactions to new inventions to take place like rubber and natural cotton during the Korea war and during the oil-shocks. Synthetic rubber and synthetic fibers were innovated, oil substitutes were found and energy-saving technologies introduced.

The Heckscher-Ohlin Factor Proportion Theorem

Ricardian trade theory is being extended further by Heckscher and Ohlin into a model of two factors of production instead of one, labor. Comparative advantage in trade between nations is determined on the one hand by the relative abundance of factors of production and on the other hand on the technology of production. Technology in turn influences the relative intensity with which different factors of production are used in the production of different goods. (Krugman and Obstfeld: 67). *“Countries tend to export goods whose production is intensive in factors with which they are abundantly endowed.”* (Krugman and Obstfeld: 76).

A problem arises as on how factor intensity in technology in certain industry can be measured in a representative way. E.g. the textile industry in Indonesia ranges from highly modern fully integrated computerized mills to simple handlooms. Another example, a textile industry in general is relatively labor intensive and a computer industry relatively capital intensive. The textile industry in country A is labor intensive but in country B it can be capital intensive, and the computer industry in country A is labor intensive while in country B relatively capital intensive. The labor abundant country A would have a comparative advantage in producing textiles and export them to B, but at the same time capital abundant B would also have a comparative advantage in producing textiles and export them to A. Though in this example there is intra-industry trade, because the kind of textiles traded are different.

Causes of International Trade

The classical Ricardian trade model and the Heckscher-Ohlin theorem both explain why trade takes place between two nations. The problem statement made by David Ricardo was, that it would be more advantageous for England

to import wine from other countries, be it Portugal, Russia or East India, and purchase it by the exportation of cloth (Ricardo, Ch. VII: 76-7 and footnote 77). The theory does not explain if one of the two goods cannot be produced in one country, like banana which can be produced in East India but not in England. The theory still constitutes the bulk standard theory in international trade theory teaching. The question is, however, how important are these theories as applied to the real world? To what extent does the Ricardian and neo-classical trade theories explain the practice of international trade? The flaw of the Ricardian trade theory is that it looks only at the supply side while neglecting the demand side. Causes and theories that explain trade between nations are many, these are:

1. Absolute and comparative advantage theories look at discrepancy in labor productivity as an advantage to trade although countries produce the same goods.
2. Economies of scale, which will lower the cost of production through mass production. If there is international specialization of production, then each country can increase the production of the good substantially, in which it has a comparative advantage. (See Krugman & Obstfeld: 121). In this case trade is still based on comparative advantage.
3. Product differentiation. A greater part of trade between developed and developing countries is inter-industry trade based on differences in factor endowments, including technology. While a greater part of trade among developed countries is intra-industry trade based on economies of scale in differentiated products. (Salvatore: 188, see also Krugman and Obstfeld: 139). This is a deviation from comparative advantage theory, because through differentiation a producer can command a certain monopoly power and can sell his product higher than market price. Intra-industry trade "will happen (1) when countries are similar in their relative factor supplies, so that there is not much interindustry trade, and (2) when scale economies and product differentiation are important, so that the gains from larger scale and increased choice are large.... intraindustry trade will be dominant between countries at a similar level of economic

development.” (Krugman & Obstfeld: 140).

4. Vent for surplus, in case there is overproduction and the domestic market is already saturated.
5. Technological gap and product cycle models (see Salvatore: 174-188).
6. Competitive advantage from M. E. Porter.
7. Differences in natural resources and endowments like climate-specific (apples, tulips, banana, coffee) or soil-specific (minerals, land-locked countries which cannot produce sea products).
8. Linder theory of representative demand (see Appleyard & Field: 164-7; Borkakoti Ch. 24).
9. Multinationals, industry relocation and multi-sourcing. Relocation of simple consumer good and low technology industries from high wage countries to low wage countries increases trade and has the impact of changing the pattern of trade.
10. Excess domestic demand due to limited domestic production, though imported prices might be higher than domestic prices.
11. Political reasons, in particular during the cold war period. The Western world traded primarily with non-Socialist countries, while Socialist countries traded mostly among themselves (COMECON) and their satellite countries.
12. From the demand side, the availability of foreign exchange reserves. Some small developing countries cannot import the goods they would like to import due to shortage of foreign exchange reserves. But on the other hand, the US for years has incurred huge trade deficits, making possible for Americans to import goods they fancy by transferring their money, simply because the US is regarded as being the reserve center of the world. In 2003 the US was running a trade deficit of US\$ 582 billion, a fantastic huge amount, and US imports alone constitute 17 percent of total world imports. Japan's exports amounted to US\$ 472 billion, far below the US trade deficit. (World Bank). Had the US not incurred such huge trade deficits, no exports from other countries to the US would be possible.
13. Borkakoti mentions some other determinants, such as human capital and

R & D expenditures (Borkakoti: 50-51).

As can be seen from the list above, there are a large number of factors determining the international flow of goods. "There is a host of determinants of a country's exports.... Different theories grapple with different determinants of trade." (Borkakoti: 16). Some of the causes of international trade like product differentiation, technological gap, and competitive advantage, excess demand, do not need comparative advantage in order to trade between one and another. Though a certain product is at a comparative disadvantage compared to the importing country, it still can export the product to that country. This represents a warning that the theory of comparative advantage can not be applied indiscriminately in all cases.

Extension of the Ricardian Trade Theory

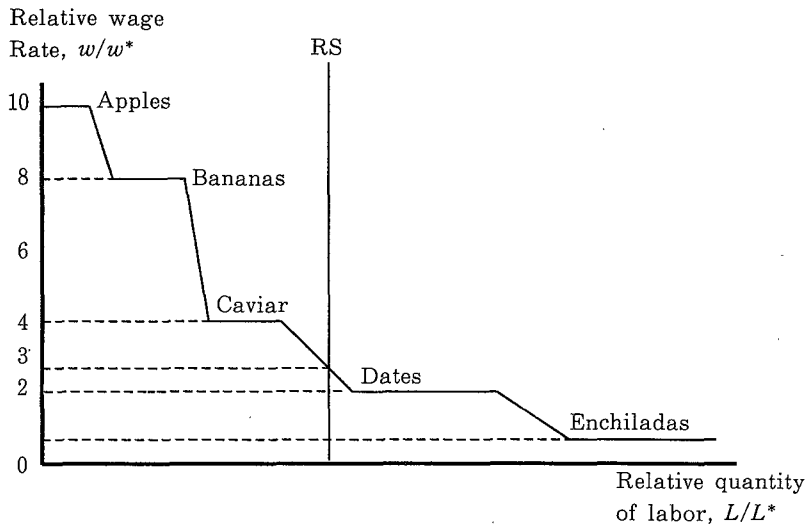
Realizing the limitations of traditional Ricardian trade theory, trade theorists for a long time have struggled to overcome the limitations by coming closer to reality.

a. Comparative Advantage with Two Countries, Many Goods and One Factor

The limited assumption of two countries and two goods can be relaxed into a model of comparative advantage with two countries and many goods as shown below. All the goods (n) are arranged in increasing order or according to the relative Home productivity advantage in each good. As a benchmark for trade is the ratio of wage rates between the two countries: (see also Bhagwati and Srinivasan: 43)

$$\begin{aligned}
 a_1/a_1^* < a_2/a_2^* < a_3/a_3^* < a_4/a_4^* < w^*/w < a_5/a_5^* < \\
 a_6/a_6^* < a_7/a_7^* < \dots < a_n/a_n^*
 \end{aligned}
 \tag{1}$$

Home comparative advantage will be greater in goods for which its relative productivity is higher (lower labor requirement) than the relative wage rates. And vice versa, Foreign will have a comparative advantage in goods for which its relative productivity is lower than the relative wage rates. This



Source: Krugman & Obstfeld: 30.

Figure 1. Determination of Relative Wages

means that goods 1 to 4 will be relatively cheaper if produced in Home and goods 5 to n will be relatively cheaper if produced in Foreign by a given wage ratio w^*/w . (See Krugman & Obstfeld: 26-30). Mathematically, n can have the value of infinite (∞). See also Figure 1 for a numerical example. If Home wage rate is five times that of Foreign, only apples and bananas will be produced in Home, while caviar, dates and enchiladas in Foreign. However, if the Home wage rate is only three times that of Foreign, Home will produce apples, bananas, and caviar, while Foreign will produce only dates and enchiladas. (Krugman & Obstfeld: 28).

Further, by using equation (1) we can relax the assumption of one factor of production (labor) model into a more realistic model by comparing production costs instead of wage rates. "A realistic view of trade must allow for the importance not just of labor, but of other factors of production such as land, capital, and mineral resources." (Krugman & Obstfeld: 67). According to the classical labor theory of value, labor is being used as a unit of measurement representing price or costs. Hence costs (C) in this context consist of wages, interest, rent, intermediate products and costs of services. And now we have a comparative cost advantage model like shown below:

$$\begin{aligned}
a_1/a_1^* < a_2/a_2^* < a_3/a_3^* < a_4/a_4^* < C^*/C < a_5/a_5^* \\
a_6/a_6^* < a_7/a_7^* < \dots < a_n/a_n^*
\end{aligned}
\tag{2}$$

b. Trade with One Good, Many Countries and One Factor

In a model of absolute advantage with one good, one factor of production (labor) and many countries (m), we can range labor costs of good i according to countries from the lowest to the highest. Labor costs for producing good i in country 1 is lower than in country 2, if $w_1 \cdot a_{i1} < w_2 \cdot a_{i2}$, hence

$$\begin{aligned}
w_1 \cdot a_{i1} < w_2 \cdot a_{i2} < w_3 \cdot a_{i3} < w_4 \cdot a_{i4} < P_i \\
< w_5 \cdot a_{i5} < w_6 \cdot a_{i6} < w_7 \cdot a_{i7} < \dots < w_m \cdot a_{im}
\end{aligned}
\tag{3}$$

where P_i stands for world market price of good i . Costs are here being used interchangeably with price, since in a perfectly competitive market Average Cost = Marginal Cost = Average Price = Marginal Revenue.

Baghwati and Srinivasan in their model of multiple countries used also commodity price ratio (p), defined as p_2/p_1 or the ratio of the price of good 2 to the price of good 1. $p = p_2/p_1 = (L_2/Q_2)w/(L_1/Q_1)w = (L_2/Q_2)/(L_1/Q_1)$ in Bhagwati and Srinivasan notation (p.11).

Since L_1/Q_1 is equal to $1/a_1$ in Krugman and Obstfeld notation, hence $p = a_1/a_2$. And so wage ratio can be substituted by price ratio.

Though it was never mentioned before, but in reality, comparative advantage is comparative costs advantage, comparing relative costs of production of two goods in two countries.

c. Comparative Advantage with Two Goods, One Factor and Many Countries

Consequently, in a model of comparative advantage with two goods, one factor of production (labor) and many countries, we can range the comparative advantage of good 1 according to countries:

$$\begin{aligned}
a_1, 1/a_2, 2 < a_1, 2/a_2, 2 < a_1, 3/a_2, 3 < a_1, 4/a_2, 4 < P_i \\
< a_1, 5/a_2, 5 < a_1, 6/a_2, 6 < \dots < a_1, m/a_2, m
\end{aligned}
\tag{4}$$

d. Comparative Advantage with Two Goods, Many Factors and Many Countries

And finally, in a model of comparative advantage with two goods, many factors of production and many countries, the equation is as follows (compare Salvatore: 56):

$$C_1, 1/C_2, 1 < C_1, 2/C_2, 2 < C_1, 3/C_2, 3 < C_1, 4/C_2, 4 < P_i < C_1, 5/C_2, 5 < C_1, 6/C_2, 6 < \dots < C_1, m/C_2, m \quad (5)$$

Cost is represented here as the sum of the value of all production factors needed to produce good i . However, in a real world of many countries and infinite number of goods, it is not possible to determine the comparative advantage position or the relative costs of each good. In the final instance, absolute costs determine competitiveness. And so the equation can be rewritten as follows:

$$C_1, 1 < C_1, 2 < C_1, 3 < C_1, 4 < P_i < C_1, 5 < C_1, 6 < \dots < C_1, m \quad (6)$$

In a model of many countries, if Home has no advantage in producing e.g. bicycles and hence imports bicycles, will Home conversely be able to export textiles, where supposedly it has a comparative advantage? This is not certain either, because there will be always another country that is more efficient in producing textiles, so that Home would not be able to export its textiles. You might be among the 10 best countries producing textiles, and probably not the number one. In whatever good you are competitive, there will be always a country that can beat you in competitiveness.

e. Trade with Many Countries, Many Goods and Many Factors

There are partial mathematical solutions to extend the Ricardian and neo-classical trade theory to include also many countries, many goods and many factors. One such effort is forwarded by J. Peter Neary with his model of many goods and many factors (see Neary). Borkakoti also provides mathematical solutions to extend the simple Heckscher-Ohlin-Samuelson model into

a model of

1. 2 factors, 2 countries with many goods
2. 2 goods, 2 countries with many factors
3. 2 goods, 2 factors with many countries (Borkakoti: Ch. 10).

However, there is no mathematical model that can answer the case of many countries (around 150 countries that have any significance in trade), infinite number of goods and three factors. And even if there is, still it has no applicable importance, because there are other factors besides comparative advantage which are more important that determine the flow of goods.

Weaknesses of the Assumptions

There are serious weaknesses as to the assumptions of classical and neo-classical trade theories when applied to the real world and to draw conclusions for real world policy measures. "By the end of the 1970s, it had become clear to many international trade theorists that the questions addressed by traditional theory were too narrow to form the sole basis for the analysis of international trade" (Bensel and Elmslie: 254).

1. There is no free trade in the real world, even the most liberal countries like Singapore and Hong Kong still do exercise protection on some sensitive sectors. The question therefore is, why then do countries raise trade barriers if free trade is good for them? Trade theorists would probably reply that it is their duty to convince politicians of the benefits of free trade. However, politicians and trade practitioners must have very good economic reasons for practicing trade protection, even in developed countries from where the theories originated. In a real situation, the process of adjustment between the pre-trade equilibrium and the post-trade equilibrium would not proceed smoothly and immediately, so that temporary unemployment will ensue. This has already been recognized by Adam Smith when he says "In every period of its duration its whole capital and industry might still have been employed, though upon different objects, in the manner that was most advantageous at the time." (A. Smith: 425). Unemployed people do not have incomes. Probably the foremost reason for protection is the fear for

unemployment. No body can guarantee that in the final end all unemployed would find employment again, and for how long. There is no automatic adjustment, because of the immobility of labor between sectors and because of different absorption capacity in each sector.

The agricultural sector is by all means most sensitive to protection because of several reasons:

- (i) Food security, because food is a basic need for every body and there is no guarantee that there won't be volatilities in world food supply and prices and that cheap world food supply will be stable and continuous forever. If because of some reason there is a shortage in world food supply and prices jump up substantially, then there is no more agricultural land and no more farmers in the country to produce the food.
- (ii) Though the share of farmers to total working population in developed countries is relatively small, less than 10 percent, but they have a strong political lobby and a strong voice that cannot be ignored by politicians. On the other hand the share of farmers in non-industrialized developing countries can reach as much as 50 to 60 percent.
- (iii) Agricultural products are generally more homogeneous compared to manufacturing products, and hence there is less room for product differentiation.

In practice there are many forms of import protection aside from tariffs, e.g. various non-tariff barriers, subsidies, and undervaluation of the currency.

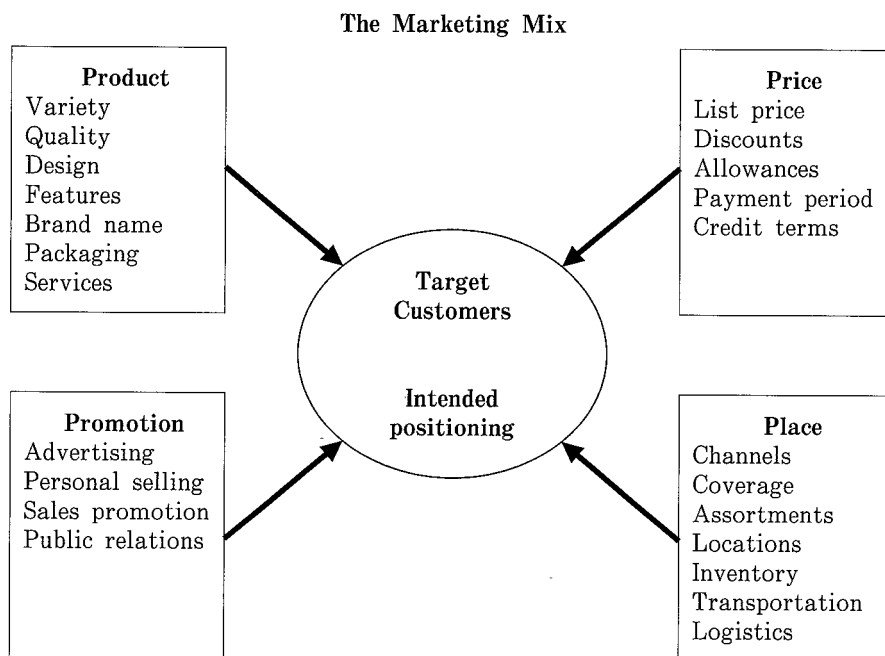
2. There is no certain pattern of trade that points to specialization and international division of labor in world trade. Looking at trade statistics of every country, the reality is intra-industry trade¹, even at HS 5 to 7 digit level. There are always exports and imports for each item, though there are net exporters and net importers. Perhaps at HS 9 digit level, one can observe some specialization in trade. If this is the case, why bother about finding the comparative advantage of certain commodities for certain countries? It is not worthwhile the effort. And if at HS 9 digit level perfect specialization is found, this might be due to natural and technological

advantages, and not because of comparative cost advantage, like airplanes, cars, refrigerators, bananas, tin, oil, etc. Even if in empirical tests of Revealed Comparative Advantage (RCA) show some signs of comparative advantage, still this is a weak result. Unlike the theory, after trade there is no close or perfect specialization, because producers in the importing country would fight for their survival, by improving their productive efficiency. Second, RCA calculations might not reveal the real extent of comparative advantage especially between developed and developing countries, if trade is measured in value. E.g. the average price of shoes exported from developing countries to the US is \$10/pair, but shoes exported from the US are \$100/pair. A better measure would be using quantitative units like quantity, volume or weight, but again the quality of Thai shoes differs from American shoes, and is therefore not comparable. Third, the process of comparative advantage in trade has already been finalized in forming a certain trade pattern. If developing countries have a comparative advantage over developed countries in producing e.g. footwear, the next question is, what kind of footwear. Then probably a developing country would not have a comparative advantage in all kinds of footwear, and this must be determined on a HS 7 or 9 digit level. There are also other forms of trade distortions like import barriers, export taxes, unfair trade practices, undervalued exchange rate. The idea of measuring RCA is that the government gives support and facilitation to industries which reveal a comparative advantage. The problem with RCA however is, that a certain industry in a certain country already has this advantage over other countries, although without support from the government. Promoting comparative advantage industries to increase exports more forcefully would not be an optimal policy, because of decreasing marginal sales if exports have already reached a high level, which means that the market is almost saturated. Or is it just the reverse measure that is the better policy, namely promoting disadvantageous industries instead and facilitate their exports? The lesson learnt is, leave trade to the merchants, for they will find niches to sell their products abroad or in the domestic market, regardless of

comparative advantages.

About one-fourth of world trade consists of intra-industry trade, especially trade in manufactured products (Krugman & Obstfeld: 139).

3. The business approach to marketing. To be successful a firm must have marketing strategies to achieve competitive advantage and reviews them constantly. From the micro standpoint of business, comparative advantage is not so important, because selling a product depends on the marketing strategy a firm pursues or on the right marketing mix. Marketing mix constitutes the seller's position and consists of four groups of variables: product, price, place and promotion (four Ps). "Marketing mix consists of everything the firm can do to influence the demand for its product." While from the buyer's viewpoint there are the four Cs: customer solution, customer cost, convenience, and communication. (Kotler & Armstrong: 56-58). Companies operating in many countries must also understand the differences in values, attitudes and behaviors and adjust their marketing programs accordingly (Kotler, Armstrong: 205).



Source: Kotler & Armstrong: 58.

4. The assumption of perfect labor mobility between sectors. Labor absorption is not the same in every sector of production. Hence in practice, the number of workers released in one sector because of declining production due to lack of competitiveness may not all be employed in the leading sector. In addition, there are different skill requirements in each sector, because labor is not homogeneous. E.g. farmers cannot be moved to factories producing computers. The result is, there is unemployment in the country. On the contrary, in theory, this is always balanced and there is always full employment. Due to poorly functioning markets in developing countries, new jobs are not created automatically. In the long run there will be adjustments, if, and only if, all countries in the world apply free trade. Then there will be a new equilibrium in world production and trade. However, "... during the transition phase to a new equilibrium there could easily be found certain factors that suffer a period of unemployment. One defense would suggest that after trade the adjustments have taken place, the community will have benefited... a movement from autarky to free trade when a country is presented with trading opportunities at different prices could result in gains even *during* the transition process when some labor becomes unemployed." (Caves, Frankel, Jones: 101). There are varieties of factors that cause unemployment like government regulations, rigidities in labor markets, and lack of capital (Stiglitz: 10).

Even if labor is homogenous and can be substituted between sectors, will the laid off workers be exactly matched by the number of workers needed for exports? Foreign might not need that much Home good. Foreign imports depend on its needs or its demand, and this demand might be less than is necessary to compensate for the laid off workers in Home.

5. Endless number of commodity items due to product differentiation. Let alone comparing one bundle of goods with other bundles of goods, even among one good it is not comparable since the case of a perfectly homogeneous good is very rare, except for a few examples like tin. However, in a real world situation there are millions or even infinite items of goods. Because firms deliberately depart from producing homogeneous goods and

through innovation and technological progress introduce differentiation, moving away from perfect competition to monopolistic competition, so it can find a market niche for himself. And because the firm is somewhat insulated from competition, it can get a premium price (Krugman and Obstfeld: 126-7, Kotler and Armstrong: 260). Therefore, how can we possibly compare one product with another. E.g. strawberries can have for example grade A, B, C and D, ranging from the highest to the lowest quality, and the price of grade A can be twice as much as of grade D. Then price comparison must be made between the same grades of the good, but this implies sub-categorizing the already small item (strawberries) further. Another example: Canon of Japan is producing the EOS model camera, but it differentiates the same model into a pure Japanese product, which is very expensive and sold only in Japan; another variant is the EOS KISS made in Taiwan with good quality and lower price and sold only in Japan; and another variant also produced in Taiwan but with lower quality with relatively low price for exports to developing countries. So one single product can have widely differentiated sub-products and prices. Hence a product that otherwise would not be competitive in the world market can be made competitive and exported abroad. Product differentiation starts with simply giving a name to the same product. The receipt for making bread or cakes is the same and is public knowledge, but the hands that make it are different and so is the final product.

In comparative trade theory, the ratio of labor productivity of two goods is being compared between two countries. If there are three goods, this means that one has to measure the ratio of labor productivity between good 1 and good 2, between good 2 and good 3, and between good 1 and good 3. And in case of many goods, this is an impossible exercise. A partial solution would be using matrices for many goods and many factors as developed by Neary. Again this is not a practical solution in case of an infinite number of items.

6. In the simplistic Ricardian and neo-classical trade model we have only two countries to consider, but how can we compare between nearly 200

independent states (number of UN members) in the world one by one? Of course one can group countries into e.g. developed countries and developing countries, but again this grouping is not helpful because one country trades with another country and not between groups of countries. If one country is good at producing a certain good, there will be always another or other countries that can beat you in production costs (however Krugman says, it is not absolute costs that matters but comparative advantage). But the practice is different, each country can export and import many kinds of goods, and even import and export the same good. It does make more sense to analyze trade patterns among pairs of countries, but in an open world economy one cannot exclude pairs of countries because every country trades with many other countries, and all these countries are interacting in the world market.

7. Consumers do not have perfect market information about the goods: price, quality, technology, credit facilities, after sales service, etc. The price of the same egg differs from shop to shop, even if the next shop is only 5 meters away. Another example is if one enters a computer shop to buy a notebook with a certain capacity, you do not know which one is the best. May be you want to buy the lowest in price, the lightest in weight, smallest in size, the largest in capacity, the most advanced in technology. You probably do not buy the one from China although it has a comparative advantage in price. Consumers are at a lost, especially as it concerns technology content, because most consumers are practically blind and often cannot decide which one is the best for him. Though price differs also from shop to shop, still all the shops can make their sales.
8. Costs versus prices. In perfect competition, $AC=MC=AR=MR$, and each firm is a price taker, but in a market of imperfect competition, producers are to a certain degree price setters. There is no law of one price in the marketplace because of imperfect information, product differentiation and market segmentation. The same shoes produced in Thailand and sell for \$10/pair are being sold in the US for \$49.90/pair. The price of a product is not its costs like in perfect competition. Price is determined in the

market through supply and demand. Price goes up if there is excess demand, and price goes down even below production costs if there be over-supply. Hence the price of a good can be at certain times very low and at another time very high, regardless of the costs of production. E.g., price of oil recently reached US\$ 70/barrel and back in 1985 it was only US\$ 8 /barrel. So a market price cannot be used as a determinant of comparative advantage, because market prices do not reflect efficient prices as the amount of production costs plus normal profit. Hence market prices cannot be used as a benchmark to measure competitiveness of goods between nations, except in rare cases where the market is perfectly competitive. Instead we are faced with imperfect competitive and oligopolistic market structures, where each producer has some freedom to determine its own price.

In the market place, how much and what is being purchased depend on demand factors and supply factors.

Demand for foreign goods also exists because of sharp unequal distribution of income. E.g., shoes imported by developing countries from Europe are five times more expensive than locally made Nike shoes though the quality is only twice as good, but still there are people in developing countries who can effort to buy these expensive imported shoes. The price of cars in Indonesia is on average twice as high as in Japan, U.S.A. or Europe due to high import duty, sales tax and luxurious tax and still many Indonesians can afford buying these cars.

However, international prices put also a wedge into autarkic price setting, because domestic firms have to consider also prices of imported goods. If the price of imported shoes from developing countries is being sold for US\$ 49.90/pair in developed countries and in autarkic condition the price of locally made shoes is US\$ 150/pair, due to better quality, the domestic producer is forced to lower its price to let's say US\$ 99.90/pair to remain competitive.

Although the portion of labor input is relatively high at primary level production, but it diminishes rapidly as the good undergoes further

successive processing. Wages constitute only a relatively small portion of total costs, even in terms of cumulative wages including those wages paid at primary and intermediary production stages and for services. In an open economy and globalized world, comparing wages between trading countries is also not justifiable. Because primary products and components imported from developing countries used in the production of a final good in a developed country contains to some extent labor input from developing countries. Vice versa, a car assembling plant in Indonesia imports the main engine, the main parts and all the machines for the plant from Japan. At best one can compare the wage level between a car assembling plant in Indonesia and that in Japan. Hence wages cannot be used as the factor for determining comparative advantage. It is total costs that matters.

9. Number of factors. In the Ricardian comparative advantage theory, there is only one factor of production (labor) that determines costs of production, while in the Heckscher-Ohlin theorem of factor proportion there are two factors, usually labor and capital. In the real world, costs consist of many components like costs of capital, rent, intermediate products and services (marketing, transportation, telecommunication, professional services, etc.). So, it is not sufficient by comparing costs of two factors alone as the costs of production. In developing countries abundance or scarcity of factors might not be reflected in their costs as in the H-O model, because of interventionist interest rate and minimum wage policies.
10. In a real world situation, costs are not the only factor that determines trade, but competitiveness, and this in turn depends on a number of factors like production costs, labor productivity, technology, government policy, exchange rate, infrastructure, credit policy, marketing, time delivery, supporting industries (compare M.E. Porter). Competitiveness in this context is meant as competition between firms, and not between countries² “Non-price variables have often suffered neglect in theoretical discussions and in empirical studies, although quality differences, goodwill, servicing, the existence of repair facilities and differences in weights and measures

all bear influence on the pattern of international trade among the industrial countries.” (Balassa: 43).

11. In a real world, trade distortions prevail because of subsidy, dumping, export tax, undervalued exchange rate. Like in the example of equation (6) above, theoretically countries 1 to 4 have a cost advantage over the international price of good 1, and countries 5 to m have lower cost advantage than the international price. And as such, country 1 to 4 can export good 1 to countries 5 to m. Country 1 can also export good 1 to countries 2 to 4, and country 2 to countries 3 and 4, and country 3 to country 4. Of course, all the countries would like to export to countries with the highest price, and these are countries 5 to m. In this way, every country would have one or more commodities, in which it has an international cost advantage and exports the good(s) to the lesser cost advantage countries. But there is no free trade in the world. If for example all the countries in the world producing good 1 do protect their own domestic markets against imports while country 3 alone does not, then countries 1 and 2 cannot export to countries 5 to m or to country 4 but instead export to country 3. Even countries 4 to m will export good 1 to country 3 at dumped prices, harming country 3.

New Directions of Classical and Neo-classical Trade Theories

Many trade theorists are of the opinion that the Ricardian model of international trade is useful and valid for practice in the real world (Krugman & Obstfeld: 31-34; Salvatore: 47-50). A large number of new trade theories are recently being developed, departing from the traditional perfect competitive models, to more realistic models of imperfect competition like monopoly, increasing returns and strategic trade policy model in duopoly. Among the trade economists contributing to this new trend, to mention some names, are James Brander, Barbara Spencer, Paul Krugman, Avinash Dixit, Jonathan Eaton, Gene Grossman, Anthony Venables, Elhanan Helpman, Lancaster, Ethier (see Baldwin: footnote p.804; Krugman: 424). The new trade theory is in essence a non-comparative advantage theory, driven mainly by increasing returns

(Krugman: 424-5). A form of imperfect competition is the monopoly model, however in international trade this is not a realistic model either, except in very few rare cases (due to limited market size and high technology, ceramics for making spark plugs are being produced by one firm only in the whole world³). An oligopoly model would be closer to the real world, but this kind of market is also not common though there are some cases. A special case of imperfect competition is the Brander-Spencer model of duopoly, in which government subsidy to the domestic firm can raise the profits of the domestic firm by more than the amount of the subsidy (Krugman, Obstfeld: 279).

Rice Protection in Indonesia

During the Asian financial crisis which erupted in mid 1997, the IMF imposed on Indonesia to eliminate tariff rates on food imports, arguing that free trade is good. Open trade would force inefficient industries to work harder to increase efficiency and be competitive in the world market. However this policy advice should be questioned, because what was the corresponding tariff rate for rice imports in other countries, in Thailand, in Korea or even in Japan? There is no food producing country in the world that does not protect its domestic food production. While IMF officials can not force a powerful country like the US to accept the ideology of free trade, they enforced their concept to a weak country in distress like Indonesia. This gave food for thoughts to ponder about the advocacy of free trade in the absence of free trade and in the presence of trade distortions.

The IMF argued that if Indonesia cannot compete with rice imports, it should increase the efficiency and productivity of rice production or else imports cheap rice from abroad, because this would decrease the overall poverty incidence in Indonesia as rice constitutes a significant portion of expenditures of poor households. Rice protection would not improve the income of rice farmers, on the contrary, since the vast majority of poor households are net consumers of rice, including poor rice farmers, the result would be that protection would increase rather than decrease poverty (McCulloch: 25-6). But these net rice consuming poor farmers have also other means of income

through side jobs and thus can afford higher rice prices.

How solid are the arguments of the IMF and also the World Bank, supported by some Indonesian economists? Indonesia is the third largest rice producer in the world after China and India reaching 33.3 million tons in 2003 (see FAS USDA as quoted by Sulastrri Surono). According to FAO statistics, among 118 rice producing developing countries, Indonesia ranked number 11 in 2002 in terms of yield with an average of 4.4 tons/hectare after Jamaica. Rank number one was Egypt with 9.1 tons, followed by Korea and China with each 6.3 tons. Indonesia's rice yield was higher than India with 2.9 tons or Thailand with 2.5 tons. In fact, according to Indonesian statistics, rice yield in 2003 on Bali reached 5.5 tons and on Java 5.3 tons per hectare. And in terms of costs of production, Indonesia was also quite competitive. The costs of rice production in Indonesia was US\$ 0,084/kg, Malaysia US\$ 0,089, Vietnam US\$ 0,051, Thailand US\$ 0,098, and Myanmar US\$ 0,561. ASEAN rice producing countries said that they are not ready yet to open their market for rice imports (Kompas, 15 August 2003), and only Indonesia was forced to accept 0% tariff.

During the past few years Indonesia imported large amounts of rice, becoming the largest importer of rice in the world, be it legal or through smuggling. But at the same time in 2004 Indonesia managed also to export rice to eight African countries, though the volume was relatively small, which will continue until 2005 (Suara Pembaruan, 10 November 2004). The province of East Java has already signed a contract with China and will export rice there in 2005 (Suara Pembaruan, 6 November 2004).

The price of rice in the world market at the end of 2003 was quoted to be US\$ 0,178/kg (Kompas, 18 December 2003), while rice exported to Indonesia was only priced at US\$ 0.028/kg, where transportation costs were not yet included. The same rice was being sold in the Indonesian market at US\$ 0.145/kg giving a large profit to the importers (Kompas, 9 January 2004). The IMF and the World Bank say that you must be able to compete against any prevailing price in the market, forgetting that in the real world there is no perfect competition and that price does not reflect real costs. The price of US\$ 0.028 is ridiculous, because it is close to nothing and does not reflect the real costs.

Indonesia by opening its market became the victim of other rice excess producing countries. If e.g. Indonesia can lower its domestic price further, the exporting countries would follow by lowering their prices further. Then it becomes a race to the bottom, and how low can you go? Countries must be able to apply means of safeguard against unfair trade practices.

In the post Soeharto era, due to protests from the new government, the IMF allowed an import tariff rate for rice of 30% and starting January 1, 2000, it was changed into a specific tariff of Rp. 430/kg or approximately equivalent to a 35% tariff rate. The government policy should be balanced between the interests of rice farmers and that of consumers, and not keeps rice prices low while at the same time letting prices of manufacturing products soar freely, which effect poor people more.

Conclusion

Though trade theories are valuable in understanding the benefits of trade between nations, they should be taken critically if applied to real world situations, because of the many assumptions implied in the theories. In other scientific disciplines like natural sciences, marketing, management, theories can be applied because they do not work with assumptions. With an infinite number of items and with around 150 countries that have trade significance, and with three factors of production, it is not possible to determine the position of comparative advantage of each individual good in a certain country. Partial solutions are not good enough to draw conclusions to be used in the real world. Comparative advantage is not the only explanation, since there are many other determinants of trade which should be also taken into consideration. This represents a warning that the theory of comparative advantage cannot be applied indiscriminately in all situations. The conclusion of this paper is in a way extreme and revolutionary, and is in frontal contradiction to what most trade economists believe in. Modern economists develop new techniques using mathematical solutions and econometric modeling departing from the classical economists of some 200 to 250 years ago who were philosophers. The modern economists have become technicians, at best artisans and

craftsmen. The present paper is a return to the classical way of thinking, back to philosophy, using discourse as a mean in search of truth, of using arguments against counter arguments.

Since costs can not be compared across nations, in the final end, it is not comparative advantage that determines trade, but competitiveness. Competitiveness in turn consists of many variables, including costs. Therefore, it would be a futile effort to undertake empirical studies on traditional trade theories. Applying trade theory into the real world is a dangerous obsession and the result can be fatal, as was the case in Indonesia. Theories are important in supporting actual policy measures, but seemingly not in case of trade theories due to market imperfections. Trade takes place precisely because merchants are motivated by the prospects of making profits, exporters and importers alike. Faced with obstructions they will find a way out or to circumvent the problem. In this imperfect world, people have to live with problems that appear incessantly and continuously, and it is exactly this continuous problem solving mechanism that gears the economy and also trade into progress. And expansion of trade is being facilitated by technological progress in transportation and telecommunication. It is the nature of business to earn a living by making profits, for the firm, the employees and the families.

Free trade is good as long as every country in the world participate in it, but would harm the countries that practice it if most countries protect their domestic market, especially in agriculture. Protection is needed on a case by case basis as long as it is moderate and not excessive, countries should also be allowed to take corrective safeguard measures against trade distortions and unfair trade. Therefore, the policy implication is to dismantle trade barriers and to facilitate trade, leave the rest to the economic agents, because they know best what to do and find the niches in this complex world. The conclusion is, at least in case of trade, let the "invisible hand" works. There is no basic difference between domestic trade and international trade except that in case of international trade, trade takes place between sovereign nations that have their own regulations. The determinants of trade are basically the same as those in domestic trade. Nations do not trade with one another, but firms

do. Therefore it is time to look for a new direction to develop a new theory of trade. It is not a theory of exchanged, because exchange would mean a pure theory how goods are being exchanged. But a theory of trade, where trade includes exchange, bargaining, marketing gimmicks, and dynamism of entrepreneurs.⁴ International trade is part of this broad theory of trade, where governments influence foreign trade through policy measures (facilitation, protection), exchange rate policy, labor policy, and signing international trade arrangements.

Without your pulling it (*sic.* comparative advantage), the tide comes in,
 Without your twirling it (*sic.* comparative advantage), the earth can spin,
 Without your pushing them (*sic.* comparative advantage), the clouds roll by,
 A.J. Lerner, F. Loewe, *My Fair Lady*, pp.122-3.

Notes

- 1 For an extensive discussion on intra-industry trade, see P.J. Lloyd and H.G. Grubel (eds.). 2003. *Intra-Industry Trade*, Cheltenham, UK and Northampton, USA: Edward Elgar Publishing Ltd.
- 2 Back in 1994 there was a heated debate on competitiveness between Paul Krugman and some other economists and politicians. However the debate was on the competitiveness of nations, which country wins and which loses from trade. See Foreign Affairs. 1994. *Competitiveness, An International Economics Reader*, New York.
- 3 It might be one case, if I am well informed.
- 4 A. Smith started with explaining exchange through the division of labor before extending the theory to international trade (Smith: Book IV Ch. II, 424).

Selected Readings

- Appleyard, D.R.; A.J. Field, Jr. 2001. *International Economics*, 4th ed., Boston, etc.: McGraw-Hill International Edition.
- Balassa, B. 1989. *Comparative Advantage, Trade Policy and Economic Development*, New York, etc.: Harvester Wheatsheaf.
- Baldwin, R.E. 1992. "Are Economists' Traditional Trade Policy Views Still Valid?", in: *Journal of Economic Literature*, Vol. XXX, June, pp.804-829.
- Bensel, T.; B.T. Elmslie. 1992. "Rethinking International Trade Theory: A Methodological Appraisal, in: *Weltwirtschaftliches Archiv*, Tuebingen, Vol.128, pp.247-263.
- Bhagwati, J., edited by R.C. Feenstra. 1983. *International Factor Mobility, Essays in International Economic Theory*, Cambridge, Massachusetts, & London: The MIT Press.
- Bhagwati, J.N.; T.N. Srinivasan. 1983. *Lectures on International Trade*, Cambridge, Massachusetts and London: The MIT Press.
- Borkakoti, J. 1998. *International Trade, Causes and Consequences*, Houndsmills and London: MacMillan Press Ltd.

- Deardorff, A.V. 1994. "Exploring the Limits of Comparative Advantage", in: *Weltwirtschaftliches Archiv*, Tuebingen, Vol.130 Heft 1, pp.1-19.
- 2005. "How Robust is Comparative Advantage?", preliminary paper prepared for the 2005 AEA Meeting, January 6.
- Foreign Affairs. 1994. *Competitiveness*, An International Economics Reader, New York.
- Kotler, P.; G. Armstrong. 2004. *Principles of Marketing*, 10th ed., Upper Saddle River, N.J.: Pearson Education, Ltd.
- Krugman, P. 1995. "Competitiveness: A Dangerous Obsession", in: C.W. Kegley, Jr., R. Wittkopf (eds.), *The Global Agenda: Issues and Perspectives*, 4th ed., New York: McGraw-Hill, pp.316-323.
- Krugman, P. R.; M. Obstfeld. 2003. *International Economics*, Theory and Policy, 6th ed., Boston, etc.: Addison Wesley
- Lerner, A.J.; F. Loewe. 1956. *My Fair Lady*, Harmondsworth, England: Penguin Books Ltd.
- McCulloch, J.R. 2000. *The Works of David Ricardo, Esq., M.P.*, Union, New Jersey: The Lawbook Exchange, Ltd.
- McCulloch, N. 2004. "Trade and Poverty in Indonesia - Assessing the Links", paper, Jakarta, January 27.
- Neary, J.P. 1985. "Two-by-two International Trade Theory with Many Goods and Factors, in: *Economnetrica*, Vol.53 No.5, pp.1,233-1,247.
- Panagariya, A. 2004. "Miracles and Debacles: In Defence of Trade Openness", in: *The World Economy*, Vol.27 No.8, August, pp.1,149-1,171.
- Ruigrok, W. 1991. "Paradigm Crisis in International Trade Theory", in: *Journal of World Trade*, Vol.25 No.1, February, pp.77-89.
- Salvatore, D. 2001. *International Economics*, 7th ed., New York, etc.: John Wiley & Sons.
- Smith, A. 1937. *An Inquiry into the Nature and the Causes of the Wealth of Nations*, New York: The Modern Library.
- Stiglitz, J.E. 2001. "Two Principles for the Next Round or, How to Bring Developing Countries in from the Cold", in: B. Hoekman, W. Martin (eds.), *Developing Countries and the WTO*, Oxford, UK: Blackwell Publishers Ltd., pp.7-24.
- Surono, Sulastri. 2004. "kebijakan Perberasan Nasional", paper for training course at LPEM-FEUI, Jakarta, June - September.
- "KADI Diminta Hentikan Tuduhan Dumping PSF", *Kompas*, Jakarta, 7 Desember 1996.
- "Jatim Siap Ekspor Arang dan Beras ke Cina", *Suara Pembaruan*, Jakarta, 6 November 2004.
- "Indonesia Ekspor 150.000 Ton Beras ke Afrika", *Suara Pembaruan*, Jakarta, 10 November 2004.