Adam Smith and the Division of Labor in contemporary economics textbooks - A critical assessment of the legacy of the CPE in the education of economics

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Abstract: Adam Smith, a key figure within the tradition of classical political economy (CPE) and 'founding father' of economics, is widely cited in contemporary introductory economics textbooks. Yet, it is unclear in how far his legacy is in line with his original thinking as a classical political economist. We assess the integration of Smith's theory in contemporary textbooks by analyzing how his most fundamental concept - the "division of labor" (DoL) - is represented in five widely used introductory economics textbooks. We find that our sample of textbooks apply a common set of simplifications and generalizations that divert from Smith's multi-faceted and critical understanding of the DoL. Furthermore, we find that the less 'reflexive' textbooks within our sample show a stronger bias towards generalizing Smith as a proponent of laissez-faire, the invisible hand and free trade. This becomes particularly striking if Smith's theory and ideas are contextualized with respect to his position within the tradition of CPE: We argue that Smith's contemporary representation within mainstream textbooks is inherently 'marginalist-Ricardian' and 'anti-Marxian'. This seems to be largely based on the need to incorporate Smith's legacy within the current state of the Neoclassical paradigm.

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1. Introduction and motivation

Education is crucial for understanding and behaving in this complex world. How we understand the world shapes our daily routines and choices. The way we are taught and instructed deeply influences this understanding. Studying economics can provide students with valuable tools and methods to understand how capitalist economies function. Classical political economy (CPE), as a school of thought, has been historically concerned with answering fundamental questions about capitalist economies: How is wealth created and distributed and how do the social relations of production affect society? These questions have neither lost relevance or importance today and are elementary for contemporary students in economics. Additionally, the early scholars of political economy such as Adam Smith and David Ricardo are seen as key figures and 'founding fathers' of economics.

Foundational courses in economics, which establish a general understanding and framing of the discipline and its reach, heavily rely on the use of introductory textbooks to convey general principles and concepts to modern economics students. While there is a substantial literature and interest in analyzing and assessing the theoretical underpinnings of contemporary mainstream economics textbooks (Treeck & Urban, 2019; Egerer & Rebhan, 2018), the treatment and representation of the classical political economists within these textbooks has not been addressed yet. Our interest and motivation is therefore to investigate how contemporary textbooks understand the founding fathers of CPE and their teachings; both as a school of thought that we attribute to Adam Smith, David Ricardo and Karl Marx, and as a methodology to study capitalism that is both inductive as well as abstract and deductive. We recognize how ambitious and extensive this task is and have thus limited our primary focus for this paper on the representation of Adam Smith and his most fundamental concept: the division of labor (DoL). Our research question can thus be stated as the following***: What is the understanding of Smith's division of labor in the modern economics textbooks?***

Yet, we do not see the DoL and Smith's thoughts in isolation but as an integral part within the history of economic thought. Therefore, we contextualize and relate Smith and the DoL to contributions of two other important classical political economists, namely David Ricardo and Karl Marx. First, including Ricardo is essential to understand Smith with respect to their common concern for the notion of labor and value. Furthermore, the wide use of Ricardo's theory of comparative advantage within contemporary textbooks seems to conflate Smith's understanding of specialization that follows the deepening of DoL. Second, relating Smith to Marx shows their methodological similarities (their use of the long-period method) understanding of capitalism as a dynamic and complex system. While, they arrive at fundamentally different conclusions about the development of capitalist societies and desirability of capitalism, Smith's original writing incorporate some critical reflection on the limits and negative effect of the DoL.

The first section of our paper therefore attempts to provide a close 'reading' of how Smith derived and conceptualized the DoL in the *Wealth of Nation* (Books I-V). We subsequently relate Smith's thought to Ricardo's theoretical contribution on comparative advantage and Marx's restatement of the LTV that we perceive as the key concept within CPE. This provides the contextual, historic and theoretical basis for the empirical part of our paper where we analyse the integration of Smith's DoL in a sample of five widely used mainstream economics textbooks. The subsequent discussion evaluates how and which of Smith's ideas are presented to contemporary students of economics. In order to relate our findings to a general pattern - also offering reasons to the question *why* the DoL was embedded in a certain way - we discuss our findings in the light of the general development within the economics discipline.

2. Smith and Division of Labor

Adam Smith's Inquiry into the *Wealth of Nation* represents one of the first endeavors within the tradition of CPE to explain the emergence of capitalism in its totality – or as Smith's labelled it "the system of liberty". Most puzzling to Smith was the apparent self-organization of society that allowed for its reproduction and expansion. The most prominent idea he developed in order to explain how capitalist societies function is the division of labor. In this section we are going to follow Smith's derivation and conceptualization of the division of labor and show how it gave rise to his theory of capitalism and the Labor Theory of Value (LTV).

2.1. Gains in productivity

The most fundamental societal change that Smith experienced and investigated was the DoL. In the *Wealth of Nations* two different concepts of DoL appear: a technical DoL (which is organisation oriented, within different lines of production on the firm level) and a social DoL (which is market oriented, on a more societal level). Though they operate on different levels they share a significance in terms of productivity gains. The massive improvements in the material conditions of his era and the technological progress motivated Smith's investigation into the forces behind the apparent and effective self-organization of society. Therefore, he begins the first book of the *Wealth of Nation* (from here on cited by 'WN') by describing the immense increases in the productive powers of labor:

> The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed, or applied, seem to have been the effects of the division of labour. [...] This great increase of the quantity of work which, in consequence of the division of labour, the same number of people are capable of performing, is owing to three different circumstances; first, to the increase of dexterity in every particular workman; secondly, to the saving of the time which is commonly lost in passing from one species of work to another; and lastly, the invention of a great number of machines which facilitate and abridge labour, and enable one man to do the work of many. (WN, B1/Ch1, p. 17)

This statement relates rather to an organisational level of DoL. People who specialize in particular labor activities do not only improve their own skills, but also raise the general productivity of their line of employment. This means that for an producer like a craftsman, a workshop or a company it makes sense to follow a non-convexifying production strategy. The circumstances of specialisation allows them to achieve a higher output of one commodity than adding up the bundle of non-specialised commodity production in each sector.

The DoL, from the perspective of society as a whole, operates on the level of the market and gives rise to the idea of a convexifying production set: a market will result to an outcome where various lines of production are being pursued. The DoL on a societal level implies an improval in all “arts” in society (WN, B5/Ch1, p. 930) and stresses that a particular kind of activity “should become the sole or principal occupation of a particular class of citizens” (WN, B5/Ch1, p. 930). Therefore, the specialization of many producers into different sectors also represents a pattern of diversification.

On the level of a single producer specialisation makes sense, if the higher output of the own production can be used in the exchange for a good of a different producer. Then a significantly higher payoff can be achieved by exchanging the goods of one sector (through specialization) for goods of another sector (of another specialized producer). A useful depiction of such a social interdependence is the hub-and-spoke model where the center of a wheel, its “hub”, represents the diversified production and the “spokes” the different lines of production - producers specialise by taking up one line of production (Figure 1).

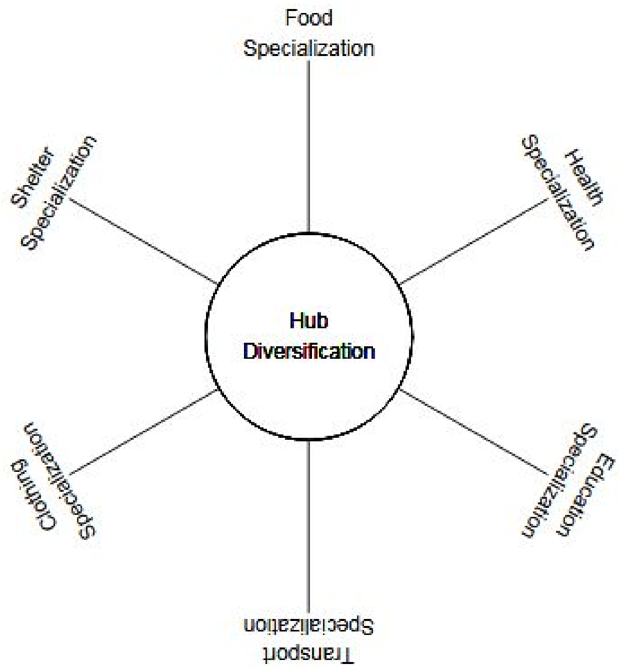


Figure 1: Hub-and-spoke model as a visualization for specialization (Source: Foley, 2016)

For Smith, the DoL and the subsequent increase in productivity are signs of the general improvement in material conditions and the creation of universal opulence. This makes the social DoL the most beneficial form of organizing society: The accumulation of wealth is not only restricted to a few but, to a certain degree, improves the living conditions for all people

> It is the great multiplication of the productions of all the different arts, in consequence of the division of labour, which occasions, in a well-governed society, that universal opulence which extends itself to the lowest ranks of the people. (WN, B1/Ch1, p. 25)

Though, Smith was a strong proponent of free market exchange (discussed below), his emphasis for the need of “a well-governed society” point to the many peculiarities in Smith’s writings. Smith did not further specify what he understood as good governance, yet acknowledged its relevance for economic development and the distribution of “opulence” to every member of the society.

In comparison, the absence or lower degree of DoL results in lower levels of productivity. For example, Smith states that Peruvian economy to the extent that it mainly relies on barter exhibits only a very limited form of DoL (WN, B1/Ch11, p. 282). Smith’s insight into the material condition and his anticipation of the later developments of capitalism is astonishing, since he only observed the industrial revolution at a very early stage.

2.2. Nature of humans

Smith's account for why and how the DoL was set into motion is more ambiguous and less conclusive than his elaboration of the subsequent processes. On the most fundamental level Smith uses an essentialist argument: He attributes the emergence of the DoL to a natural tendency of humans to 'truck and barter':

> This division of labour, from which so many advantages are derived, is not originally the effect of any human wisdom, which foresees and intends that general opulence to which it gives occasion. It is the necessary, though very slow and gradual consequence of a certain propensity in human nature which has in view no such extensive utility; the propensity to truck, barter, and exchange one thing for another. (WN, B1/Ch1, p. 29)
> [...] As it is by treaty, by barter, and by purchase that we obtain from one another the greater part of those mutual good offices which we stand in need of, so it is this same trucking disposition which originally gives occasion to the division of labour. (WN, B1/Ch1, p. 31)

According to Smith, the origin of the DoL lies in the nature of human beings to exchange one thing for another. Their tendency to interact and barter with each other, which is not observed for other species, makes humans distinct as a 'race' (WN, B1/Ch1, p. 31). This natural tendency in relation to a natural state of humans that is expressed in the interdependence of human existence; a necessary social existence:

> 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. (WN, B1/Ch1, p. 30)

Though, it is in the human nature to barter, it is the reciprocity of getting something in exchange that fosters the social arrangement of DoL. Relying on others' goodwill is at odds with a long-term perspective of human existence. According to Smith humans rather prevail if they act based out of 'self-love' than to rely on the 'benevolence' of others.

> [I]t is in vain for him to expect [help] from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour, and show them that it is for their own advantage to do for him what he requires of them. (WN, B1/Ch1, p. 30)

Smith articulates these points without historical or anthropological context. The level of contrastation is only based on a differentiation between mankind and animals. This reasoning can be seen in line with the empiricist episteme of his days, where observations of the immediate environment give rise to general inferences. However, Smith does not sustain his statements through a genealogical contrastation across different human societies. If it were in the human nature to truck and barter and if the DoL is an outcome of that, then the DoL ist part of a human nature as well. However, for a historical matter we know that also non-DoL societies exist (e.g. indigenous potlatch societies).

The location of the DoL in natural tendencies gives rise to an essentialist and microfounded methodological position. Smith then goes on to deliver a closer investigation on how the DoL actually shapes further talents and the genius of people (see subsection 2.4.1). Yet, contemporary economics teachings take this notion of a self-interested agent as a moment for introducing the well-known 'invisible hand' as metaphor for the success of a market arrangement that moves a society towards a state of well-being and harmony. Smith does not use the essentialist idea of a human nature to justify the efficiency and success 'of the market but began by theorizing a dynamic form of a social DoL. Secondly, he does not attribute a great emphasis to the 'invisible hand'. This is particularly striking since the 'invisible hand' appears to have become on of the most prominent point of reference when it comes to Smith' contemporary legacy (it only occurs three times in his overall bibliography and once in the *Wealth of Nations*). Rothschild (1994) argues that the appearance of the invisible hand has to be understood in a "sardonic manner" instead as a serious and meaningful principle. She argues that its use for Smith rather reflected a polytheistic notion (as the 'invisible hand of Jupiter') than a solid empiricist understanding. Referring to indirect evidence of his life (like him being critical of religions) such a wording of theological character is rather to be seen as a capricious expression instead of manifesting a providential, order preserving force.

2.3. Organization and allocation of labor

2.3.1. Allocation based on advantages and disadvantages

Although, Smith traced the origin of the DoL back to the nature of human being, the DoL goes far beyond this line of reasoning. Smith developed a dynamic framework that theorized how individuals participate in the market and allocate their labor. The DoL is determined by the structure of the social environment. In order to show what determines the choice of specialization that someone would chose to pursue, Smith discusses what makes people distinct from another. For him it is not about the inherent possession of talents but the "habit, custom, and education" that determines one's career:

> The difference of natural talents in different men is, in reality, much less than we are aware of; and the very different genius which appears to distinguish men of different professions, when grown up to maturity, is not upon many occasions so much the cause as the effect of the division of labour. The difference between the most dissimilar characters, between a philosopher and a common street porter, for example, seems to arise not so much from nature as from habit, custom, and education. When they came into the world, and for the first six or eight years of their existence, they were, perhaps, very much alike, and neither their parents nor playfellows could perceive any remarkable difference. About that age, or soon after, they come to be employed

> in very different occupations. The difference of talents comes then to be taken notice of, and widens by degrees, till at last the vanity of the philosopher is willing to acknowledge scarce any resemblance. (WN, B1/Ch2, p. 32)

Smith positions himself rather on the side of nurture than nature in explaining how human development is conditioned. Here, we want to stress Smith's rejection of natural differences as determining factor, which is opposed to contemporary proponents of the 'theory of comparative advantage' that explains specialization based on static and natural strengths. Smith continues arguing that given our individually obtained skills and possessions, humans would choose the line of employment that maximizes their advantages (money income) and minimizes their disadvantages (labor effort). The movement of labor according to this 'max-min' rational would further tend to equalize the advantages and disadvantages across sectors.

> The whole of the advantages and disadvantages of the different employments of labour and stock must, in the same neighbourhood, be either perfectly equal or continually tending to equality. If in the same neighbourhood, there was any employment evidently either more or less advantageous than the rest, so many people would crowd into it in the one case, and so many would desert it in the other, that its advantages would soon return to the level of other employments. This at least would be the case in a society where things were left to follow their natural course, where there was perfect liberty, and where every man was perfectly free both to choose what occupation he thought proper, and to change it as often as he thought proper. Every man's interest would prompt him to seek the advantageous, and to shun the disadvantageous employment. (WN, B1/Ch10, p. 142)

This equalization of labor effort and money income gives rise to one of the first expression of the Labor Theory of Value (LTV). Smith's assumption of "perfect liberty" - the mobility of labor - further result in the emergence of what Smith called "natural prices" around which "market prices" would gravitate and at which labor time would be 'ideally' equal to labor effort. This subsequently gave rise to the equalization of profit rates across different lines of employment. To elaborate this line of thought Smith formulated an abstract thought experiment that we are going to analyse in the next section.

2.3.2. Abstractions of Smith's thought experiment

Smith's methodology is defined by its appeal to both inductive as well as deductive and abstract approaches. While his general approach to study and 'observe' the emergence of industrial capitalism (for instance his famous study of industrial pin manufacturing) largely basis on an inherently inductive, historic and social methodology, Smith also applies abstraction and deductive reasoning (Milonakis and Fine, 2009) to theorize the underlying principles and structure of capitalism. His unique intellectual ability to move from the 'concrete' to the ‘abstract’ allowed him to derive that the division of labor, which, while visible only in the concrete, underlies and structures society as a whole.

Smith derives this by setting up a simple ‘thought experiment’ that relies on few crucial assumptions or ‘level of abstractions’. Firstly, Smith assumes “perfect liberty” (freedom) of mobility, both for labor and capital; thus, every “man” can move between different lines of production. Smith vaguely defined what constraints the mobility of labor by stating that “men” would only change the line of employment when they “thought proper” to do so. “Proper” choices would imply that it is not sensible to transfer to a line of employment that requires large transaction costs (e.g. required knowledge, skills or commute). Smith’s assumption of “perfect liberty” - the mobility of labor - and his understanding of competition further result in the emergence of “natural prices” around which “market prices” would gravitate and at which labor time would be ‘ideally’ equal to labor effort. This subsequently gave rise to the equalization of profit rates across different lines of employment. In this abstraction, natural prices and the natural rate of profit (which Smith incoherently derived via his “adding-up” theory - discussed below) function as ‘signals’ that indicate where “market prices” and profit rates are above or below their natural level and therefore coordinate the movement of labor and capital.

Therefore, Smith’s thought experiment defines economic agents as mobile and free to move between different sectors. Their movement is based on the search for the highest ratio of advantages to disadvantages. In the simplest setting of an early-rude state, for example in Smith's deer-and-beaver economy (WN, B1/Ch6, p. 73), the independent producers will maximise their revenues (money income) based on their labor efforts. In a more advanced state of the economy the maximising entities will be both workers and capitalists which look for high wages and profits, while minimizing their disadvantages, which are labor efforts and production costs. While this system relies on the continuous fluctuation of agents’ movements, a certain ‘steady-state’ or statistical equilibrium emerges over time - in the long-run. Hence, to large extent, Smith used this ‘long-period method’ (Foley 2011, p. 15ff) to demonstrate through the use of abstraction what the underlying forces of capitalist economies are: that, on average or over an infinite time horizon, market prices are equal to natural prices and an ‘average’ rate of profit tends to emerge.

2.4. Limiting and deepening factors of DoL

The degree to which the DoL is advanced in a society is reflected by the ease at which commodities can be exchanged and commerce can take place. Two important concepts that

Smith introduced in this light are (a) the means of exchange and (b) the extension of the market.

2.4.1. Means of exchange

Smith articulated that the thorough specialization through the DoL will result in the emergence of economies of scale that result in an excess of "use-value" accumulated by individuals. For Smith, use-values represent the feature of a commodity to satisfy some human want or need (WN, B1/Ch4, p. 41ff).

> Every workman has a great quantity of his own work to dispose of beyond what he himself has occasion for; and every other workman being exactly in the same situation, he is enabled to exchange a great quantity of his own goods for a great quantity, or, what comes to the same thing, for the price of a great quantity of theirs (WN, B1/Ch1, p. 25)

The excess of particular use-values of individuals, which derives from their specialization in the production of a single commodity only, requires them to perform in exchanges and transactions with producers of different commodities that allow them to satisfy their diverse needs. Thus, everyone lives by exchanging, or becomes in some way a 'merchant', and the society itself grows to be "what is properly a commercial society" (WN, B1/Ch4, p. 41). However, Smith argued that commodities do not only contain a direct use-value but further obtain an exchange value that arises within the context of the emergence of the systemic and social division of labor. Exchange value, thus, allows to express the value of a commodity as an expression of the value of other commodities, for which it can then be exchanged (WN, B1/Ch4, p. 48).

However, the impracticability of barter exchange and the inconvenience of the "double-coincidence of wants" (Jevons, 1876) - the antagonism of quid pro quo exchange - requires the emergence of a common commodity which functions as a numeraire for value in exchange. Smith referred to the need for a "common instruments of commerce" (WN, B1/Ch4, p. 41) to facilitate the exchange of goods. The DoL and the subsequent specialization therefore necessitate the introduction money as generally accepted medium of exchange.

2.4.2. Market extension

Since the DoL depends on the social condition and practicality of exchange, the extent of the market limits the division of labor (WN, B1/Ch3, p. 35). Market extension, therefore, creates more opportunities for the specialization of production. Smith emphasized that particular industries cannot be sustained in small villages but depend on the excess of labor in great towns (WN, B1/Ch3, p. 35). He further stressed the benefits for economic development from the extension of domestic markets to foreign trade (WN, B4/Ch1, p. 582). For example, for Smith the discovery of the Americas was not only advantageous with respect to the access to new mining sources, but more importantly helped to extend and overcome the limitations of the market dimensions by "opening a new and inexhaustible market to all the commodities of Europe" (WN, B4/Ch1, p. 583).

The extension of the market, thus, allows for the deepening of the DoL that foster the emergence of economies of scale. For Smith, the degree of the DoL within a country, determines its relative competitiveness to third countries (with that it trades with) and allows countries to develop absolute advantages (Schumacher 2012). In this regard, Smith's view on trade deferred from Ricardo's theory of comparative advantages, in which countries, after they enter into trade, specialize in the production of particular commodities in which they hold a comparative advantage (discussed below). For Smith, as already emphasized, specialization is the result rather than the cause of the DoL. Smith acknowledges that natural difference such as environmental or institutional factors influence specialization (WN, B1/Ch.8, p. 105) by shaping the the form of the DoL of individual countries. Therefore, for Smith, the difference in the degree and 'shape' of a countries DoL, determines the emergence of particular trade patterns between countries.

Nevertheless, both Smith and Ricardo stressed that trade should be 'free', which implied the removal of subsidies, taxes and tariffs. Smith general appeal to laissez-faire is based on his comprehension of markets as dynamic systems that effectively self-organize and, in line with his long-period method, result in the statistical equilibration of prices, wages and the rate of profit. Furthermore, Smith emphasis on the positive effects of the deepening of the DoL (although he also described 'backlashes' of the DoL; see below section 2.8.) that depends on the extension of markets (through trade) and increase productivity and income, motivate his conclusion to let this process operate freely.

2.5. Smith's theory of value

As we have already established above, the notion of value was central to Smith understanding of how 'wealth' is created and distributed. For Smith, value ultimately takes shape as the quantity of labor that someone can "purchase of command" after exchanging (selling) her produce:

> The value of any commodity, therefore, to the person who possesses it, and who means not to use or consume it himself, but to exchange it for other commodities, is equal to the quantity of labour which it enables him to purchase or command. 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. It was not by gold or by silver, but by labour, that all the wealth of the world was originally purchased; and its value, to those who possess it, and who want to exchange it for some new productions, is precisely equal to the quantity of labour which it can enable them to purchase or command. (WN, B1/Ch5, p. 50f)

While labor is the source of a value for Smith, he does not clearly differentiate between values and prices (compared to other political economists, especially Marx). Yet, when he writes that value is equal to the 'quantity of labour which it can enable them to purchase' he has the notion of natural or real prices in mind that he differentiates from nominal prices:

> 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. (WN, B1/Ch5, p. 54)

In terms of market exchanges people consider market prices, which are the expression of 'value' in everyday life. However, the substance and the origin of value is defined by the natural price, which is an expression of labor:

> The real price of everything, what everything really costs to the man who wants to acquire it, is the toil and trouble of acquiring it. What everything is really worth to the man who has acquired it, and who wants to dispose of it or exchange it for something else, is the toil and trouble which it can save to himself, and which it can impose upon other people. (WN, B1/Ch5, p. 54)

Further, Smith states that a society based on the DoL and market exchange develops the capacity to operate on an increasing scale by the power to command labor. He starts with the phrase about Hobbes: 'Wealth, as Mr. Hobbes says, is power.' and then goes on to develop his own idea about power:

> The power which that possession [the possession of a certain fortune] immediately and directly conveys to him [man], is the power of purchasing; a certain command over all the labour, or over all the produce of labour, which is then in the market. His fortune is greater or less, precisely in proportion to the extent of this power; or to the quantity either of other men's labour, or, what is the same thing, of the produce of other men's labour, which it enables him to purchase or command. The exchangeable value of everything must always be precisely equal to the extent of this power which it conveys to its owner." (WN, B1/Ch5, p. 51)

Wealth for Smith helps to fulfill one's needs and enjoyment, but more importantly comprises the ability to move people by commanding labor. And as we will see in the next subsection, the relations of power are not equal for Smith, but also depend on path dependencies and the possession of capital.

2.6. Social classes

Though Smith is known for the thought-experiment of the independent producers in a deer-and-beaver economy, he very early (WN, B1/Ch.6) introduces constraints on the availability of the means of production, by reconsidering the ownership of capital and the role of land. He already starts associating advanced states of society with the state where "stock that has accumulated in the hands of particular persons" (WN, B1/Ch6, p. 74) and land that has become private property of the landlords (WN, B1/Ch.6, p. 76). Smith clearly understood that economic development in a market based society is not necessarily advantageous, and secondly affects people differently according to their class status.

> The produce of labor constitutes the natural recompense or wages of labour. In that original state of things [state of independent producers], which precedes both the appropriation of land and the accumulation of stock, the whole produce of labour belongs to the labourer. He has neither landlord nor master to share with him. [...] But this original state of things [state of independent producers], in which the labourer enjoyed the whole produce of his own labour, could not last beyond the first introduction of the appropriation of land and the accumulation of stock. It was at an end, therefore, long before the most considerable improvements were made in the productive powers of labour, and it would be to no purpose to trace further what might have been its effects upon the recompense or wages of labour. (WN, B1/Ch8, p. 96)

Workers are now compensated with wages and all revenues and improvements in the production process have to be split between profit, rent and wages. In this more elaborate mode of capitalism, the producing entities that employ workers who do not possess the necessary of means for productions. The distribution of the value-added within production is therefore based on asymmetric power relations between social classes:

> Such cases [independent producers], however, are not very frequent, and in every part of Europe, twenty workmen serve under a master for one that is independent; and the wages of labour are everywhere understood to be, what they usually are, when the labourer is one person [worker], and the owner of the stock which employs him another [capitalist]. (WN, B1/Ch8, p. 98)
>
> It is not, however, difficult to foresee which of the two parties must, upon all ordinary occasions, have the advantage in the dispute, and force the other into a compliance with their terms. The masters, being fewer in number, can combine much more easily; and the law, besides, authorizes, or at least does not prohibit their combinations, while it prohibits those of the workmen. We have no acts of parliament against combining to lower the price of work; but many against combining to raise it. In all such disputes the masters can hold out much longer. A landlord, a farmer, a master manufacturer, a merchant, though they did not employ a single workman, could generally live a year or two upon the stocks which they have already acquired. Many workmen could not subsist a week, few could subsist a month, and scarce any a year without employment. In the long run the workman may be as necessary to his master as his master is to him; but the necessity is not so immediate. (WN, B1/Ch8, p. 99)

It is evident that Smith is well aware of the situation of workers in relation to their "masters". Workers do not own stock and thus are more vulnerable compared to the "master" who "can hold out much longer." Workers also face greater obstacles to organize ('combining') due to their high number. Hence, any improvements based on the advance of the DoL will affect different parts of society in very different ways and according to the "advantage in the dispute", which ultimately depends on the power relations between different classes.

2.7. The DoL reconsidered: Preconditions, backlashes and regulation

After introducing the particular power relations between social classes, Smith reconsiders his understanding of the division of labor. While Smith began his theory of the DoL by deriving it from the natural tendency of humans to "truck and barter", in Book 2 of his *Wealth of Nation,* he notes that the accumulation of stock is a precondition to the division of labor.

> A weaver cannot apply himself entirely to his peculiar business, unless there is beforehand stored up somewhere, either in his own possession or in that of some other person, a stock sufficient to maintain him, and to supply him with the materials and tools of his work, till he has not only completed, but sold his web. This accumulation must, evidently, be previous to his applying his industry for so long a time to such a peculiar business. As the accumulation of stock must, in the nature of things, be previous to the division of labour, so labour can be more and more subdivided in proportion only as stock is previously more and more accumulated. (WN, B2/Intro, p. 360f)

This changes the idea of the division of labor as a universally developing system towards forms of development that are heavily path dependent: the DoL enhances productive forces and leads to capital accumulation, but in order for the DoL to take place capital needs to be accumulated first. The dependency on prior capital endowments makes the DoL a systemically exclusive way of organizing society. Furthermore, Smith identifies particular negative effects of the DoL. In particular, he describes that the most simple, ordinary and repetitive tasks within society are carried out by workers (WN, B5/Ch1, p. 1040).

> The man whose whole life is spent in performing a few simple operations, of which the effects are perhaps always the same, or very nearly the same, has no occasion to exert his understanding or to exercise his invention in finding out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment concerning many even of the ordinary duties of private life. [...] His dexterity at his own particular

> trade seems, in this manner, to be acquired at the expense of his intellectual, social, and martial virtues." (WN, B5/Ch1, p. 1040f)

The capacity of workers to improve the dexterity of particular tasks through specialization is therefore contracted by the 'alienating' nature of specialization that derives from the deepening of the DoL. Therefore, the division of labor does not only bring universal advantages, but involves hurdles. Again, the working part of the population is far more affected by these negative effects than the 'masters'. Smith, concedes the regulation of the these backlashes of the DoL it is essentially a political question:

> But in every improved and civilised society this is the state into which the labouring poor, that is, the great body of the people, must necessarily fall, unless government takes some pains to prevent it. It is otherwise in the barbarous societies, as they are commonly called, of hunters, of shepherds, and even of husbandmen in that rude state of husbandry which precedes the improvement of manufactures and the extension of foreign commerce. In such societies the varied occupations of every man oblige every man to exert his capacity and to invent expedients for removing difficulties which are continually occurring. Invention is kept alive, and the mind is not suffered to fall into that drowsy stupidity which, in a civilised society, seems to benumb the understanding of almost all the inferior ranks of people. (WN, B5/Ch1, p. 1041)

Smith describes societies with a low degree of the DoL and no "extension of foreign commerce" as "barbarian". In this rude state of society, however, workers' mental state is less "benumb" than in "civilised society" as the greater diversity of required skills on an individual level will keeps "invention" alive. In a civilized and capitalist society, Smith, once again, stresses the role of the state or "government" to "prevent" the "labouring poor" from falling "into that drowsy stupidity". Even though, Smith sounds quite cynical in this passage, his line of thinking and comprehension of the possible negative effects of the DoL seems rather similar to what Marx later theorized as "alienation".

2.8. Concluding remarks on Smith and the DoL

The Division of Labor created the basis for Smith's analysis and theorization of the emergence of industrial capitalism. As we have elaborated Smith applied a truly pluralistic methodological approach that relied both on the description and induction as well as abstraction and the use of thought-experiment based on his long-period method. Thus, Smith's genuine ability to move from the concrete to the abstract allowed him to show the underlying forces of capitalism that determine the creation of value and the distribution of wealth. The DoL represents the starting point for Smith's analysis that subsequently explains the growing specialization of producers, while emphasizing that the DoL is essentially 'social' and mediates the excess of use-values through market exchange. We have further articulated that there is substantial evidence that

Smith also viewed the increasing DoL critically and pointed towards the growing 'alienation' (borrowed from Marx) of the worker. A summarised way of locating the DoL in the Wealth of Nations is depicted in Figure 2. In the next section, we are going to elaborate Smith's relation to the Labor Theory of Value and contextualize his ideas within the realm of CPE, with particular emphasis on David Ricardo and Karl Marx.

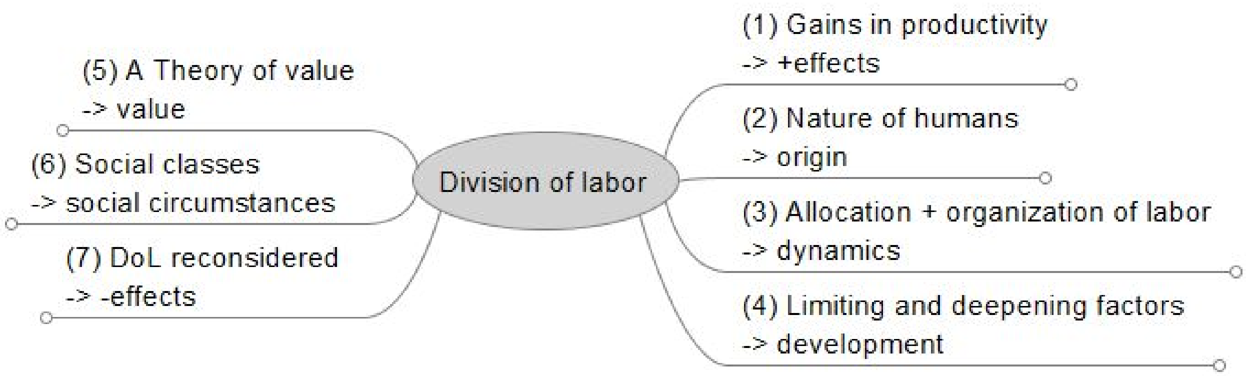


Figure 2: Summary of the DoL, based on the *Wealth of Nations* (Source: own depiction)

3. Smith as a classical political economist

In order to fully understand Smith's insights and theory it requires to not only study his contribution in isolation but requires to relate him within the tradition of Classical Political Economy. In the next section we are first going to introduce Ricardo's conceptualization of the theory of comparative advantage and his understanding of value (LTV). Secondly, we are going to relate Smith ideas to Marx contribution and critique of CPE in particular relation to their shared understanding of capitalism as dynamic system and their definition of the LTV.

3.1. Ricardo and the theory comparative of advantage

David Ricardo's *Principles of Political Economy and Taxation* (Sraffa, 2004) represents his most conclusive and influential contribution to Classical Political Economy (CPE). It not only addressed current policy debates of Ricardo's time (e.g. the Bullion Crisis and the corn price debate) but developed and critiqued Adam Smith's *Wealth of Nations*. In contemporary economics, Ricardo is mostly acknowledged and celebrated for his theory of comparative advantage or cost and his support for free trade. However, Ricardo's contribution to CPE goes far beyond this. For the purpose of this paper we are going focus on two particular aspects that relate Ricardo to Smith: First, we are going to analyse how Ricardo's theory of comparative advantage *actually* relates to Smith's ideas on the deepening of the DoL through market extension via the implementation of foreign trade. Second, we are going to show how Ricardo, somehow accidently, redefined the theory of value purely as an expression of labor time. The latter, subsequently builds the bridge to show how Marx further developed and linked both Smith's and Ricardo's ideas to complete the Labor Theory Value as the unifying concept within CPE.

3.1.1. Extending domestic markets through foreign trade

In Chapter VII 'On Foreign Trade' in his *Principles of Political Economy and Taxation,* Ricardo explicitly focused on the question of how value and price relations within a country as well as the rate of profit are affected by the extension of domestic markets through foreign trade. He takes up Smith's notion that the DoL is restricted by the extent of the market and that profits in different lines of employments will tend to equalize. In his account on trade and international markets, Ricardo shifts the focus from the "independent producer" or the firm to the level of the state. He emphasises that the underlying principles that regulate values and prices are different within context of international trade.

> The same rule which regulates the relative value of commodities in one country, does not regulate the relative value of the commodities exchanged between two or more countries. (p. 133)

While between London and Yorkshire capital and labor can move fairly freely and the transaction costs are low, for instance, for England and Portugal this is not the case.

> the natural disinclination which every man has to quit the country of his birth and connexions, and intrust himself with all his habits fixed, to a strange government and new laws, check the emigration of capital (p. 136)

Ricardo clearly reduces the level of abstraction; particularly in stark contrast to Smith's thought-experiment (long-period thinking). The degree of mobility between countries differs from Smith's assumption of "perfect liberty" between the independent producers. In Ricardo's understanding the relative immobility of capital and labor prevent prices and profit rates from equalizing internationally. This is what makes trade attractive to merchants and countries.

3.1.2. The Theory of Comparative Costs

Ricardo proposes a new thought experiment, in which two countries, Portugal and England, engage in bilateral trade with two commodities, wine and cloth. Originally both goods are produced at a lower price in Portugal: less labor is required to produce them (Table 1).

Table 1

	Yearly labor input for the production of **Wine**	Yearly labor input for the production of **Cloth**
Portugal	***80***	***90***
England	***120***	***100***

Given that both countries would start to trade with each other, Ricardo argues that Portugal would export wine in exchange for English cloth (assuming Barter exchange). First, this seems not intuitive as Portugal could also produce cloth at a lower unit labor cost than England.

> Though she could make the cloth with the labour of 90 men, she would import it from a country where it required the labour of 100 men to produce it, because it would be advantageous to her rather to employ her capital in the production of wine, for which she would obtain more cloth from England, than she could produce by diverting a portion of her capital from the cultivation of vines to the manufacture of cloth. (p. 135)

Ricardo shows that it is beneficial for Portugal to export wine, in which she has a stronger comparative advantage: Portugal's yearly wine production requires 40 units of labor less than than the production of wine in England (120 - 80). However, Portugal's comparative advantage in producing cloth is only 10 units of labor (100 - 90). One the other hand, England gains from getting more wine than she can produce by exporting cloth, for which her comparative (cost) disadvantage is smaller. England's subsequent specialization in the production of cloth, after it began to trade with Portugal and to import wine, allows her to eventually gain a comparative advantage in the production of cloth. Thus, Portugal's initial absolute advantage in producing both commodities has been transferred into a scenario mutual beneficial trade, where both countries hold a comparative advantage.

While this represents a highly simplified account of Ricardo's trade theory (especially since it does not consider money prices, exchange rates and Ricardo's emphasis on gold as the "general medium of circulation"), it shows how the conceptualization of the DoL changes from the domestic to the international context. In contrast to firms or individuals, countries maintain a certain degree of diversification that allows them reproduce and satisfy a variety of needs and wants. Ricardo elaborates that country-specific specialization follows the principle of comparative cost or advantage. The difference in natural endowment, economies of scale and technology are not necessary to explain which path of specialization a country takes. Rather, the difference in productivity (cost of production) and the ability or access to trade, facilitate the specialization in the line of production where a country holds a smaller comparative disadvantage (cloth for England) or higher comparative advantage (wine for Portugal). It is important to emphasize the logical analogy between Smith and Ricardo: While for Smith specialization follows after the initiation of the social DoL within the domestic sphere, for Ricardo specialization follows after the extension of domestic markets through foreign trade.

3.1.3. Ricardo and value

As we have elaborated above, Ricardo differentiates between the value relations within and between countries. While his account on trade is often interpreted as the logical continuation of Smith's ideas on trade (which is only partly correct given Smith's emphasis of the concept of absolute advantage), Ricardo rejected Smith's twofold conceptualization of value as both labor-embodied and labor-command.

> Adam Smith, who so accurately defined the original source of exchangeable value, and who was bound in consistency to maintain, that all things became more or less valuable in proportion as more or less labour was bestowed on their productiontion, has himself erected another standard measure of value, and speaks of things being more or less valuable, in proportion as they will exchange for more or less of this standard measure. (Sraffa, 2004, pp. 13-14)

Ricardo's purely abstract and deductive methodology (that in fact laid the ground the positivist methodology for the later emerging Neoclassical school of thought) led him to conclude that what ultimately determines the value of commodities is labor time, which later Marx almost entirely adopted from Ricardo. This allowed Ricardo to point out the deficiencies of Smith's "adding-up" theory.

Ricardo proves that Smith mistakenly treated the constituent parts of the price as independent of one another (Milonakis and Fine, 2009, p. 54). Smith notion of labor commanded, in which value is expressed as the labor that can be bought by selling a commodity, hinges on the assumption that wages are constant. Ricardo showed how, for example, a change in the price of corn, while having an effect on wages, does not translate into an proportional effect on the price of all other commodities. He goes on to show that commodities with different proportions and durabilities of capital are in fact differently affected by changes in prices. For Ricardo, changes in money prices of commodities only occur due to changes in the labor time required for their production, or due to changes in the composition of durable and fixed capital, which itself 'modifies' the labor-embodied ratio (Meek, 1956, p. 105). Ricardo thus significantly redefined the LTV, which created the basis for Marx's understanding of labor and value. As Milonakis and Fine summarize:

> Ricardo pioneered the deductive method within economics by seeking to explain the categories of capitalism by appeal to the labour theory of value. By contrast, Marx understands the labour theory of value in terms of concepts that consciously correspond to the material conditions and organisation of the capitalist economy itself. (Milonakis and Fine, 2009, p. 5)

Therefore, with regard to his understanding of the LTV, Marx was much closer to Ricardo than Smith. However, as we will elaborate below, Marx to a great extent followed Smith long-period thinking in explaining the underlying forces of capitalism.

3.2. Marx and the LTV

While Marx and Smith arrived at fundamentally different conclusions about the desirability of capitalism as system as a whole, they both adapted a quite similar epistemological and methodological approach. This is particularly true for they reference to the concept of value and their use of abstractions, which is very different from Ricardo's purely deductive and abstract method.

3.2.1. Marx's conceptualization of capitalist commodity production

Most notably Marx fully adapts Smith's assumption of free mobility but redefines the understanding of what constitutes labor and capital in capitalist commodity production. As Saad-Filho states: "One of Marx most important intellectual achievement is the explanation of how free wage workers are systematically exploited" (Saad-Filho, 2002, p. 49). Worker essentially become "free in a double sense" (Marx, 1992, ch 6): They are free to sell their labor power, but they are also 'free' of any other means of production. Thus, in Marx analysis, the independent producers become capitalist firms, amongst which wage laborers are free to choose for employment.

Further, Marx's analysis explicitly focuses on the emergence of classes and their strategic interaction within the economy. While Smith did incorporate the of concept of class in his theory, Marx mostly followed Ricardo's clear differentiation between wages, rent and profit. Marx further distinguishes the concept of labor as *labor time* and *labor power*, which he understands as the capacity to perform productive labor and thus to create value (Marx, 1993, Introduction). As capitalist firms monopolize the means of production workers have to sell their labor power as a ‘commodity’. However, they do not receive the equivalent of the total value added from their wage labor time in form of money wages. The value added is subsequently split between capitalists (surplus value) and workers (wages). This gives rise to the notion of unpaid labor time and the rate of exploitation, which subsumes into the amount of surplus value capitalist are able to extract within production (Foley, 1986).

The part of the working day that workers are not compensated for in wages - unpaid labor time - is appropriated by capitalists as “surplus value”. Marx understanding that the “realization” of value happens within the sphere of exchange (via ‘unequal’ exchange), specifically relies on Smith’s differentiation between use- and exchange value. Therefore, Marx analysis of commodity production explains social dynamics that are rooted in asymmetric distribution of means of production. Whereas Smith, generally, praises the ability of the system to increase productivity and wealth of a nation (Smith, 1977, B1/Ch1), Marx stresses the exploitative nature of capitalism (Foley, 2019). Marx further elaborates on Smith’s primature ideas on the alienation that make commodity production and commodification purely ‘irrational’ to him.

3.2.2. Methodological perspectives: the long-period method

The form of commodity production that Marx had in mind dependents on the emergence of wage labor and capitalists, which self-organize the DoL to systematically exploit workers. Yet, from a methodological point of view Marx’s analysis also relies on long-period thought experiments. As elaborated above, however, Marx started from a different level of abstraction than Smith’s analysis: The independent producers become capitalist firms that own the means of production and are able to extract surplus value by systematically exploiting wage labor (this is sometime called the “capitalist law of exchange”, while Smith’s thought-experiment is referred to as the “commodity law of exchange”. However, analogous to Smith’s depiction, Marx assumed that capital and labor move freely across sectors. Beyond the equalization of labor effort and money income, Marx also theorized the equalization of the rate of exploitation (further discussion is beyond the scope of this paper).

Furthermore, just as for Smith, competition amongst capitalists is crucial for Marx’s explanation of the emergence of “prices of production” (Marx, 1993, ch. 11), which Smith calls “natural prices” (1977, ch. 4), and which for Marx result in the emergence of an average rate of profit. Thus, for both Smith and Marx the defining emergent property of capitalist and commodity production is an average rate of profit towards which the economy ‘gravitates’ or which can be understood as an ‘statistical equilibrium’ (Foley, 2008). Furthermore, both Smith and Marx stress the importance of money prices (wages) and the monetary expression of surplus value in terms of profit, which function as ‘signals’, which coordinate the free movement of labor and capital within a decentralized market system.

The epistemological and methodological basis of Marx very similar to Smith’s long-period method, which essentially relies on the assumption of the free mobility of labor and capital and through *abstraction* demonstrates what the underlying forces and emergent properties of capitalism are. In Capital Vol III, Marx summarized several of the points we emphasized above: (i) the equilibration of divergences between profits, prices and wages and (ii) the relevance of labor and capital mobility:

> The incessant equilibration of constant divergences is accomplished so much more quickly, 1) the more mobile the capital, i.e., the more easily it can be shifted from one sphere and from one place to another; 2) the more quickly labour-power can be transferred from one sphere to another and from one production locality to another. […] The second condition implies the abolition of all laws preventing the labourers from transferring from one sphere of production to another and from one local centre of production to another; indifference of the labourer to the nature of his labour; […] and last but not least, a subjugation of the labourer to the capitalist mode of production. Further reference to this belongs to a special analysis of competition. (Marx, 1993, ch. 10)

Therefore, it can be inferred that Marx accepts the basic approach to see the economy as a complex and dynamic system of commodity production that relies on social division of labor arranged in a decentralized form, where the value added in commodity production is proportional to the labor embodied. Yet, Marx adds another level of abstraction to the Smithian analysis by relying on the capitalist law of exchange, that also reveals a form of irrationality on a systematic level. Finally, Marx can be seen as a specific long-period theoretician who refers to the mobility of capital and labor in a similar way as Smith to the mobility of labor.

4. Textbook Analysis

Writing and publishing an economics textbook not only can be an enormously lucrative enterprise but can bring prestige and lay the foundation for whole paradigms and legacies. Within the economics discipline, textbooks have long become the most crucial mean to teach and distribute concepts as well as theories. Within the economics education they most predominantly used in undergraduate classes, where textbooks are always the first point of reference. Our intention in this sections is to analyse how Smith as a classical political economist and the DoL are represented and used within contemporary economics textbooks.

4.1. The sample

The vast amount of economics textbooks in circulation and the constraints of this project have forced us to select a sample of textbooks, which are somehow representative for the wider literature. Our selection of five textbooks is a mixture of established, most sold textbooks (Zuidhof, 2014) and the most frequently used introductory textbooks at German universities (Rebhan, 2017; Egerer and Rebhan, 2018)In our sample we include:

- Mankiw's *Principles of Economics* (2017) [M], in the 8th edition,
- Mankiw and Taylor's *Economics* (2014) [M&T], in the 3rd edition,
- Krugman and Well's *Economics* (2014) [K&W], in the 4th edition,
- Samuelson and Nordhaus's *Economics* (2009) [S&N], in the 19th edition and
- Colander's *Economics* (2010) [C], in the 8th edition.

The limitation of the analysis is the discrepancy between depth in of these elementary textbooks and the depth and complexity of the writings of Smith. Still, it is possible to identify definite patterns in the treatment of our sample of textbooks of Smith's DoL. We have explicitly focussed on the narrative in which the concepts are situated and what elements of original thought are included or left out.

4.2. Overview of Smith and the DoL in the textbooks

Our sample of economics textbooks largely takes up similar notions of Adam Smith, however, they differ in their terminology and explicit references. The term "division of labor" was not used a single time in the textbooks of Mankiw, Mankiw & Taylor and Krugman & Wells. In Krugman & Wells there is one passage that mentions a "division of tasks" as a synonym to "specialization". While Samuelson & Nordhaus' *Economics* is the shortest within our sample, it includes the most explicit references to the DoL (29 times, see Table 2 below). Also in Colander we found passages with DoL (less often, 11 times), yet (see section below) his depictions pick up relevant and diverse references to Smith.

Generally, implicit reference to the concept of DoL exists in all textbooks through by using the term "specialization" - in some cases with explicit reference to Smith and in others without mentioning his name. Whereas Adam Smith started *The Wealth of Nations* with the concept of the DoL, economics textbooks refer to Adam Smith in a more extensive manner by taking up the concept of the "invisible hand". Smith, however, used the terminology and concept of the invisible hand only once. Hence, the language and reference to the DoL within our sample of textbook strongly differs from how Smith introduced and conceptualized it.

Table 2: Appearance of terms (Source: own depiction)

	M (2017)	M&T (2014)	K&W (2015)	S&N (2009)	C (2010)	WN
Division of labor / division of tasks	0 / 0	0 / 0	0 / 1	29 / 0	11 / 0	43 / 0
Specialization	23	12	22	52	49	0
Invisible hand	52	38	13	47	97	1
Number of pages:	866	837	1172	745	927	1280

Our analysis of the textbooks with regard to the DoL demonstrates that the relation and reference to Smith varies. First, we are going to elaborate which and how concepts are used, and secondly show the differences between the textbooks in their explicit reference to Adam Smith.

4.3. Detailed analysis of concepts identified within the textbooks

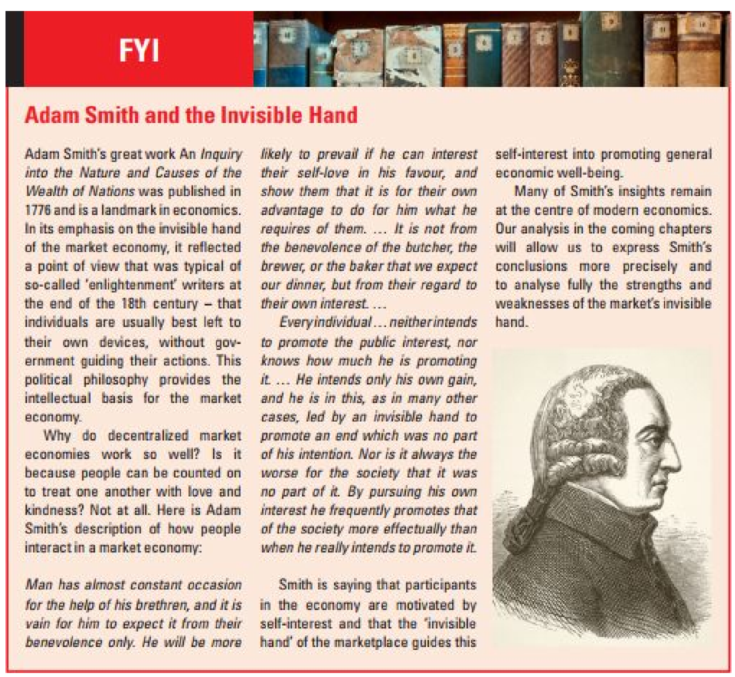
4.3.1. Functioning of a market economy - invisible hand

In all textbooks, Smith is prominently used as a historical reference to explain how market economies function. In a ‘market economy’ (a term which itself is never explicitly mentioned in *The Wealth of Nations*) production and consumption are seen as the result of decentralized decisions of firms and individuals (K&W, p. 2). The market is explained as an ‘elaborate mechanism’ that coordinates people, prices, activities and leads to the production of a variety of goods that can be exchanged (S&N, p. 26). In each of the analyzed textbooks the way of introducing this thought includes the reference to the ‘invisible hand’ which magically leads to overall well-being if people act in their own self-interest:

> Smith is saying that participants in the economy are motivated by self-interest and that the ‘invisible hand’ of the marketplace guides this self-interest into promoting general economic well-being. Many of Smith’s insights remain at the center of modern economics. (M, p. 10)

> In one of the most famous passages of all economics, quoted from The Wealth of Nations at the opening of this chapter, Smith saw the harmony between private profit and public interest. [...] Particularly note the subtle point about the invisible hand—that private interest can lead to public gain when it takes place in a well-functioning market mechanism. (S&N, p. 28f)
>
> Adam Smith wrote about how individuals, in pursuing their own interests, often end up serving the interests of society as a whole. Of a businessman whose pursuit of profit makes the nation wealthier, Smith wrote: "[H]e intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention." Ever since, economists have used the term invisible hand to refer to the way a market economy manages to harness the power of self-interest for the good of society. (K&W, p. 2)
>
> [M]arket works like an invisible hand, guiding economic forces to coordinate individual actions and allocate scarce resources. The **invisible hand** is the *price mechanism, the rise and fall of prices that guides our actions in a market*. (C, p. 11)

Though, economics textbooks always refer to the 'self-interest' of economic agents, Smith never explicitly talks about a self-interest, but uses the term "self-love" (WN, B1/Ch2) by explaining forms of social organisation in which humans are "more likely to prevail" (WN, B1/Ch2, p. 30). These forms are the ones where the own self-love can be brought to the interest of others. Mankiw & Taylor combine this passage with another one from the *Wealth of Nations* that introduces the invisible hand (see text of Figure 3 below and WN, B4/Ch2, p. 593).



FYI

Adam Smith and the Invisible Hand

Adam Smith's great work An *Inquiry into the Nature and Causes of the Wealth of Nations* was published in 1776 and is a landmark in economics. In its emphasis on the invisible hand of the market economy, it reflected a point of view that was typical of so-called 'enlightenment' writers at the end of the 18th century – that individuals are usually best left to their own devices, without government guiding their actions. This political philosophy provides the intellectual basis for the market economy.

Why do decentralized market economies work so well? Is it because people can be counted on to treat one another with love and kindness? Not at all. Here is Adam Smith's description of how people interact in a market economy:

Man has almost constant occasion for the help of his brethren, and it is vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour, and show them that it is for their own advantage to do for him what he requires of them. … It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest. …

Every individual … neither intends to promote the public interest, nor knows how much he is promoting it. … He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.

Smith is saying that participants in the economy are motivated by self-interest and that the 'invisible hand' of the marketplace guides this self-interest into promoting general economic well-being.

Many of Smith's insights remain at the centre of modern economics. Our analysis in the coming chapters will allow us to express Smith's conclusions more precisely and to analyse fully the strengths and weaknesses of the market's invisible hand.

Figure 3: Explanation of the market economy (Source: M&T, p. 7)

The explanation of the success and functioning of market economies shows no clear connection to the notion of DoL. Instead the importance of self-interest and the invisible hand is emphasized. Additionally, market outcomes are understood within the static framework of general equilibrium. Hence, the functionings of the invisible hand are associated with a stable outcomes:

> Mainstream economic analysis directs us to look at how the invisible hand achieves harmony and equilibrium through the market. Thus, when mainstream economists look at labor markets, they generally see supply and demand forces leading to equilibrium. (C, p. 526)

This is a critical point, as the market that Smith had in mind was in continuous motion and highly dynamic; instead of being static or in a general equilibrium. In general, the invisible hand is itself a very contended metaphor. Firstly, it is not a fundamental concept as it appears only once in the Wealth of Nations. Secondly, as indirect evidences suggest, Smith himself was skeptical about disembodied, non-sensible and religious associations (Rothschild, 1994). Therefore, explanations involving the invisible hand should be seen critically.

Even though economics textbooks refer to the invisible hand for explaining how social welfare naturally arises out of interactions based on self-interest, they do not bring up assumptions on the human nature that were laid out by Smith with the only exception of Colander. The point of origin for the DoL, the 'human propensity to truck and barter', is only mentioned in his textbook (C, p. 595). In general, all textbooks try to substantiate the legitimation of market economies by relying on the contented and weakly used concept of the invisible hand, instead of achieving an understanding for underlying mechanisms processes and mechanisms as it could be illustrated by a hub-and-spoke model.

4.3.2. Economies of scale and specialization

From the textbooks that do show references to the DoL, it is only the Colander textbook which explicitly differentiates between the terms DoL and specialization:

> Smith argued that markets allow specialization (*the concentration of individuals on certain aspects of production*) and division of labor *(the splitting up of a task to allow for specialization of production*). According to Smith, markets create an interdependent economy in which individuals can take advantage of the benefits of specialization and trade for their other needs. In doing so, markets increase productivity - and, in turn, improve the standard of living. (C., p. 598)

In the the textbooks without DoL the increased productivity is explained on the basis of specialization:

> The economy, as a whole, can produce more when each person specializes in a task and trades with others. The benefits of specialization are the reason a person typically chooses only one career. It takes many years of study and experience to become a doctor or to become a commercial airline pilot. Many doctors might well have had the potential to become excellent pilots, and vice versa; but it is very unlikely that anyone who decided to pursue both careers would be as good a pilot or as good a doctor as someone who decided at the beginning to specialize in that field. So it is to everyone's advantage that individuals specialize in their career choices. (K&W, p. 13)

What Smith called an "increase of dexterity" (WN, B1/Ch1, p. 21) and the possibility of an art of "being carried to the highest perfection" (WN, B4/Ch1, p. 582) is described by people's choice of a single career path that allows them to develop a level of skillfulness that would not be possible otherwise. Though, this is not explicitly formulated, K&W seem to pick up Smith's idea of the social DoL.

Specialization, however, also implies giving up self-sufficiency and making the fulfillment of certain needs depending on others. Hence, "as long as individuals know that they can find the goods and services they want in the market, they are willing to forgo self-sufficiency and to specialize." (K&W, p. 13) Thereby, the market system which was introduced in the last subsection, now plays a central role to solve the social coordination problem.

Without mentioning it explicitly, the technical DoL is explained by the advantages of specialization as outlined by the example of the pin factory in the *Wealth of Nations:*

> In his celebrated book *An Inquiry into the Nature and Causes of the Wealth of Nations*, Adam Smith described a visit he made to a pin factory. Smith was impressed by the specialization among the workers and the resulting economies of scale. [...] Because of specialization, a large pin factory could achieve higher output per worker and lower average cost per pin than a small pin factory. [...] Indeed, the use of specialization to achieve economies of scale is one reason modern societies are as prosperous as they are" (M, p. 261)

The idea of the pin factory is also used in other textbooks as a visual example to show how technical specialization can take place (K&W, p. 13; S&N, p. 30). An important connection is also made between specialization and economies of scale. On the firm level, this idea is related to a reduced cost structure for producers where firms benefit from increased size (M&T, p. 146). A higher scale of production implies a higher DoL and specificity of tasks, but also makes it necessary to stay above a certain level of output.

> Economies of scale often arise because higher production levels allow specialization among workers

> and increase the possibility that technology can be used, which permits each worker to become better at his or her assigned tasks. For instance, modern assembly line production for furniture may require fewer workers in relation to the technology used but still produce more furniture. If a furniture manufacturer was producing only a small quantity of output, it could not take advantage of this approach and would have higher average total cost. (M&T, p. 148)

An increase in the division of labor results in economic growth and improves the material conditions. These developments lead to universal opulence and will improve the "standard of living for everyone" (C., p. 38), hence also less opportune people:

> Smith was the first apostle of economic growth. At the dawn of the Industrial Revolution, he pointed to the great strides in productivity brought about by specialization and the division of labor. In a famous example, he described the manufacturing of a pin factory in which "one man draws out the wire, another straightens it, a third cuts it," and so it goes. [...] Smith saw the result of this division of labor as "universal opulence which extends itself to the lowest ranks of the people." (S&N, p. 30)

Though the quote about Smith in this textbook passage is correct, it leaves out a prior part which states that in consequence of the DoL it "occasions, in a well-governed society, that universal opulence [...] extends itself to the lowest ranks of the people." (WN, B1/Ch1, p. 25). As highlighted in the first section of our paper, Smith, at times, was quite an ambiguous thinker. Little phrases like "in a well-governed society" are crucial to fully understand Smith. It is highly questionable to simply represent him a purely 'liberal' proponents of free markets as we saw in sub-section *2.7 The DoL reconsidered*.

4.3.3. Specialization and trade

The concepts of trade and specialization appear closely related. Trade represents a particular form of market extension. This relationship is reflected within our sample of textbook and is related directly to Smith:

> Gains from trade arise from this division of tasks, which economists call specialization—a situation in which different people each engage in a different task, specializing in those tasks that they are good at performing. The advantages of specialization, and the resulting gains from trade, were the starting point for Adam Smith's 1776 book The Wealth of Nations, which many regard as the beginning of economics as a discipline. (K&W, p. 12)

Therefore, trade is a key element in promoting the DoL, improving the level of skills in a society and having a greater pool of goods and cheaper services (M&T, p. 6). The benefits of trade are presented in close proximity to consumer sovereignty. The notion of comparative advantage, which sometimes is specifically linked to Smith (as in M&T, p. 416), is widely and most extensively used in all textbooks in our sample. None of the textbooks explicitly links Smith to his original theory of 'absolute' advantage. Absolute advantage is merely used as a precursor to theorizing the theory of comparative advantage (M, p. 52; N&S, p. 342, 356).

Instead of using the term 'market extension' as it occurs in Smith's opus magnus, we rather find 'globalization' as a word to tell the same story: specialization through globally extended markets - increase of productivity - higher state of products (C, 199; S&N, p. 32):

> [G]lobalization reflects an extension of specialization and division of labor to the entire world. Two centuries ago, most people lived on farms and produced virtually everything they consumed: food, shelter, clothing, fuel, and so on. Gradually, people specialized and bought much of their consumption from others in their community or nation. Today, many goods are produced in several countries and shipped around the world. (S&N, p. 32)

"If economists had a mantra, it would be 'trade is good'" (C, p. 199). Thereby, the idea of free trade is promoted as a well known idea that has been around for centuries. In these lines the notion of specialization from Adam Smith is brought together with the trade theory of Ricardo:

> The conclusions of Adam Smith and David Ricardo on the gains from trade have held up well over time. Although economists often disagree on questions of policy, they are united in their support of free trade. Moreover, the central argument for free trade has not changed much in the past two centuries. Even though the field of economics has broadened its scope and refined its theories since the time of Smith and Ricardo, economists' opposition to trade restrictions is still based largely on the principle of comparative advantage. (M, p. 55)

4.3.4. Trade and Comparative Advantage

The predominance of the concept of comparative advantage within in our sample of textbooks is particularly crucial, since it used far beyond the scope of trade but rather used a general principle to how specialization operates.

> The gains from specialization and trade are based not on absolute advantage but on comparative advantage. When each person specializes in producing the good for which he or she has a comparative advantage, total production in the economy rises. This increase in the size of the economic pie can be used to make everyone better off. (M, p. 53)

The reference in Mankiw's *Principle of Economics* to the gains from specialization and trade that rely on comparative advantage, neglects the fact that for Ricardo as a classical political economist, the DoL represents the starting point for specialization and trade - not comparative advantage. The logic here seems subverted. Comparative advantage becomes the origin, means and outcome of increasing "the size of the economic pie" and making "everyone better of". While Ricardo stressed the mutual benefits of countries participating in international trade, he did not explain individual or firm interaction with his concept of comparative cost. Samuelson and Nordhaus, include the most accurate analysis of Ricardo's explanation of the mutual benefits of trade; both, for those countries producing at lower and those producing at higher costs and prices:

> The principle of comparative advantage holds that a country can benefit from trade even if it is absolutely more efficient (or absolutely less efficient) than other countries in the production of every good. Indeed, trade according to comparative advantage provides mutual benefits to all countries. (S&N, p. 17)

In fact, besides Samuelson and Nordhaus, all textbooks in our sample use the idea of opportunity cost to explain comparative advantage (T&M, p. 414; K&W, p. 34; M, p. 53, C, p. 25). Mankiw and Taylor most explicitly link the term comparative advantage with opportunity cost:

> Economists use the term comparative advantage when describing the opportunity cost of two producers. The producer who gives up less of other goods to produce good X has the smaller opportunity cost of producing good X and is said to have a comparative advantage in producing it. (M&T, p. 414)

Again, the concept of comparative advantage is used to refer to producers and seems to be used as equivalent for opportunity cost. Opportunity costs is mostly defined as the cost associated with a forgone opportunity. In fact Ricardo does seem to describe something similar when he depicts the 'advantageous' effects of the possible reallocation of capital, which emerges after importing certain goods that are domestically produced as relative higher international cost:

> Though she could make the cloth with the labour of 90 men, she would import it from a country where it required the labour of 100 men to produce it, because it would be advantageous to her rather to employ her capital in the production of wine, for which she would obtain more cloth from England, than she could produce by diverting a portion of her capital from the cultivation of vines to the manufacture of cloth. (Sraffa, 2004, p. 135)

Krugman and Wells, however, go even one step further by claiming that Ricardo's model assumed 'constant' opportunity costs.

> The analysis of international trade under the assumption that opportunity costs are constant, which makes production possibility frontiers straight lines, is known as the Ricardian model of international

> trade, named after the English economist David Ricardo, who introduced this analysis in the early nineteenth century. (K&W, p. 219)

This does not reflect Ricardo's dynamic understanding of trade, where technological changes and the emergence of economies of scale can alter the comparative advantage between countries. The primarily static representation Ricardo's trade theory is also reflected in most textbooks derivation of the origin of comparative advantage that depends on the 'diversity' between countries:

> As long as there are differences in relative or comparative efficiencies among countries, every country must enjoy a comparative advantage or a comparative disadvantage in the production of some goods … Diversity is the fundamental reason that nations engage in international trade. Within this general principle, we see that trade occurs (a) because of differences in the conditions of production, (b) because of decreasing costs (or economies of scale), and (c) because of diversity in tastes. (S&N, p. 361f)

Krugman & Wells break down the origins into three categories:

> International trade is driven by comparative advantage, but where does comparative advantage come from? Economists who study international trade have found three main sources of comparative advantage: international differences in climate, international differences in factor endowments, and international differences in technology. (K&W, p. 224)

It is questionable whether Ricardo (and Smith) would agree with this logic. As Schumacher (2012) and Blecker (1997) argue, CPE understands trade not to occur because of the differences between countries. Quite on the contrary, it is trade that allows for specialization and difference to emerge. The differences in productivity, in line with Smith theory, are therefore rather caused by the different level of the division of labor between countries.

4.3.5. Government, policy and institutions

As the last quote showed, free trade is strongly recommended by economics textbooks and also linked to the classical political economists. In contrast to ideas about protectionist-trade policies, policy perspectives in our sample of textbooks favor a global market economy that is developed by free trade policies:

> [E]conomists since the time of Adam Smith have marched to a different drummer. Economists generally believe that free trade promotes a mutually beneficial division of labor among nations; free and open trade allows each nation to expand its production and consumption possibilities, raising the

> world's living standard. Protectionism prevents the forces of comparative advantage from working to maximum advantage. (S&N, p. 349f)

In general, any market restrictions should be removed and institutions should try to be as little invasive as possible. Not only in terms of trade policy, but in terms of all governmental regulations (competition policies, labor market, industrial policies, etc.):

> Smith wrote hundreds of pages railing against countless cases of government folly and interference. Consider the seventeenth-century guild master who was attempting to improve his weaving. The town guild decided, "If a cloth weaver intends to process a piece according to his own invention, he should obtain permission from the judges of the town to employ the number and length of threads that he desires after the question has been considered by four of the oldest merchants and four of the oldest weavers of the guild." Smith argued that such restrictions—whether imposed by government or by monopolies, whether on production or on foreign trade—limit the proper workings of the market system and ultimately hurt both workers and consumers. (S&N, p. 30)

The desirability of the market outcome increases with the improvements of the material conditions. A higher availability of manufactured goods reflects a preferable societal state. Smith would clearly agree about the consumers, however, he is also that clear in terms of workers. As we have seen, his review of the DoL in Book V of the *Wealth of Nations* does not only reflect the purely beneficial effect of the DoL. Workers are the ones who have to carry out the most simple and repetitive. Smith even emphasized the need for public policies that rebalance workers' living conditions and enable them to attain a decent life.

These points are not raised in *M, M&T and K&K* in relation to Smith. For Colander it is more ambiguous as he outlines a general market liberal picture where no government coordination is necessary to promote the general good as the "market's invisible hand would guide supplier's actions" (C, p. 80). He also acknowledges that "Adam Smith listed a large number of areas where he believed government should regulate the economy even though his overall model led to laissez-faire." (C, p. 511) The relevance of governmental intervention is also discussed in *S&N* (mentioning possible adverse effects of trade policies), however, this is not related to Smith:

> An important part of economic policy involves harmonizing laws and reducing trade barriers so as to encourage fruitful international specialization and division of labor. In recent years, nations have negotiated a series of trade agreements to lower tariffs and other trade barriers on agricultural products, manufactured goods, and services. Such agreements are often contentious. They sometimes harm certain groups, as when removing textile tariffs reduces employment in that industry. In addition, international agreements may require giving up national sovereignty as the price of raising incomes. (S&N, 2009, p. 308)

4.4. Comparison between the textbooks

Towards the end of the previous subsection we got to discern a general difference between the five textbooks. In all of the textbooks the invisible hand, economies of scale, (free) trade and comparative advantage play a key role in relation to Smith and ideas that are associated to the DoL. However, these ideas appear for M, M&T and K&W in a more uniform and simpler way. They do not talk explicitly about the DoL but explain productivity gains by specialization, which is based on the idea of natural differences and associated with the theory of CA.

However, Samuelson & Nordhaus and most explicitly Colander provide more elaborate explanations of the DoL, which are much closer to Smith's original propositions. Samuelson and Nordhaus reflect on the need for governmental regulation and introduce central concepts of CPE. For example, they give a short explanation of exploitation (S&M, p. 242) and briefly discuss the labor theory of value (S&M, p. 665).

In Colander's *Economics* we find the most explicit distinction between the DoL and specialization and the most extensive discussion of CPE. He includes Smith's position about the origin of the DoL due to the inherent tendency to truck and barter (C, p. 33), explains that Smith did not relate different abilities of individuals due to natural talents or birth but due to effects of the DoL (C, p. 310) and even relates potentially negative and stultifying effects of the DoL on human capacities (C, p. 44). Further, Colander notes "the relevance of the philosophical background of economic policies" (C, p. 541) and in a reflexive manner states the limits of introductory textbooks that prevent them from engaging with deeper philosophical and political issues (C, p. 541). Still, the preface includes the brief representation of different schools of thoughts. Colander, furthermore, discusses CPE-related notions such as the theory of exploitation and social contradiction in capitalism (C, p. 80ff) as well as the LTV .

Aside of common and relevant deviations from Smith's original concepts we also find noteworthy differences between the textbooks. In the following section the overall findings will be summarised, discussed and also contrasted with the general development of the economics discipline.

5. Results and discussion

In our analysis we found that aspects which Smith raises in terms of his DoL are either included, left out or modified in the introductory textbooks. Sub-section 5.1 presents the results of the comparison of the original and the textbook literature (including an overview in Table 3), as well as a contextualisation of what that means for Smith as a classical political economist. In sub-section 5.2 we subsequently reflect on the findings by referring to the overall reflexivity of the textbooks, and look at them by combining a view of philosophy of science and history of economic thought. The concept of a “paradigm” appears as a useful notion to explain our observations.

5.1. Presentation of the results

1) Gains in productivity: M, M&T and S&N are not using the term DoL. In fact, they do also not use the term ‘labor’ with regard to specialization. They mention productivity gains on firm level (e.g. Smith’s pin factory) as well as the societal benefits. Yet their description does correspond to Smith’s idea of DoL in terms of a hub-and-spoke model. They reduce it to the way how DoL would be carried out at firm level [non-convexifying]. Though, the other two textbooks (C, S&N) are more explicit in the terminology about DoL, in general, all textbooks put an emphasis on the notion of CA regarding a dependence on natural differences (specialization based on “natural talents”). Yet, this reverts Smith’s idea about specialization, which puts the DoL first and the specialization second: different abilities of two individuals rather develop through education for different jobs than by birth. Independent producers would watch where to gain the most advantages and move according to that and not based on their initial condition.

2) Nature of humans: Every textbook picks up on Smith’s famous idea of self-love and also the need (and advantage) of depending on others in a market society. Specializing, yielding higher amounts of goods, exchanging them for another and seeing how the market allocates efficiently: this is the general story line, where the invisible hand is used as simplified mechanism for legitimising self-interested behavior as it optimizes the social outcome. Summarized, it is the combination of the self-interested human nature and the nature of the invisible hand that lead to efficient market outcomes. Importantly, the invisible hand is a concept that is used extensively in the textbooks, yet was never seriously taken into account by Adam Smith. Ultimately, the natural propensity to truck and barter, was not picked by any author except for Colander. Instead the textbooks narrative suggests a specialization based on natural properties.

3) Organization and allocation of labor: The way how labor is allocated by different producers and how this is linked to the foundational notion of labor is not picked up by any textbook. Smith was very conscious about the ongoing dynamics in a market economy due to the constant mobility of producers and their effects on the available advantages/profit rates. Neither this, nor the point about different aspects of Smith's thought experiments were picked up by the textbooks. Only in Colander we find a phrase about people that "gravitate toward those activities for which they have a comparative advantage" (C, p. 33), yet it doesn't follow up the dynamic ideas of Smith. Unrelated to Smith, yet still showing the opposite of what he actually had in mind was the static market situation as reflected by the theory of general equilibrium in the textbooks.

4) Limiting and deepening factors of DoL: All textbooks embrace the topic of trade. They emphasize the need to increase the size of the market and stress countries should specialize to become competitive within the world market. They generally use a static representation of Ricardo's theory of comparative costs that relies on the explaining trade patterns by focussing on the differences in natural endowments between countries. Ricardo is perceived to have completed and corrected Smith's ideas on trade. The difference between comparative and absolute advantage is prominent in most textbooks. However, CA is understood as the concept that matters most and, in conclusion with the concept of opportunity cost, is used beyond the sphere of trade to explain general production processes and decision making.

5) Smith's theory of value: The ideas that Smith brought up in relation to the allocation of labor and the organization of the market were strongly linked to labor as a dimension of value. Though, Smith did not introduce the term LTV, his contributions were foundational to it. These aspects were mostly ignored. Only, in Colander's (and slightly in Samuelson and Nordhaus') book we find the LTV explained (C, p. 81), though they did not link it in relation to Smith's thought.

6) Social classes: Smith's thoughts about different social classes and the question of who owns the means of production was not discussed at all in M, M&T and K&W. None of the textbooks incorporated Smith's ideas on power relation within production and the difference in bargaining powers between workers and "masters" (particularly with regard to the ownership of capital or land). Samuelson and Nordhaus talk about classes twice when they write about Marx (S&N, p. 537, 667) and Colander talks about classes in different sections, when he mentions income distributions, social mobility, Marx' theory and exploitation (C, p. 84, 385, 444, G-7). Hence, aspects in relation to social classes get debated, but not with regards to Smith.

7) The DoL reconsidered: Smith's extended considerations about further aspects of the DoL remain mostly unattended: In M, M&T and K&W we do not find any point addressed. In S&N there is a passage that discusses the DoL in relation to trade agreements and possible negative effects for some social groups. In C there is even a part that picks up Smith's concerns of negative effects on human capacities due to too simplifying tasks.

Table 3: Common results overview (Source: own depiction)

Smith's aspects of DoL	… included	… left out	… modified
1) Gains in productivity	productivity gains of... *) detailed DoL and *) social DoL	*) term of DoL *[except C]* *) Mechanisms of DoL (as through hub-and-spoke model)	*) conflating specialisation and DoL *) emphasizing natural differences (CA)
2) Nature of humans	*) Natural tendency: self-love *) Natural state (interdependency)	*) Natural tendency: bartering	Essential role of the Invisible hand
3) Allocation + organization of labor		*) dynamic allocation of labor, equalization income/efforts *) Thought experiments (independent producers)	
4) Limiting and deepen-ing factors of DoL	Rationale for free trade, laissez-faire and deregulated markets	understanding of the DoL as the basis for specialization and trade	Emphasis on CA and the concept opportunity cost
5) Value theory of Smith		LTV *[except in C]*	
6) Social classes		*) neither social classes *) nor different bargaining powers debated *[only part in C]*	
7) DoL reconsidered:	*[S&N: mention negative effects of trade]* *[C: discusses negative effects of simplifying tasks]*	Generally, preconditions, back- lashes and regulations not reconsidered	

Comparing these findings to other key notions of the classical political economists we can identify a certain pattern: Smith is taken up the economics textbook as a promoter of market liberalism, as “first apostle of economic growth” (S&N, p. 30) and proponent of free trade. Instead of a closer reading of constituting notions of the DoL they pervert the invisible hand as a simplified key concept to demonstrate the functioning of a market economy.

Ideas about trade liberalisation and societal advantages of a specialized production environment were also proposed by Ricardo. Especially, Ricardo’s formal contribution of opportunity costs and abstract examples of a trade framework can be found in all textbooks. The textbook representation of the Ricardian trade theory, however, conflates Smith’s DoL and specialization. Considerations about the role of labor in value creation are generally not included. Therefore, only ‘de-valued’ concepts of Ricardo are brought in relation to Smith’s representation.

In general, Smith and Ricardo appear in a legitimizing way to introduce certain concepts but not to appear as representatives of CPE. Marx is mostly not mentioned at all (M, M&T, K&W), and if he is discussed (as in C or partly in S&N) then not in relation to Smith and Ricardo. Therefore, essential commonalities between Smith and Marx, as their long-period method, their common approach to value via labor, their reflections on negative effects on workers (through “simplifying tasks” in the case of Smith and “alienation” in the case of Marx) or their concern for different circumstances for social classes, are not mentioned at all. In that way, the presentation of Smith’s thought in the textbooks appears as anti-Marxian: notions that relate the DoL to Marxian ideas are not found in the textbooks.

5.2. Reflections of the results

The general introductory sections of economics textbooks reveal interesting findings about their point of view of the economics disciple and their own position within it. K&W emphasize their focus on real-world experiences, choices and actions (p. xxv). They also note the changes they made within the previous three editions: the inclusion of new examples on environmental debates, policy concerns and new technologies (p. xxv). However, they highlight that their general economic approach has not changed at all:

> This doesn’t mean that we have torn up the basic analysis of previous editions. On the contrary, one little appreciated aspect of world economic developments since the crisis is how well basic macroeconomic models have worked in tracking, for example, the effects of fiscal policy and monetary expansion. (K&W, p. xxvii)

The preface of Mankiw's *Principles of Economics* includes on page, on which he states his view on economics as the study of mankind in the ordinary business of life. The preface in M&T is similarly short (half a page) and again introduces economics with the Marshallian idea that "[e]conomics is a study of mankind in the ordinary business of life" (M&T, p. x). Compared to previous versions changes include more depth in micro- and macroeconomic issues (p. x).

Samuelson and Nordhaus's textbook include a slightly more reflexive opening statement, in which they attribute themselves to take a"centrist position" (p. xvi). They summarize their position as market-oriented with a fair-minded view on governmental oversight and criticise other textbooks for "over complacent libertarianism", which celebrate free-markets and neglect the role of regulation (p. xvi). They concede that "unfettered capitalism has generated painful inequalities of income and wealth, and that supply-side fiscal doctrines have produced large government deficits." (p. xvii) Their preface also relates and contrasts a variety of concepts and theories from different school of thoughts to both microeconomics (scarcity, specialization, comparative advantage) and macroeconomics (Keynesian and neoclassical growth models) (p. xix).

Within our sample, Colander's textbook is clearly unique in its reflective position. Colander begins explicitly by positioning his textbook within mainstream , which he motivates as a pedagogical choice: "because that's what I see as the job of the principles of economics course" (p. xxvi). Yet he also highlights that there are heterodox economists who offer alternative perspectives and disagree with the conventional wisdom and usefulness of mainstream models (p. xxiii). His book does not include the representation of a CPE approach, but among the various economic approaches that he introduces (Post-Keynesian, Institutionalists, Feminist, etc.) he also explains the 'Radical Economists' school that is based on Marxian theory (p. xxiv). Colander also published other papers and articles that critically reflected on the state of teaching and 'doing' economics (Colander, 2007; Colander; 2012) and was the first to discuss a "ground rule" which states that economics textbooks do not 'deviate' more than 15% from mainstream's consensus (C, p. ix).

What Colander highlighted with regards to the variety of contents in the textbook landscape can be understood what Thomas Kuhn identifies as a "paradigm" (Kuhn, 1996, p. 10f). This term describes the phenomenon of a shared understanding within scientific communities in terms of accepted questions, hypotheses, methods and underlying assumptions. Bäuerle (2017) analyzed the relevance of textbooks in economics and states that in their paradigmatic role textbook authors do not critically refer on the history of economics thought but consciously "reconstruct". In that way, the current paradigm appears as the point of culmination of the scientific development. Thus, Colander's textbook can be interpreted in two ways: he explicitly describes the theory of markets as the "invisible hand theorem - a market economy, through the price mechanism, will tend to allocate resources efficiently" (C, p. 13), but misleadingly also uses a terminology that is related to Adam Smith's legacy.

Such a reconstruction is not a simple distortion but follows the reasoning "what should a past thinker have said?". Schumacher (2012), concluded that the way Smith's trade theory got 'decorticated' within the international trade literature represents a form of "doxography". The function of "doxography" is not the objective presentation of past scholars but the attempt to describe their theories in the light of and in accord with current economic theory. In terms of contemporary economics textbooks the doxography of Smith's theory can be explained by two possible reasons (Schumacher, 2012): Firstly, Smith's authority as the 'founding father' of modern economics increase legitimacy and acceptance of the related theory and helps to convince sceptical readers. Secondly, Smith's name has been connected to economics textbooks for a long time and his representation already became part of the history of the discipline. Thereby, the misrepresentation in the present roots in the customized misrepresentation of the past.

These considerations suggest the illumination of Smith's contributions in a *paradigmatic* view. Thus, how can we explain the absence and modifications of central aspects of Smith and CPE in contemporary textbooks? Colander's grounding rule suggests that the contents of contemporary mainstream textbooks adhere to conventions of modern economics and do not deviate more than 15% from established textbooks (C, p. ix). While, the variety of schools of thought was more diverse before the mid of the last century, the acceptance of economic reasoning within academia has become more and more narrow over the last decades. A particular school of thought, Neoclassical Economics (NE), has emerged the hegemon within the economics discipline and beyond. In order to understand the representation of Smith and CPE more generally, it is therefore highly relevant to investigate how NE emerged and how it relates to CPE. The 'Marginalist Revolution' is usually understood as the birth of NE. While a lengthy discussion of the emergence of NE is beyond the scope of this paper, we are going represent three essential aspects of Marginalism (methodological individualism, the concept of utility and the appeal to become a 'natural' science) linked to three of its key proponents (Jevons, Menger and Walras).

The shift form CPE to Marginalism was primarily influence by a methodological debate. The 'battle of methods' or what is commonly known as the *Methodenstreit,* between Karl Menger and Gustav Schmoller represents the shift from inductive to purely deductive and abstract epistemology. As we have discussed in third part of our paper, the shift from Smith, who had a truly pluralist methodology, to Ricardo, whose reasoning was deductive and abstract, already prepared the ground for this shift. Menger was committed to methodological individualism and vehemently critiqued both Adam Smith and the wider German Historical School (to which Schmoller belonged):

> Adam Smith and his school have neglected to reduce the complicated phenomena of human economy in general, and in particular of its social form, national economy, to the efforts of individual economies. (cited in Milonakis and Fine, 2009, p. 102)

Menger defined his method as the "empirical method" that is purely concerned with studying the principles that govern the "economizing individual". The focus on individual entities also derived from the stark influence of Jeremy Bentham's Utilitarianism on the Marginalists. As Jevons puts it:

> I have adopted to treat the Economy as a Calculus of Pleasure and Pain (1957, p. vi, cited in Fine, p. 97)

Jevons further states that "value depends entirely upon utility". In this model economic behavior is purely reduced to the utility maximization effort of individuals. It was further extended by relating it to Ricardo's and Malthus's theory of marginal rent, which extended the notion of diminishing returns in agriculture to the truly universal ideas of marginal utility and diminishing marginal returns (that are essential for the derivation of Neoclassical production functions). As Schumpeter puts it:

> The concept of marginal utility was the new ferment which has changed the inner structure of modern theory into something quite different from that of the classical economists. (1967, p. 181)

The investigation into the origin and distribution of wealth, that was essential to CPE, was totally rejected by the Marginalist. This was primarily justified by making economics a purely positivist and objective science that distances itself from the rest of the social science and any normative aspects. In particular, Alfred Marshall's magnus opus, *The Principle of Economics*, is representative for the growing formalism (professionalization) and reference to statistics and mathematics within economics. His general equilibrium approach attempted to express the interrelation between markets as a set of simultaneous equations. For Walras, economics could become a pure science by purely focusing on the realm of exchange and the determination of prices:

> Pure economics is, in essence, the theory of the determination of prices under the hypothetical régime of perfectly free competition. (1954, p. 40)

In this context the emergence of the contemporary paradigm of Neoclassical Economics has its roots in the Marginalist revolution. The "Marginalist" rejected the approach of CPE and vehemently argued for the reform of the economics discipline; NE is the current shape of this endeavour. The predominance of CPE that itself had become a paradigm, though Marx essentially provided a critique of CPE himself, was destructed by the Marginalist and subsequently replaced by, what we now call Neoclassical Economics.

6. Concluding Remarks

Paul Samuelson once famously remarked: "I don't care who writes a nation's laws—or crafts its advanced treaties—if I can write its economic textbooks" (1990, p. ix). Our sample of five textbooks generally seems to conform with a doxographic reconstruction of Smith's legacy and the current state of the Neoclassical paradigm within the discipline of economics. Though we found differences between the textbooks - textbooks with lower reflexivity (basically M, M&T, K&W) also show a stronger bias towards generalizing Smith as a proponent of laissez-faire, the invisible hand and free trade. We conclude that all textbooks represent a distorted account of Smith's contribution that considers his ideas in isolation from his position as a classical political economist. Especially, his theorization of the DoL is represented in a strictly 'Marginalist-Ricardian' and 'anti-Marxian' fashion. These simplifications and generalizations undermine his multi-faceted approach to the DoL. Based on our results we fully agree with the assessment of Milonakis and Fine (2009):

> Economists know that Adam Smith argued in favour of the free market, Marx against it, and it is (at most) enough to use their legitimising authority if this is where current analysis leads. It is no longer thought necessary to examine how and why Smith argued in favour of the market, nor indeed how he qualified his case. In effect, Smith's invisible hand has become a cliché, so much so that any case made for the market, from neoclassicals to neo-Austrians, can be perceived to be his case and to be invested with his trademark. (Milonakis and Fine, 2009, p. 48)

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