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Taxation and Domestic Free Trade – The Ricardian Revolution

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Abstract: In this paper it is argued that the domestic division of labor and trade is organized according to the same principle as the international division of labor and trade – the Ricardian comparative advantages. After all, the ultimate source of these comparative advantages is the individual. The comparative advantages of individuals then lend themselves to groups of people, companies, regions and countries. It is these that make it worthwhile for people to cooperate on any larger scale at all; we all rely on them and they imply that there is room for everyone in society.

But just as tariffs ruin the international division of labor, taxes and similar domestic government interventionism destroy the domestic division of labor among people. This is illustrated by means of the ‘division of labor condition’, where taxes enter as a possible restriction to trade, thus creating a Darwinist society of the survival of the fittest. The least productive individuals and those who face the highest barriers to trade run the risk of ending up on the outskirts of society. The more productive ones will run the risk of overreaching as they are forced to perform more and more tasks themselves. The result is not only more home labor and more black markets, but also real barter and situations where nothing gets done at all. To restore the division of labor, and to make room for everyone who wants to participate in it, it is argued that removing barriers to domestic trade is the only possible option.

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1 Introduction

The argument in favor of international free trade is at its core based on David Ricardo's principle of comparative advantages. It tells us that even in the case where one country is better than another in all lines of business, i.e. in an absolute sense, that country still has all reason to cooperate with the less productive one. If they specialize in the areas where they have an advantage relative to others, i.e. in a comparative sense, and then trade with each other, the wealth of both countries increases. Hence, the international division of labor is organized according to the comparative advantages.

What is perhaps less well known is that this is also true for the division of labor at all other levels of society, as Mises (1922) pointed out. In fact, all trade, international as well as domestic, stems from the same source – the comparative advantage of the individual. The comparative advantage of the individual then lends itself to groups of people, companies, regions and countries. It is these that make it worthwhile for people to cooperate and divide labor at all on any larger scale. They guarantee that there will be room for everybody. The comparative advantages could thus be seen as the glue of society.

A crucial part of the Ricardian argument is that barriers to trade, such as tariffs, make it hard or outright impossible for the less productive country to explore its comparative advantages, thus inhibiting trade and the creation of more wealth. But just as tariffs ruin the international division of labor, it should not come as any surprise that taxes and similar interventionism destroy the domestic division of labor among people.

The purpose of this paper is to show in detail how taxes destroy the division of labor by making it harder for or even prohibiting people from exploring their comparative advantages. The results are not only more home labor and more black markets, but also real barter and situations where nothing at all is done. The least productive individuals and those who face the highest barriers to trade run the risk of ending up on the outskirts of society while the more productive ones will run the risk of overexertion as they are forced to perform more and more tasks themselves. To restore the division of labor, the only plausible way seems to be to cut taxes.

In the next section, I will reiterate the significance of the division of labor. In section 3, I will explain how the division of labor is organized according to the principle of comparative advantages and derive what I call the 'division of labor condition'. This section also contains some insights that hopefully are new. Section 4 introduces taxes and shows how these destroy the natural division of labor even at the most modest levels. Also this section contains insights that hopefully are new. Section 5 concludes the paper.

2 The Division of Labor

In his most famous book, *An Inquiry into the Nature and Causes of the Wealth of Nations* from 1776, the Scottish moral philosopher and economist Adam Smith wrote that "[t]he desire of food is limited in every man by the narrow capacity of the human stomach; but the desire of the conveniences and ornaments of building, dress, equipage and household furniture, seems to have no limit or certain boundary".

The human desire for more material wealth is unlimited, Smith asserted, and is perhaps only limited by human imagination. But human imagination itself knows no limitations in this regard. Unfortunately, the same is not true of our ability to fulfill these desires. Our ability to produce what we desire will always fall short of the desires themselves. This forces us to economize between different desires and this is why the idea of *scarce resources* is central to economics.

To be able to create more wealth, either in the form of consumer or capital goods¹, time and labor is required, be it in the form of physical labor or mental effort. Without time and labor, no wealth at all would be created. At the same time, if we had unlimited time and labor, we would be able to produce all we ever wanted, have all the spare time we ever wanted, read all the books ever written, get to know all the people on earth, recycle all the materials we used, and so on. We would even be able to grow fossil fuels. However, such is not our world. This seems to imply that time (and labor) is the ultimate scarce resource. This is true for both the individual and the society in general.²

With these metaphysical constraints on time and labor, how can humans best fulfill their desires for material wealth? How can they raise the productivity of labor? Through cooperation seems the natural suggestion.

Raises labor productivity

Sometimes there are particular tasks that can not be done fully by the labor of just one or a few individuals. This might be a reason for people to come together and cooperate. But instances such as this are not really about raising labor productivity. It is not sufficient to explain the formation of complex societies. Instead, people have come up with another way of associating with each other – by dividing the labor among themselves.³

Smith's (1776) opening lines read: "The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity and judgement with which it is any where directed, or applied, seem to have been the effects of the division of labour." According to Smith,

¹ As the share of the wealth available for consumption is a scarce resource, the share of the wealth that is needed for the production of this consumable wealth will also be scarce. In other words, the factories, machines, tools, and other capital goods that are used in production will also be scarce.

² For more on this, see for example Reisman (1996, pp. 59-61).

³ See for example Mises (1949, p.158) for more on this.

“[i]n civilized society he [i.e. man] stands at all times in need of the cooperation and assistance of great multitudes, while his whole life is scarce sufficient to gain the friendship of a few persons. In almost every other race of animals each individual, when it is grown up to maturity, is entirely independent, and in its natural state has occasion for the assistance of no other living creature. But man has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only.”

Instead, the labor is divided among people in voluntary and peaceful exchange. Smith continues,

“When the division of labour has been once thoroughly established, it is but a very small part of a man's wants which the produce of his own labour can supply. He supplies the far greater part of them by exchanging that surplus part of the produce of his own labour, which is over and above his own consumption, for such parts of the produce of other men's labour as he has occasion for. Every man thus lives by exchanging, or becomes in some measure a merchant, and the society itself grows to be what is properly a commercial society.”

This follows naturally from the innate unequal capabilities of individuals and the unequal geographical distribution of the fruits of nature⁴.

Allows for more knowledge and machinery

The division of labor has the important implication that it allows the total amount of knowledge in society to increase. Without the division of labor, most people know relatively little about relatively many different tasks of self-sustaining farm life. In a division of labor society, most people know relatively much about relatively little, as some focus on the tasks of the tailor while others on the tasks of the baker, etc. This means that the aggregate amount of knowledge in the society can be multiplied in the division of labor society. Interestingly, as the division of labor increases, more time and energy is available to share the advanced knowledge of others, thus making it possible for the individual to know far more about the totality than was ever possible even for the most prominent scholar without an advanced division of labor.

Smith (1776) also pointed out that “the invention of all those machines by which labour is so much facilitated and abridged, seems to have been originally owing to the division of labour.” Thus, the machines we think are a product of industrialization in general are really a product of the division of labor⁵. They appear because “[m]en are much more likely to discover easier and readier methods of attaining any object, when the whole attention of their minds is directed towards that single object, than when it is dissipated among a great variety of things,” as Smith explained.⁶

⁴ See Mises (1949, p. 157) for this last point. It has been argued that this view actually differs from that of Smith (1776). Rothbard (1970) writes “[i]n contrast to [Mises] emphasis on specialization and exchange as a result of conscious human decision, Smith shifted the focus from mutual benefit to an alleged irrational and innate “propensity to truck, barter, and exchange,” as if human beings were lemmings determined by forces external to their own chosen purposes. As Edwin Cannan [1917, p.35] pointed out long ago, Smith took this tack because he rejected the idea of innate differences in human talents and abilities, differences which would naturally lead people to seek out different specialized occupations.” This seems to be a pretty convincing argument.

⁵ “Mechanization is the fruit of the division of labor, its most beneficial achievement, not its motive and fountain spring,” as Mises (1949, p. 164) noted.

⁶ See Reisman (1996, pp. 123) for a wider discussion of the division of labor.

Smith and absolute advantages

But why is it that people are so interested in dividing the labor among themselves? Smith claimed that people specialize in the lines of business where they have an advantage over other people. If one person is really good at baking, he becomes a baker, if another is really good at tailoring he becomes a tailor and if a third person is really good at sweeping floors he might become a janitor, etc. In other words, people specialize in the work in which they have an absolute advantage.

However, with this view another important implication follows; if the person who is best at extracting teeth becomes a dentist and the best carpenter a carpenter, the conclusion is that those who aren't best at anything will end up outside of society. It is, after all, a fact that many people today seem to have ended up in poverty and misery while others live well, and that many have lost out in the competition. And we do live in a society that seems to fit the Darwinist idea of the survival of the fittest. Because of this, some people end up believing that the division of labor is a moral outrage, despite its efficiency, others that because the division of labor is so efficient, and because so many benefit so much from it, the idea of some people being pushed outside society is somehow acceptable. Some kind of welfare system will supposedly take care of those problems. Hence, given that people have an opinion at all, it seems likely that they would fall within these two views.

However, there seems to be no need to hold either of these two views – it actually seems possible to defend the division of labor while discarding the idea of a society where only the fittest survive. This is because Smith was wrong – the natural way to organize the division of labor is according to comparative advantages and not according to absolute advantages.

3 The Principle of Comparative Advantages

In his book *Principles of Political Economy and Taxation* from 1817, David Ricardo outlined the principle of comparative advantages by means of an example involving two countries, England and Portugal. In Portugal they could produce a certain amount of both wine and clothes faster than in England and, hence, the Portuguese had absolute advantages in both these areas of production. Despite this, he showed that it was in the interest of both countries, i.e. also the more productive Portuguese, to specialize in one area and trade their goods with the other party. In this case the countries specialize in the production where they have a comparative advantage. This is a central result within the theory of international free trade.

Holds true at the level of the individual

What is perhaps less well known is that the principle also holds true on the level of the individual person. Mises (1922, pp. 260-61) writes that when the Ricardian “principle is applied to the personal division of labour it is found that the individual enjoys an advantage in co-operating not only with people superior to himself in this or that capacity but also with those who are inferior to himself in

every relevant way”. Hence, he refers to the principle as Ricardo’s law of association⁷. In fact, it seems to be for the very reason that it applies on the level of the individual that it also applies to countries. After all, all groups of people ultimately consist of a number of individuals. Moreover, differences in the fruits of nature between countries, for example, are only important insofar as there are individuals ready and able to employ them. Thus, the comparative advantage of the individual lends itself to groups of people, companies, regions and countries.

Returning to Ricardo’s original example, we could study the natural way the division of labor is organized by simply replacing Portugal and England with two individuals. Thus, in Table 1 we see the relative productivity of two people, Anna and Emma (I’ve also changed the products they produce). We find that it on average takes Anna 90 minutes to fix an average bug in a computer while it takes Emma 100 minutes to do the same. We also find that it takes Anna about 80 minutes to produce an ad, while it takes Emma 120 minutes to do the same. Anna is $100/90=1.11$ times more productive than Emma when it comes to computers, i.e. Anna gets 11 percent more work done in a certain amount of time. If Anna works as a marketer she is $120/80=1.50$ times as productive as Emma, i.e. in this case Anna gets 50 percent more work done in a certain amount of time. Thus, Anna has an absolute advantage in both the activities, while Emma has an absolute disadvantage in both.

Table 1 – Absolute and comparative advantages. Time requirements in minutes.

		<u>Anna</u>	<u>Emma</u>
Computer consulting - 1 bug	takes	90 minutes	100 minutes
Marketing - 1 ad	takes	80 minutes	120 minutes

Despite this, Anna still has reason to associate with Emma by dividing the labor according to the comparative advantages. If Anna performed both tasks on her own, she would be able to make $90/80=1.125$ ads in the time it takes to fix one bug, or $80/100=0.889$ bugs fixed in the time it takes her to make an ad, as shown in Table 2. On her own, she can produce 1.125 ads for every bug or 0.889 bugs fixed for every ad. Meanwhile, if Emma performed both tasks on her own, she would be able to fix $120/100=1.200$ bugs in the time it takes to make an ad, or $100/120=0.833$ ads in the time it takes to fix one bug. On her own, she can get 1.200 average bugs fixed for every ad or 0.833 ads per bug fixed.

Table 2 – Absolute and comparative advantages. Output in terms of the alternative output.

		<u>Anna</u>	<u>Emma</u>
Computer consulting - 1 bug	equals	1.125 ads	0.833 ads
Marketing - 1 ad	equals	0.889 bugs	1.200 bugs

Thus, we see that Anna fixes more bugs in terms of finished ads than Emma, $1.125 > 0.833$, while Emma makes more ads in terms of fixed bugs than Anna, $1.200 > 0.889$. This means that they would

⁷ Mises (1949, pp.159-63).

both be better off if they exchanged the services with each other. Emma has a comparative advantage in making ads. Anna would be better off if she divided the labor with Emma.

But what about the overall labor productivity? In the example, if Anna and Emma help 1 customer each, it takes $90+100=190$ minutes and if they make one ad each it takes $80+120=200$ minutes. Hence, it takes 190 minutes to help 2 customers and 200 minutes to make two ads. 2 customers and 2 ads are the output of $190+200=390$ minutes, where Anna works $90+80=170$ minutes and Emma $100+120=220$ minutes. However, if they divided the labor between them according to their comparative advantages, they would together be able to help $(90+80)/80=2.125$ customers (Anna) and make $(100+120)/100=2.200$ ads (Emma) if both worked the same amount of time. If they chose to associate with each other and divided the labor between them, more could be produced in a certain amount of time, i.e. the labor productivity would increase.

Despite the fact that Anna is more productive in all activities Emma can out-compete her in at least one activity, in this case marketing. All parties benefit most from the free competition.

The division of labor condition

In a modern division of labor society, where the use of money as a medium of exchange is predominant or even a prerequisite, the individual first exchanges the produce of his labor for money and then in turn exchanges the money the goods and services he wants. This has some implications for the comparative advantages and the division of labor. It turns out that a certain condition has to be fulfilled if people are to be able to use their comparative advantages and divide the labor among themselves. We can call this *the division of labor condition* and its essence can be explained by the following formula⁸.

$$\frac{\text{buyer's hourly income}_{\text{activity B}}}{\text{producer's hourly income}_{\text{activity A}}} > \frac{\text{producer's time}_{\text{activity A}}}{\text{buyer's time}_{\text{activity A}}} \quad (1)$$

The left hand side of (1) gives, in the numerator, the hourly money income of a potential buyer of some service in his ordinary line of work (activity B) and, in the denominator, the hourly money income of the producer of the same service (activity A). We can call this the relative income. The right hand side of (1) gives, in the numerator, the time necessary for the potential producer to perform the work (activity A), while the denominator states the time needed for the potential buyer if he were to perform the service (activity A) himself. We can call this the relative productivity. Thus, for the division of labor to occur, the relative income must exceed the relative productivity.

There is a more intuitively appealing way to say the same thing – *the labor will be divided whenever the estimated alternative cost of performing a task oneself exceeds the price offered by the other party*. This can be seen by simply multiplying both sides of (1) by the respective factors in the denominators. We then have, on the left hand side, the potential buyer's hourly income from his

⁸ This formula has been used by for example Pålsson (1997, formula 10.2) to analyze household labor.

ordinary work, multiplied by the time needed to perform the work by himself. On the right hand side, we simply have the time multiplied by the producer's cost.

Anna's hourly income must be at least 50% higher if Emma is to make it in marketing⁹. If we assume that Emma's hourly income is \$10, Anna's hourly income must exceed \$15, let's say it is \$16. In this way the division of labor condition is fulfilled, since the relative income of 1.60 (i.e. \$16/\$10) exceeds the relative productivity of 1.50 (i.e. 120 min/80 min). This implies that the price Emma asks for an ad equals = \$20 (i.e. 120 minutes*\$10/hour), while the implied alternative cost for Anna amounts to = \$21.3 (i.e. 80 minutes*\$16/hour). If the relative income exceeds the relative productivity in this manner, the division of labor takes place. At the same time, if the relative income is adjusted so that Emma can use her comparative advantage, Emma's absolute disadvantage also disappears. If the relative income was equal to or lower than 1.50, Emma would lose her comparative advantage and all that would remain would be absolute disadvantages in all kinds of work.

The condition has general applicability

In the example involving Anna and Emma, I assumed that Anna was more productive than Emma. Nevertheless, we found that the division of labor condition could be fulfilled, the key being Emma's comparative advantage. But the condition is also applicable in cases where (i) the relative productivity is less than one, i.e. the case where Emma is more productive than Anna in marketing, and where (ii) the relative productivity equals unity, i.e. when Anna and Emma are equally productive in marketing.

In the case where Emma is more productive than Anna in marketing, the two will simply divide the labor according to their absolute advantages. Assume for example that Emma is twice as productive in marketing, i.e. that the relative productivity is 0.50. If once again Emma's hourly income is \$10, it is sufficient for Anna's hourly income to exceed \$5 to make the division of labor occur.

In the extremely rare case where Anna and Emma are equally productive in marketing, it is Anna's absolute advantage in computer consulting that makes them divide the labor. If Emma's hourly income is \$10, it is sufficient that Anna's hourly income exceeds \$10 to have a division of the labor.

⁹ It is important to note that the sign has to be a *strict inequality* if we are to find any more advanced division of labor. This can be seen by returning to the example above, where Anna is 50% more productive than Emma when it comes to marketing, i.e. the relative productivity was 1.50. For Emma to be sure of being able to use her comparative advantage in marketing, her total income has to be adjusted so that she will be able to perform the work at a lower cost than Anna would, taking into account the fact that it takes her a longer time to make an ad. This means that Anna's hourly income must be *at least* 50% higher than Emma's if Emma is to be *sure* that she can use her comparative advantage. This follows from the fact that if the income was exactly 50% higher, Anna would be indifferent to doing the work herself or buying it from Emma – not a very comforting situation for Emma. She would definitely be better off if Anna were strictly better off by dividing the labor. However, this is not enough; this is not what the left hand side of (1) tells us. It is also necessary for the hourly income that Anna gets from computer consulting to strictly exceed the hourly income she could get from marketing. Thus, we have two separate reasons why there has to be a strict inequality in (1) if we are to be sure that the labor is divided and Emma able to use her comparative advantage. In this way, we see why the difference in productivity between people tends to lead to differences in hourly income (as well as total income).

We can thus conclude that the division of labor condition is generally applicable, regardless of the relative productivity among people. But why then have I focused on the case when the division of labor between individuals takes place according to the comparative advantages?

Everybody relies on their comparative advantage

In the examples above, I showed how Emma, despite absolute disadvantages in all conceivable areas could out-compete Anna in at least one, i.e. in this case marketing. But is such a situation where a person is the least unproductive in all conceivable areas really of any practical importance? Yes, one could even argue that this case is especially interesting and important.

First of all, it is logically impossible for everybody to be best at everything at the same time. Secondly, in reality, no single person has an absolute advantage in every conceivable area compared to the rest of the population. Thirdly, extremely few people have any absolute advantages at all, compared to the rest of the population. Even if you are the very best in an absolute sense, you will have had to rely on your comparative advantage to get there and you will constantly run the risk of losing it as time passes and people develop in different directions.

By far the most common situation is instead that *each and every one of us relies on our comparative advantages* in everyday life. There will almost always be someone who could potentially perform a task better than you. This implies that when we compete with each other, we rely on our comparative advantages and not any absolute advantages. However, this also means that anyone can out-compete anyone else, that *there will be room for everybody*.

In an ever-changing world, people may at times find that they have lost their comparative advantage in a specific trade, a specific location, and probably have to change trade or location to find a new comparative advantage. Fortunately, in an advanced division of labor society, as long as the money income can be adjusted, people will probably have no problem finding something else to do. After all, time and labor will always be scarce. Moreover, each individual can probably find a stream of possible opportunities to explore. In the real world, away from all smooth graphs of standard economic textbooks, every individual could probably find multiple comparative advantages to use. Maybe an individual at a certain time can succeed in specializing either as a milk bar attendant or a car salesman, while at a later stage finds it more rewarding to focus on an occupation as a computer salesman or a waiter in a coffee bar. If people are free to choose whether to apply for such work and the employer or customer is equally free to choose the most suitable applicant, and if this can take place continuously everywhere in free and voluntary trade, this seems to be the most convincing way of securing that the right person is in the right place in the division of labor society.

The possibility to specialize according to one's comparative advantage is a prerequisite for the existence of a society with a considerable degree of division of labor. "[M]an becomes a social being not in sacrificing his own concerns for the sake of a mythical, Moloch, society, but in aiming at an improvement in his own welfare.", according to Mises (1949, s. 160). It is the comparative advantages

that explain why people find it worth associating with each other on any wider scale. The comparative advantages are the glue of society.

But what about when barriers to domestic trade are raised?

4 Tax Effects on the Division of Labor

Despite the obvious advantages of dividing labor according to comparative advantages, some people have argued against it¹⁰. Others have even tried to abolish it, with devastating consequences¹¹. However, the process need not be as explicit. The division of labor can disintegrate in a slower, continuous fashion that is hard to see, as if it almost happened by stealth. In such a development, taxes and the so-called tax wedges they impose play a major role. Just as tariffs ruin the international division of labor, it is perhaps not all too surprising that taxes and similar interventionism destroy the domestic division of labor among people.

Creates problems for the individual

The effects of taxes and tax wedges on the division of labor and the comparative advantages can be illustrated by the division of labor condition. Formula (1)' is identical to formula (1), except that a factor X is included on the right-hand side.

$$\frac{\text{buyer's hourly income}_{\text{activity B}}}{\text{producer's hourly income}_{\text{activity A}}} > X * \frac{\text{producer's time}_{\text{activity A}}}{\text{buyer's time}_{\text{activity A}}} \quad (1)'$$

The factor X, that could be called the *Tax Factor*¹², tells us how many times more you have to earn to afford to pay for a service. This is a common way of illustrating the wedges taxes create between buyer and seller. For example, if a seller of a service has to pay income tax on proceeds of \$100, he gets to keep \$100*(1-t_{income tax}), where the income tax is expressed as a percentage. If a sales tax, or any other kind of value added tax, is introduced on top of the proceeds, \$100*(1+t_{value added}), where the sales tax is expressed as a percentage. If the sales tax for example is 15% and the income tax 25%, the

¹⁰ Marx (1845-46, p. 44-45) wrote : “In a higher phase of communist society, after the enslaving subordination of the individual to the division of labor [...] has vanished [...] and all the springs of co-operative wealth flow more abundantly – only then can the narrow horizon of bourgeois right be crossed in its entirety and society inscribe on its banners: From each according to his ability, to each according to his needs!” Thus, Marx (1875) fantasized, “in communist society, where nobody has one exclusive sphere of activity but each can become accomplished in any branch he wishes, society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner, just as I have a mind, without ever becoming hunter, fisherman, shepherd or critic.”

¹¹ Why such devastating consequences seem to have been bound to occur, see for example Mises (1920) and Hayek (1945).

¹² This was earlier called the *productivity factor* but for the reasons explained below, that term is grossly misleading.

buyer faces a total price of \$115 while the seller would keep \$75. Thus, the wedges these taxes create could be calculated as in formula (2)¹³:

$$\text{Tax Factor} = X = \frac{(1 + t_{\text{value added}})}{(1 - t_{\text{income tax}})} = \frac{1.15}{0.75} = 1.53 \quad (2)$$

Without these taxes, the Tax Factor would equal unity (=1). In other words, without taxes the buyer would simply get what the seller pays.

A Tax Factor of 1.53 implies that the right hand side of the division of labor condition increases by the same factor. With such a Tax Factor of 1.53, the division of labor between Anna and Emma would not occur. The relative income would remain at 1.60 (i.e. \$16/\$10) while the right hand side of formula (1)' is now raised by a factor of 1.53 to 2.30. Because $1.60 < 2.30$, the inequality is reversed and the division of labor condition is violated. This could mean that the taxes prevent Emma from using her comparative advantage in marketing.

This might result in that (i) Anna performs the work herself; (ii) Anna and Emma agree to avoid the taxes, Anna paying something close to what Emma receives net, thereby upholding the division of labor, albeit illegally; (iii) Anna and Emma exchange services with each other *in natura*, i.e. ads for fixed bugs; or (iv) the work is not performed at all. The Tax Factor might vary greatly between individuals due to progressive taxes and income-adjusted welfare schemes, and certainly also between countries, but the general point is still valid.¹⁴

Thus, taxes affect the comparative advantages by creating a wedge between the buyer and seller, between relative income and the relative productivity. This would make it less likely for the condition to be fulfilled, and more likely that it would be violated. Hence, the division of labor would be hampered, perhaps even seriously, if taxation were carried too far.

Wasting scarce resources and raising the cost of living

It is easy to get the impression that high tax wedges and marginal taxes are only a problem for the very rich. High marginal taxes, though, push up the cost of living for everyone. It makes life more expensive for the dentist to hire a carpenter, indeed, but also more expensive for the carpenter to visit the dentist. It will become more expensive for Anna to hire Emma but also more expensive for Emma to hire Anna. This could be illustrated by the so-called *Earnings Requirement*, yet another and closely related way of illustrating the tax wedges. It tells us how many times more money the buyer needs to earn (on a gross basis) to be able to pay what the producer (seller) requires on a net basis, as compared to a situation without taxes.

¹³ Note that it is the (marginal) income tax of the buyer that should be included in (4). This formula could be extended to include other relevant taxes. However, those included here are sufficient to make the point.

¹⁴ Sweden for example has marginal taxes up to about 55%, a sales tax (value added tax) of about 25% and payroll taxes of about 35%, which means that the Tax Factor can be as high as 3.75. These are not extreme cases but figures that hit the people at income levels only slightly above average. Nevertheless, average tax levels have a corresponding marginal tax level. Thus, there is no need to focus exclusively on marginal taxes to see how taxes can create a violation of the division of labor condition.

Provided that both parties face exactly the same tax levels, for example those given above, the Earnings Requirement is:

$$\text{Earnings requirement} = \frac{(1 + t_{\text{value added}})^2}{(1 - t_{\text{income tax}})^2} = \left[\frac{(1 + t_{\text{value added}})}{(1 - t_{\text{income tax}})} \right]^2 = [\text{Tax Factor}]^2 = 1.53^2 = 2.35 \quad (3)$$

Thus, if the seller wants to keep \$100, the tax inclusive price is set at \$153. To be able to pay this amount, the buyer has to go out and earn a tax inclusive amount of \$153*1.53=\$235. This means that the Tax Factor is simply squared, provided that the two people face the same tax rates (which perhaps is not very common). Without these taxes, the Earnings Requirement would equal unity (=1). An earnings requirement of 2.35 simply tells us that because of the taxes, the buyer has to earn more than twice as much as what the producer receives in his hand.

This way of illustrating the tax wedges could also be applied to the case of Anna and Emma. To show how the taxes create a waste of scarce resources, the Earnings Requirements could be translated into time requirements. Without the taxes, Anna would have to work about 38 minutes to be able to hire Emma for an hour, while Emma would have to work about 1 hour and 36 minutes to be able to hire Anna for an hour. With the earnings requirement of 2.35, Anna would have to work about 1 hour and 29 minutes to be able to hire Emma for an hour, while Emma would have to work about 3 hours 46 minutes to be able to hire Anna for an hour.¹⁵

Thus, we see that while taxes create an enormous waste of scarce resources, they also make life more expensive. Indeed, high marginal taxes for the rich strike straight at the pocket of the poor, not only the rich. Considering the risk of ending up in long-term unemployment etc, it might even be possible to hold the view that it is the less productive people who suffer most from the taxes.

In this paper, the focus is on income and value added taxes. The former might include taxes imposed on all kinds of income, not only in relation to wages. The division of labor condition is true regardless of whether it is a good or a service that is sold. It doesn't really matter if it is income in the form of wages or sales revenue/profits that is taxed, there will always be a tax wedge as long as there are income or value added taxes. Thus, income taxes and value added taxes of all kinds destroy the division of labor.

But even taxes on assets could have this effect. For example, if a poor person would like to buy a house, and this house is subject to a real estate tax, this tax might result in the person being unable to afford the house. If it was the cheapest house around, the prospective buyer might well have to forget all about living in a house. If the person is already living in the house when the real estate tax is imposed, he or she might have to move out. If, again, this is the cheapest house around, the owner

¹⁵ Once again we can see how high the tax wedges are in Sweden. With marginal taxes up to about 55%, a sales tax (value added tax) of about 25% and payroll taxes of about 35%, the earnings requirement is as high as $3.75^2=14.06!$ And these figures are not rare at all. At the same time, division of labor in the face of taxes like these are perhaps not that common in Sweden, and since they aren't that apparent, they aren't very much debated. However, it is of course the tax wedges that prevent their occurring in the market in the first place.

might well have to abandon the idea of living in a house. When taxes make assets more expensive to hold, this might affect the reservation wage, i.e. by raising it. Hence, it might raise the net amount demanded in the Earnings Requirement. In this way, also making different kinds of assets more expensive by taxes and other kinds of interventionism might affect the division of labor as well.

Without the taxes, the interest of the buyer and seller would coincide – the buyer wants to buy and the seller sell. The taxes destroy the natural harmony of interest between individuals and could even create antagonism where there really is no inherent reason for this¹⁶. But, given all this, why is there any division of labor at all?

Why do we find any division of labor at all?

The most obvious explanation why there is an advanced division of labor in the face of the rather high taxes that are present almost everywhere in the world is that individuals' time is scarce (as noted above). People do not have the time, knowledge or energy to do everything themselves. Instead, they buy some services on the open market, some on the black market, do some themselves, trade others through direct barter, and some they go without.

Over and above this, there are a number of other explanations that combine to explain why there is widespread division of labor despite high taxes. Some find it immoral to trade on the black market and therefore prefer to abstain from spending money on certain things that they otherwise could have afforded. The professional producer is perhaps more productive than the buyer of the service, perhaps due to better tools, blueprints, knowledge, habit, wholesale prices, etc. Maybe the buyer does not have sufficient knowledge, now or ever. An individual may be able to carry out some unsophisticated carpentry on his or her own, but not build a house. There is probably far more direct barter taking place to avoid taxes and maintain the division of labor than what would otherwise be the case. All kinds of transaction costs fit into this picture.

Another important reason is that as societies become wealthier due to an advancing division of labor, it also becomes possible to tax people more heavily. It would probably not have been possible to maintain the current level of taxes in a poor rural society that had to fight against starvation etc continuously. Had that actually been the case, it is certain that that such a society would not have risen out of the poverty in the first place, and we would not have ended up where we are today. In this way, the division of labor seems to have created a foundation for the widespread and far-reaching taxation of today. This seems to be an idea that is reinforced by Mises' ideas on a progressing interventionism, i.e. how a government intervention tends to lead to unintended consequences, consequences that then gives rise to further interventionism. If, at the same time, the division of labor, together with knowledge and technology, advances, this might offset further interventionism, making it

¹⁶ The natural harmony of interest between individuals does not necessarily encompass a harmony of goals between individuals. It is possible that the immediate goals of two sellers clash as both want to sell to the same customer.

“affordable”. Thus, division of labor could advance despite an increase in taxation and other forms of interventionism.

Restoring the division of labor

Nevertheless, it is apparent that the division of labor condition is violated in an enormous number of instances every day, all over the world. Vast numbers of people are unemployed or underemployed in every Western society, while at the same time others work so hard and such long hours that they run the risk of overworking themselves. And taxes and similar interventionism should by now, to the reader, be an obvious reason for this. But let us have a look at some ways of restoring the division of labor condition. From formula (1)' above we see that where the condition is not fulfilled, five factors can be used to adjust the situation. These are:

- (a) The productivity of the less productive individual
- (b) The productivity of the more productive individual
- (c) The Tax factor
- (d) Hourly money income for the more productive individual
- (e) Hourly money income for the less productive individual

Factors (a) and (b) refer to the relative productivity on the right hand side of (1)', while (d) and (e) to the relative income on the left hand side of (1)'. Starting with (a), the less productive Emma has strong reasons for working extra hard for a division of labor to occur in the face of unemployment or underemployment. She might reduce her time requirement, thus raising her productivity, even to the extent of exhausting herself. She might possibly even cheat from time to time and get away with it. Maybe she gives prospective buyers over-optimistic cost estimates and gets away with it. However, it seems wrong to suppose that this kind of adjustment could alter the time requirement by much. There is hardly room for much adjustment in this factor.

When it comes to (b), it is not very likely at all that this factor would fall when the division of labor has deteriorated. *Au contraire*, under such circumstances, the more productive individual tends to be even more productive in the occupation of the less productive. Anna would probably devote more of her income to purchasing some of the time-saving equipment or tools Emma can not afford. This would aggravate the situation, making it even harder for the condition to become fulfilled. Thus, the two effects of the relative productivity operate in opposite directions, hence offsetting each other, and the net effect is likely to be perhaps even negative for the fulfillment of the condition. Instead, the adjustment must come on the side of the relative income.

Jumping to (d), it seems very unlikely that one somehow would be able to raise the income of a more productive individual through coercion, and it is doubtful whether anybody would ever advocate such a solution. As for (e), leaving people free to underbid others in terms of money income seems to

be a possible way to restore the division of labor. While money wages clearly have an upper limit, there is no real limit downwards. The money income is the individual's main competitive tool and is what secures it a place in the blessings of the division of labor. However, given the presence of taxes, this would require less productive people to lower their money wages by even more than would be necessary did taxes not exist. Thus, there seems to something wrong with that as well; nor would it be a politically feasible idea.

Hence, we then only have one factor left, factor (c), that in any major way could help restore the division of labor – lower taxes. This is a politically and artificially imposed constraint on the division of labor condition. As such, it can also be adjusted as much as necessary to restore the division of labor. But while it might be conceivable that a certain level of taxation could be maintained without the risk of running people into poverty and misery, it nevertheless seems certain that even the most modest taxation will always affect someone, somewhere, very negatively and this is likely to be the least productive of us.

Thus, it seems that the only likely cure for the current unsatisfactory state of the division of labor would be lower taxes. Only then would there be a recovery. The alternatives seem to be unemployment, home labor, exchange *in natura* or no production at all.

5 Concluding comments

The comparative advantages may be seen as the glue of society. It is these that make it worthwhile for people to cooperate on any larger scale at all. They guarantee that there will be room for everybody. The division of labor according to the comparative advantages, as Mises (1922, p. 261) wrote, “leads men to regard each other as comrades in a joint struggle for welfare, rather than competitors in a struggle for existence. It makes friends out of enemies, peace out of war, society out of individuals”. It could hence even be regarded as the ultimate way for people to cooperate.

But just as tariffs ruin the international division of labor, it is perhaps not all too surprising that taxes and similar interventionism destroy the domestic division of labor. Taxes create a Darwinist society of the survival of the fittest. Not allowing people to explore their comparative advantages causes them problems and hardship. This is what taxation does. In some ways taxes are even worse than tariffs, since a country could trade freely domestically and in that way grow wealthy. That option is not open to an individual outside of the division of labor. Hence, it is not the free division of labor and free trade that is to be regarded as an outrage, but the division of labor and trade that is not free.

One might even find it conceivable that a certain level of taxation could be maintained without the risk of running people into poverty and misery. Nevertheless, even the most modest taxation will always affect someone, somewhere, very negatively and this is likely to be the least productive of us. Thus, it seems important to keep in mind these negative effects on people's comparative advantages and on the division of labor when arguing in favor of taxation. This also holds in the case when

arguing that a certain minimum level of taxation is required to sustain society. It also seems important to keep in mind that just as those who advocate tariffs and international trade restrictions seems to have to bear the moral burden of some of the problems of poor countries, those who continue to argue in favor of taxation would then seemingly have to bear the perhaps even heavier moral burden of shattering people's dreams and hopes, and even of excluding people from society.

It is certain that my arguments need refinement and that much more work is to be done. The basic Ricardian idea seems to be irrefutable and I'd like to believe that the further implications I've tried to point out in this paper are valid as well. If so, I hope supporters of international free trade will start taking their own arguments in favor of free trade seriously, to these utmost implications. It then appears to be time to start advocating universal free trade, i.e. both international and domestic, time to tear down *all* barriers and restrictions to trade. In this way, the weak and the fit will find it worthwhile to work together and help each other again. In this way, more wealth can be created and the future of society will look brighter. That would be a Ricardian revolution of free and peaceful trade.

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