PROPERTY RIGHTS AND THE GENERAL THEORY OF EXCHANGE: FREQUENTLY NEGLECTED IMPLICATIONS OF THE DIVISION OF LABOUR AND THE LAW OF COMPARATIVE ADVANTAGE

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The importance of the division of labour and the law of comparative advantage to the operation of modern economies are well known, but many of the implications of these phenomena are less widely appreciated. This article examines the implications of the division of labour and the law of comparative advantage for the ownership and exercise of property rights and the creation and distribution of wealth. It is argued that a fuller appreciation of these phenomena leads to the conclusion that restraints on trade and redistributory measures infringe private property rights and reduce wealth.

Introduction

Nobel Laureate Paul Samuelson (1969, pp. 1–11) was once challenged by the mathematician Stanislaw Ulam to 'name me one proposition in all of the social sciences which is both true and non-trivial'. It was several years later that Samuelson thought that the correct response was *comparative advantage*:

> 'That it is logically true need not be argued before a mathematician; that it is not trivial is attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them.'

Most textbooks on economics leave the explanation of the Theory of Exchange almost exclusively to chapters dealing with international trade and take for granted that people already understand the basic principle of exchange and its relation to the exercise of property rights, its implications for the distribution of wealth, and its relevance to the allocation of human and material resources. Yet the widespread hostility towards international free trade and 'globalisation' evidenced by the prevalence of import tariffs and anti-globalisation protests demonstrates that these points are not commonly understood or appreciated.

There are two distinct and separate effects of the division of labour and exchange: one is the generally recognised gain from increased individual skills (productivity) resulting from specialisation. The other, more subtle point, is that *without any increase in individual skills*, the productivity of the group is increased by the mere allocating of the tasks according to comparative advantage and, therefore, the prospect of subsequent trading with mutual gain becomes a reality. In contrast with the increase in individual productivity resulting from specialisation, the gains from trade are evident *ex ante*, for it is that prospect of saving resources in the quest for satisfactions that drives the exchange that results in mutual gain.

Trade as the exercise of property rights

Some people who consider themselves champions of the right to private property would be surprised to learn that when they oppose free trade and so-called 'globalisation' they are in effect attempting to deny people their right to property.

A person can exercise his property rights in one of two ways: by the personal use and enjoyment of what he owns, or by trading it for something else, whether directly through barter or indirectly through the use of money and intermediation of third parties. Thus, *trade is a fundamental manifestation of your property right.* When you cannot peacefully trade property rights because someone restricts you by force (for reasons unrelated to protection of the equal rights of others), at that point you are no longer the sole owner of your property.

Although, arguably, any tax is an infringement of property rights, applying a general tax on sales for the purpose of raising revenue to finance collective affairs (for example, the police department) is generally accepted as long as the tax is non-discriminatory, the same for everyone. However, frequently people also accept that a government can legitimately impose discriminatory taxes (or otherwise obstruct and restrict with quotas, etc.) on exchanges between persons because of the incidental fact that they live in different countries. These discussions of international trade seem to miss the fact that the parties who exchange are not nations but individual persons, either directly or through commercial agents.

For example, before the breakup of Czechoslovakia in 1993, Vaclav, a resident of Prague, exchanged his wares with Vladimir, who lives in Bratislava. The government protected their property rights and so did not interfere in their exchanges except to protect their contracts. When the country split into two, their exchanges became 'international commerce' subject to government regulations and duties. It is not clear why, at the moment of the split, they lost their property rights. I am not aware of any book, treatise or author that pretends to justify the violation of property rights on the basis of the political jurisdiction of residence of the owners. I am convinced that the reason it is common practice is because trade is not viewed as an issue pertaining to property rights. Consequently, most governments routinely use their coercive powers to deny such rights when the parties to the exchange live in different countries, as if the exchange was between the countries and not the people.

Some defend such government action pointing out that a person does not have an exclusive right to property because nobody produces anything in isolation, without the collaboration of others, including governments. So it is well to point out that the essence of the process of social co-operation for the production of goods is the contractual exchange of property rights, duly remunerated by voluntary agreement between the parties involved. The process is a continuum of settled accounts. When I 'make' a bushel of coffee, a transistor radio, a crystal bowl or whatever, I do so by directing and disposing of many human and material resources, some of them mine and others obtained through contractual agreements with their owners: I compensated the landowner a freely agreed-on price; I paid the workers their best job opportunity (if they had had a better one, I would not have enjoyed their help); I paid the power company, the telephone company, the provider of imported fertiliser raw materials, etc., and lastly, I paid for the collaboration of the government through my taxes. All their contributions are settled accounts, and the final bushel of coffee, crystal bowl or transistor radio is mine alone to peacefully dispose of as I wish. The residual value is my net benefit (or loss) after having paid all those who contributed. The political jurisdiction of residence of those engaged in the transactions is irrelevant.

The law of contracts, in its widest extent, establishes the rules for the legitimate acquisition of property rights; and the acts of production and contractual exchange determine the pattern of ownership, the distribution of the wealth produced. It is precisely the observance of those rules that determine the legitimacy of the rights acquired. *Ex-post* **re**distribution is tantamount to changing the rules of the game after the game and so necessarily has to be coercive.

One frequent justification for **re**distribution is that even if the acquisition of the goods was legitimate it was not equitable or just. But we learn from the example of the Law of Exchange that follows, that there is no objective way to measure what is an equitable gain, for we cannot know the opportunity costs of the parties nor do we have another definition of justice other than to give to each what is their due according to legitimate voluntary contracts of exchange. An additional criticism that is frequently made is that those who have fewer opportunities are forced to accept unjust conditions. But surely those conditions cannot be imputed to the persons offering the other parties their best opportunities. On the contrary, when an offer to trade is accepted it is a sign that conditions are considered, by the participants, to be an improvement over other opportunities that they have or, for that matter, that what the critics offer.

The division of labour

Most explanations dealing with the division of labour are limited to how division of labour leads to specialisation and, as a result, increase in individual productivity. The most often cited example is Adam Smith's pin factory. Smith compares the meagreness of production before division of labour with the much enhanced production that comes with specialised division of tasks (Smith, 1981). However, this is only part of the story.

Neglected in most traditional explanations is how division of labour according to comparative advantage *per se* increases wealth even assuming no improvement of individual skills or the introduction of new technology, and how the group's collective productivity increases, be it a society of hunter-gatherers or an advanced society. In *Human Action*, Ludwig von Mises (1996, p. 144) states that, 'In a hypothetical world in which the division of labour would not increase productivity there would not be any society'. In these words he, in effect, attributes to this phenomenon the evolution of society itself, for obviously if people did not anticipate being better off by co-operating, no society would have evolved.

A frequently cited partial explanation of trade and the division of labour is Adam Smith's (1981, p. 25) observation that people have a 'natural propensity to truck, barter and exchange one thing for another'. Arguably, human propensity is just the opposite: people would prefer to be independent and self-sufficient, and they trade only because they perceive that they will be better off. They value what they receive more than what they give up in exchange, and therefore are willing to accept the disadvantage of becoming more dependent on others as a trade-off for being better off. As Adam Smith illustrates further along in several parts of his book,[1] it is self-interest (correctly perceived) that drives exchange, for if people thought they would be worse off by 'trucking, bartering and exchanging', surely we would not detect any such 'propensity'.

Because of the importance of some neglected implications, the principle of the division of labour deserves a more detailed explanation in the beginning of economic texts. Indeed, the essence of everything else in economic textbooks is nothing more than an elaboration of how division of labour and trading is spontaneously co-ordinated in the market through the mechanisms of the price system, the use of money, etc. It is well to reflect that, reduced to essentials and notwithstanding the complicated and sophisticated monetary systems, ultimately the only function of money is to allow the division of labour.

Explanations of exchange predominantly rely on the fact that people differ in their subjective valuations, so when they trade, they give up something they subjectively value less than what they receive. True enough. However, in such an example, the aggregate **total** real wealth of the participants has not increased; it has merely changed hands. This fails to address how it is that division of labour in and of itself increases the real output – the wealth – of the participants, even when individual productivity remains constant.[2]

So let's give it a try using simple arithmetic applied to exchange between two persons, with a worst-case scenario, in which one participant, Inferjoe, is less productive than the other, Superjack, in everything. This assumption is necessary to demonstrate why it behooves even the most productive to co-operate with the less productive – how even the more skilled will gain by co-operating with the less skilled (the sole exception being the hypothetical improbable case in which one is **equally** better endowed than the other in **every** task).

A numerical illustration

- Let us assume a world of two people: Superjack and Inferjoe.
- Let us further assume that Superjack and Inferjoe require just two products: Bread (B) and Garments (G).
- Superjack is better than Inferjoe at **everything**, B and G, but not equally better.
- Superjack makes bread (B) **twice as fast** as Inferjoe and garments (G) **three times as fast**.

Note the emphasis on the fact that Superjack is **not equally** better than Inferjoe in both the making of bread and garments, but that his superiority is greater in one of them: **garments** (G)**,** for this is the key to understanding the phenomenon.

In order to analyse exclusively the effect of the division of labour itself, we assume that their ability (productivity) remains constant and does not increase with specialisation.

We will measure Superjack and Inferjoe's productivity according to how much Bread (B) and Garments (G) they can each make in 12-hour shifts, and the total time involved in the example will remain constant throughout.

Production

***WITHOUT* DIVISION OF LABOUR**

Superjack		**Inferjoe**	
12 hrs.	12 hrs.	12 hrs.	12 hrs.
12 Breads (B)	6 Garments (G)	6 Breads	2 Garments
Total Production: 18B + 8G			

Note that the opportunity cost of having one thing instead of the other is different for Superjack and Inferjoe, because their respective productivities are different.

For Superjack $1G = 2B \text{ or } 1B = \frac{1}{2}G$

For Inferjoe $1G = 3B \text{ or } 1B = \frac{1}{3}G$

For Superjack, an even trade-off is 1G for 2B. For Inferjoe, it is 1G for 3B. It is precisely this difference that will induce and allow **both** to gain from trading.

Assume that Superjack subjectively desires having more Bread than more Garments. Since he is better in producing both goods, the intuitive solution would be that he just go ahead and make more Bread. However, if he made 12 Breads, his opportunity cost would be 6 Garments: whereas through the division of labour, Superjack can obtain from Inferjoe the same 12 Breads in exchange for only 5 Garments. In the deal, Inferjoe also gains 1 Garment. Both end up with more, without increasing their individual productivity, because both incur in a lower opportunity cost to obtain what they value most. Obviously if Inferjoe is not going to be better off by the trade, there will be no trade. It takes two to tango.

Production

***WITH* DIVISION OF LABOUR**

Superjack		Inferjoe	
8 hrs.	16 hrs.	24 hrs	0 hrs.
8 Breads	8 Garments	12 Breads	0 Garments
Total Production: 20B + 8G			

Total production *without* division of labour: 18B + 8G
Total production *with* division of labour: 20B + 8G

Total production increased by 2 Breads, without any change in individual productivity or increase in total time worked. The **only** thing that changed was that Superjack and Inferjoe allocated their time according to comparative advantage.

How the increased production will be shared will depend on each one's negotiating ability, but the division of labour will only happen if all involved benefit from it. After the division of labour one possible exchange could be that Superjack gives 2 Garments to Inferjoe, in exchange for 5 Breads, in which case they would end up thus:

Superjack		Inferjoe	
13 Breads	8 Garments	7 Breads	2 Garments

Both benefit by the exchange because their substitution ratios (or comparative costs) between Bread and Garments are different. But who gained the most?

- If we measure the gain in terms of Bread, both end up with one more Bread.[3] Superjack gains 1B by giving the equivalent of 4B (2G) in exchange for 5B. Inferjoe gains 1B by giving 5B and receiving 2G, the equivalent of 6B.
- Since both gain 1 Bread, if we measure in time, Superjack has gained one hour and Inferjoe two.
- And if we measure the gain in terms of Garments, Superjack has gained $^1/_2$G and Inferjoe $^1/_3$G.

Is there such a thing as a 'fair' way to measure gain? Note that Superjack and Inferjoe's respective gains change according to how we measure them.

- In Bread, their gain was equal.
- In time saved, Inferjoe gained more.
- In Garments, Superjack gained more.

Although obviously people do not go through the exercise as we just did, they instinctively perform what economists call **cost–benefit analysis** because they are always very conscious of what they must forgo, their opportunity costs, to acquire whatever they obtain.

In our example, the premise is that both **individual** productivity and the time invested remain the same throughout the example. Nevertheless, the productivity of the **combined** effort has **increased the wealth of the group**.

In summary, division of labour, in and of itself, increases the productivity of the group by reducing everyone's opportunity cost in objective, real terms. This explains why Superjack can have more Breads by spending his available time and resources producing Garments rather than by making Breads.

Once the division of labour has allowed for specialisation, the increase in wealth as a consequence of the exponential increase in productivity will dwarf the effect of the division of labour itself. But what must be recognised, is that without the prior perceived gain from the division of labour, no great increase in individual productivity would ever take place as a result of specialisation.

The mechanism that co-ordinates the division of labour in a society is, of course, the relative price structure that results from the myriad exchanges of property rights taking place all the time. Relative money prices facilitate the decision as to whether it behooves the person to make more Garments in order to have more Breads or to make the Breads directly.

Every person will have different opportunity costs and therefore every person will have a different range of exchange ratios within which he can trade profitably. At every given market price some will exchange with a large profit and others with a marginal profit. Every price change, large or small, up or down, will modify the supply and the demand, that is, the number of trades that match and take place, at the margin. And these exchange ratios together make up what is generally referred to as the 'relative price structure'.

Prices fulfil many functions. Since price relationships also reflect the relative scarcity of things, they serve to allocate human and material resources to their most valuable use through the market bidding process that, in turn, determines the prices themselves. And, although we choose our ends subjectively, we compare our means (costs) objectively. Price comparison is the means *par excellence* that we all use to choose the most economical combinations among the myriad alternatives that can provide us with the things that best satisfy our needs.

Although our world is filled with natural and man-made constraints and imperfections, the Law of Comparative Costs is always present, influencing our decisions in the process of exchange and distribution of all tasks and resources, including talent, land and time.

Because imperfections in the world impose limitations on knowledge, the allocation of tasks can never be perfect. And while no one can possibly be aware of every existing opportunity to which every person might apply their talent and effort at a given moment, as we gain more knowledge, we continually endeavour to seek and adapt to more profitable opportunities of dividing labour over time. The ever-present incentives of higher mutual rewards tend to steer the community towards maximising each person's particular knowledge, experience and ability to manage and economise.

This continuous process of reallocation is harmonised by the principle of *comparative costs.* As specialisation increases the **individual** productivity of each participant in his own field, augmenting the differences in abilities, their opportunity costs drop. As these costs decrease, everyone can offer more in exchange, increasing the benefits and wealth of all. When Superjack increases his own productivity by specialising in Bread, the Bread with which he pays costs him less. With his savings, he can pay Inferjoe more or increase his bid in the market for Garments or other things. Everybody shares the gains of everyone else's increased productivity.

True enough, some persons in very labour-intensive occupations, such as barbers, will not significantly increase their own productivity through specialisation over time because they cannot automate. Even so, a barber in Chicago gets paid more than one in Costa Rica because the people he trades with are more productive and wealthier than the customers of the barber in Costa Rica. The workers in Chicago can pay him more precisely because their opportunity cost would be quite high if they cut their own hair and, besides, if they want the barber to stay in the barbershop and continue to serve them, they have to keep him in the chips.

Trade as a distributor of wealth

Since voluntary exchange will not take place unless it is a win–win situation, it will take place only if and when both parties perceive that they will indeed receive more than the cost of what they give up in exchange, that is, their opportunity costs, and the Theory of Exchange explains how this is possible. Because people always have alternative satisfactions and will choose to trade with whoever enriches them most, therefore, in a market economy one cannot 'make' a fortune at the expense of others, but only by offering them a better deal and thus making them richer.

Since there is no objective way to measure whether Superjack or Inferjoe gained the most, it is fruitless to talk about an equitable or fair trade in the sense that both gain approximately the same. Equitable is not the same as fair or just. As economists well know, benefits are measured subjectively at the margin and therefore are always unequal: each subsequent trade even if it is of exactly the same things will produce different gain for the participants. When I make a deal with Bill Gates (every time I buy one of his computer programs!) surely I gain more than he does in the sale. The reason his fortune is much bigger than mine is because he makes more deals than I do.[4] Indeed, my ancestors would think me a blockhead if I bought my programs from suppliers who enriched me less than Bill Gates.

To increase my fortune, I have two choices. I can offer goods and services to other members of society through voluntary free exchange, or non-voluntary trade, by resorting to coercion, fraud or a government-given privilege, such as tariff protection from foreign competition so that I can increase my wealth by preventing others from purchasing at a lower price from more competitive foreigners. Obviously, comparative costs play no part in the case of non-voluntary trade. In a voluntary exchange, people must compete with others to make the consumer 'richer', by giving him greater satisfaction, in each and every trade. Whosoever succeeds most in enriching others makes the greatest fortune. Is there a better way to induce everybody – the good people and the not-so-good – to apply his work to make everybody else better off, richer or less poor?

From this perspective we can appreciate that progressive taxation is designed to take a bigger bite from the income of those that succeed best in enriching other members of society. Interference with free trade will invariably bring into play The Law of Unintended Consequences and perverse incentives by creating unexpected losers. As the more productive – those who can offer the best deals – are discouraged by progressively higher taxes, those who would have obtained a greater benefit by trading with them are stuck with their second-best opportunity.[5]

So it is, that if we live in a free society, by definition we cannot make a fortune by imposing our will on others in our transactions with them. When we, in effect, compete to make others less poor (wealthier), we must successfully anticipate other people's priorities, not our own. If we want to make money, we might have to make clothes we wouldn't wear or produce food we don't like. And, also, the quality we offer has to be tailored to other people's budgets, not ours.

In this very real sense, the competition is to enrich others. It requires constant effort, initiative and inventiveness in anticipation of other people's needs, individual tastes, purchasing power, priorities, options for other products, which are constantly changing. Who makes the fortune and who does not is decided by what Ludwig von Mises called the 'daily plebiscite of the market'. People vote with money bills that have been purchased with their efforts. As consumers people vote for those who enrich them more, and in turn make them wealthy. Should the government veto their votes? Can a more democratic system exist?

To boot, in a free economy the wealthy person cannot take his fortune for granted and be confident of keeping it. His status is precarious. He must win it over and over, every day, by enriching others through exchanges. Consumers are merciless in the sense that when they shop for their purchases they do not take into consideration the personal or family needs of the seller. They do their charity elsewhere. Those who fail to satisfy 'society's' needs go broke.

Going broke in essence means to the person that the property title to their assets is transferred to someone else who believes he can serve consumers better. If the new owner serves them better, he keeps the fortune. If not, it moves on, once again. It is a system that depends not on the kindness but on the well-understood self-interest of all participants to produce win–win relationships, even when intentions are less than virtuous. It is the whole society and not the government who determines the distribution of the wealth.

Because in the modern society we trade with money instead of by barter, we easily lose sight of the fact that, when we peel away the layers of financial sophistication, we are still trading property titles to goods or services that we either made or purchased; and that ultimately the only function of money is . . . guess what? To facilitate the division of labour brought about by comparative costs: The General Theory of Exchange!

1. For example the famous 'butcher, brewer, baker' quote on p. 27.
2. Mises (1996, p. 161): 'The theory of comparative costs is in no way connected with the value theory of classical economics. It does not deal with value or with prices, it is an analytical judgment . . . The theorem can disregard problems of valuation . . .'; p. 162: 'the law of comparative costs is as independent of classical theory of value as is the law of returns . . . In both cases we can content ourselves with comparing only physical input with physical output'.
3. Note that this theory of exchange does not depend on subjective value theory but on opportunity costs, and, interestingly, Mises (1996) has it in Chapter VIII, *Human Society*, subtitled *The Division of Labour,* and begins with the phrase '*The fundamental social phenomenon is the division of labour and its counterpart human cooperation'.* His Treatise does not have a specific chapter on international trade.
4. The program is worth to me many times the price I pay for it but fortunately I only have to pay, because of economic laws, what the marginal buyer is willing to pay, and I'm not the marginal buyer.
5. The discriminatory nature of progressive taxation has other impoverishing unintended effects unrelated to comparative advantage, for it taxes incomes at a progressively higher rate, not in proportion to the consumption of the rich, but to the likelihood of that income of becoming productive capital, increasing productivity and therefore raising nominal and real wages.

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