

## ABSTRACT

### **Jevons's Ideal Role for Labor Unions as a Form of Co-operation**

This chapter examines the ideas about labor unions in William Stanley Jevons's works. Even though Jevons disapproved labor unions, he did not consider indispensable their elimination as long as they co-operated with business. I conclude that there are two forms of co-operation in Jevons's thought. One from capitalist to workers, via profit sharing, and another, from workers to capitalists, via their participation in organizations other than traditional labor unions. Both forms of co-operation have to co-exist for Jevons's scheme to function. The latter, however, does not ensure that classes are equally benefited.

### **Inequality as Lack of Co-operation in Economic Thought**

This chapter compares the notions of *co-operation* by five economists of the 19<sup>th</sup> century in the United Kingdom. I conclude that there are two approaches in the relationship between *co-operation* and economic and social inequality. One is the economic-centered view (Charles Babbage and WS Jevons), where the benefits of co-operation are linked to profit sharing, the increase of productivity, and the expansion of the economic system. The second is a socially oriented approach (Robert Owen and JS Mill even though with different implications). Marx's analysis of co-operation belongs to neither approach. For him, under capitalism, some forms of co-operation generate or reinforce inequality.

### **An Unintended Consequence of Uncoordinated International Monetary Policy on Central America**

Drawing on an analysis of Central American countries' sectoral balances, their historic dependence on bank lending, and their contemporary sources of funding, I find that the international bond market became an important source of debt for these economies during the late 2010s, which coincides with the second phase of global liquidity generated with quantitative easing policies by developed countries after 2008. Additionally, in contrast to big emerging economies, the role of non-financial corporations' issuance is not relevant for countries in Central America. By classifying these countries' international debt securities by residence and nationality, I also conclude that the financial fragility of some of these countries has been exacerbated more by the general government's foreign bonds issuance than by the financial and non-financial corporations' issuance.



Essays on The Political Economy of Co-operation  
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by

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Para Alicia, Francisco

...And my new family

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# Introduction

This dissertation is about the political economy of co-operation and co-ordination. *Co-operation* exists in different economic and social systems and may take different forms. One of them is the collaboration that takes place in production, between workers with the division of labor, for example. Another form of co-operation is the one between classes. For example, the interaction and collaboration between capitalists and workers in the form of profit sharing. Both co-operation in production and co-operation between classes are explored in the context of chapter one and chapter two. The term *coordination* alludes to another form of co-operation. In chapter three, it refers to the simultaneous organization between countries of at least one part of their economic policy. I present in that chapter a case of lack of coordination, and its implications, between developed and developing countries' international monetary policy. This dissertation, then, is comprised by three chapters. Chapter one and two tackle ideas of co-operation from a history of economic thought perspective. In the first chapter entitled "Jevons's Ideal Role for Labor Unions as a Form of Co- operation," I analyze the ideas about labor unions found in William Stanley Jevons's works. I focus on the collaborative role Jevons envisioned for these organizations as part of a broader cooperative vision between workers and capitalists. I show that even though Jevons was not a supporter of labor unions and regarded them as monopolies with limited power to increase wages, on the one hand, and with great potential for generating dead losses of wages due strikes, on the other, he did not consider indispensable their elimination as long as they were guided to co-operate with business. I conclude that there is more than one form of co-operation in Jevons's thought. One explicit, from capitalist to workers, via profit sharing, and a second one,

implicit, through the collaboration of workers to capitalists via their participation in labor organizations different than traditional labor unions. Finally, a major implication of Jevons's scheme of co-operation is that both forms of co-operation have to be present for it to be beneficial for both classes and that the latter, however, does not ensure that both classes benefit equally. As explained in more detail in chapter one, the chapter is divided into four sections, where I show Richard Whately's and Nassau William Senior's influence on Jevons's ideas about labor unions and co-operation; an analysis of Jevons's views and policy recommendations about labor unions and co-operation; a diagrammatic explanation of Jevons's views on labor's and capital's interests and its relationship to co-operation and, finally, the concluding remarks. In the second chapter, "Inequality as lack of Co-operation in Economic Thought," I analyze the notion of *co-operation* by economic thinkers of the 19<sup>th</sup> century in the United Kingdom (UK). I present a comparison and contrast of these ideas as well as an analysis of the implications of co-operation in terms of economic and social inequality. The beginnings of the systematic development of ideas on co-operation in the UK are found in Robert Owen and Charles Babbage. Ideas on co-operation were also suggested by William Stanley Jevons, John Stuart Mill, and Karl Marx. I identify two approaches in the relation of co-operation and inequality. First, an economic-centered view, found in Babbage and Jevons, where the benefits of co-operation are linked to profit sharing, the increase of productivity and the expansion of the economic system. Second, Owen's and Mill's ideas on co-operation, even though with different implications, are mainly socially-oriented. Here, it is possible to see a broader social concern that led them to suggest reforms that could have implications in terms of social (e.g., education and gender), and not only economic,

inequality. In this sense, both forms of co-operation tackle inequality, but one has a broader social scope than the other. I also show that Marx analysis of co-operation does not belong to any of these approaches. In his view, under capitalism, the effect of some forms of co-operation may generate or reinforce inequality. As explained further in chapter two, this chapter is divided into four sections. The first is an introduction of the ideas on co-operation developed by Owen, Babbage, Mill, and Jevons. The next one presents the analysis of the relationship between the notions of co-operation and economic and social inequality. The third section presents a discussion of the idea co-operation found in Marx's *Capital*, and its link to inequality. The final section includes the concluding remarks. Finally, in the third and last chapter of this dissertation, I present a study of a different form of co-operation (or co-ordination), in which countries are the main actors. The chapter is entitled "An Unintended Consequence of Uncoordinated International Monetary Policy on Central America." There I examine whether or not there has been a change in the pattern of foreign indebtedness of countries in Central America in the 2010s and its relation to the second phase of global liquidity generated with the implementation of rounds of quantitative easing (QE) policies by developed countries after the 2008 economic crisis, as well as its implications. First, I Draw on an analysis of the Central American countries' sectoral balances, their historic dependence on bank lending, and on their contemporary sources of funding and show that the international bond market has become an important source of debt for these economies in the last decade but that, in contrast to the case of some bigger emerging economies around the world, the role of non-financial corporations' foreign bond issuance is not so relevant in the case of Central America. Then, I classify these countries' international

debt securities by residence and nationality of issuer and identify another difference with bigger emerging economies and conclude that the financial fragility of some of these countries has been exacerbated more by the general government's foreign bonds issuance than by financial and non-financial corporations. The chapter has five sections. The first one presents an explanation of QE policies and of their recent implementation by developed countries as well as of their potential implications for the rest of the world (e.g., global liquidity). The second section presents an analysis of the sectoral financial balances of countries in Central America, of their historical dependence on bank lending, as well as of the evolution of their external debt. The third section includes a discussion of these countries' use of the foreign bond market as a new source of funding. Section four includes an analysis of the implications of the later in terms of financial fragility for countries in Central America. The last section presents the final conclusion.



# 1. Jevons's Ideal Role for Labor Unions as a Form of Co-operation

## 1.1. Introduction

*“To ask the workmen to lay aside their unions is equivalent to telling the largest capitalist to forego the advantages of its wealth...”*  
W. Macdonald<sup>1</sup>

William Stanley Jevons is well known for the way his ideas, together with those independently developed by Carl Menger and Leon Walras, led to a new approach to economic theory in the 1870s. Different studies have been written about these authors, their individual works, and what came to be known as the *marginalist revolution*. Yet, Jevons's ideas and suggestions about labor unions have not been considered in great depth.

His perspective about labor unions is mainly found in his *Primer of Political Economy (1878)*; *The State in Relation to Labor (1882)*; *Methods of Social Reform (posthumous 1883)*; and in some of his lectures.<sup>2</sup> The index of his *Principles of Economics* (posthumous 1905), which he did not finish due his death in 1882, suggests Jevons had planned to work further his ideas about unions and related topics.

Jevons's ideas about unions reveal he was not persuaded by the way such organizations conducted workers in their attempt to improve their living conditions. His disagreement with unions' ways and with the spread of negative ideas about masters can be seen in the content of his works and also, in some way, in his rejection of the labor

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1. Fragment of letter from W. Macdonald, a housepainter member of a union in Manchester, to the editor of the Manchester City News, 27 October 1866. Reprinted in Black 1977, Papers and Correspondences (P&C), III: 132-36.

2. At universities, or when directly addressing labor unions. See Jevons 1875-1876. Edited by Black and Konekamp 1977, P&C, VI.

theory of value as explained in Section I. In this connection, a major aspect associated to classical political economy (e.g., David Ricardo's) and the labor theory of value was the dangerous consequences<sup>3</sup> associated to the revelation of the source of profit found in unpaid labor. Ricardian Socialists, for instance, misused ideas related to that theory establishing that the whole product of labor belonged to workers.<sup>4</sup>

While strikes and turmoil became common by 1800 in the U.K., the workers' movement had also been strengthening. Labor unions and the workers' movement in general were associated to a potential threat to political and economic liberties<sup>5</sup> and as a reflection of the class conflict acknowledged in classical political economy, such as the one developed by Ricardo.

It is important to remember that Jevons was an authentic examiner of his natural<sup>6</sup> and social environment. He repudiated slavery and believed that capitalism was good for the progress of society. He believed that generating appropriate conditions for capitalists was critical for they had the resources and the ability to take the system to an advanced and prospered level. For this reason, he considered that having a harmonious system, in terms of co-operation, from which all classes could benefit, was a priority.

Jevons disagreed with what he saw as a form of instability generated by unions' strikes. However, it is also important to note that he did not completely reject the existence of unions. According to him, labor unions could be guided to coexist with businesses. He suggested a cooperative role between workers and capitalists. He not only

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3. Tsoulfidis 2009.

4. See, for example, Thompson 1827.

5. See, for instance, the anonymous "Article on Jevons's Owens College Speech." Manchester Examiner and Times, 13 October 1866, 6. In Jevons's Critical responses. Vol. II Edited by Peart 2003, 3-6.

6. Besides economics, he studied natural sciences and statistics. Methods of research that he introduced into economics were adapted from the latter. See Maas 2010.

envisioned a harmonious coexistence, but he was keen for the possibility of co-operation between capitalist and workers in a way that allowed workers to enjoy the increase in profits that capitalists obtain when productivity rises.

The purpose of this chapter is to analyze Jevons's ideas about labor unions and to examine his notion of *co-operation*. The research hypothesis here is that the notion of co-operation in Jevons's is two fold and refers not only to the industrial partnerships he explicitly mentioned in his works. There is a second form of co-operation, which is implicit, and that precedes the latter. It is the co-operation from workers to capitalists via workers' organizations different of labor unions, which are less politically powerful than the latter. These ideas allow us to consider how the social and political context of the time played a significant role in the development of new ideas such as those brought with marginalism.

In this chapter, I elucidate both forms of *co-operation* as well as the implications from the point of view of the two classes involved. The chapter is divided into four sections. In Section 1.2, I show why Richard Whately and Nassau William Senior are major predecessors of Jevons's ideas about labor unions and co-operation. In Section 1.3, I analyze Jevons's own views and policy suggestions about labor unions as well as the meaning of his notion of co-operation. In Section 1.4, I suggest a diagrammatic explanation of Jevons's views about labor's and capital's interests and the notion of co-operation. Section 1.5 presents the concluding remarks.

## 1.2. Whately and Senior as predecessors of Jevons's ideas about wages, labor unions, and co-operation

From the point of view of the economists who believed the purpose of the marginalist revolution was to develop an exchange theory of value,<sup>7</sup> the psychological features related to individuals' utility are determinant over value only indirectly, that is, when affecting exchange (the main determinant of value from this perspective).<sup>8</sup>

It is well known that Richard Whately and Nassau William Senior, as well as other contemporary economists, contested classical political economy and offered alternative points of view in the study of economic problems. It has been suggested<sup>9</sup> that Whately and Senior were the primary sources for Jevons's theoretical system including the exchange theory of value. In this section, I discuss how their influence on Jevons is also reflected in Jevons's ideas about wage determination and mainly in his ideas about the role of labor unions. I conclude that these three authors had a limited view of workers' agency regarding the determination of wages and, therefore, about the importance of workers' participation on labor unions.

### 1.2.1. Whately and the indivisible interrelation between workers and masters: a preamble to co-operation

Jevons knew Whately's work since his childhood. He acknowledged, for example, that his mother read to him Whately's *Easy Lessons on Money Matters*

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7. Some of these economists were Schumpeter 1912, Kirzner 1960, and Hicks 1976. In Fonseca 2012.

8. As opposed to those with a psychological interpretation of that theory based on utility (e.g., Myrdal, 1929; Heimann, 1945; Dobb, 1973. Ibid).

9. Ibid.

(1853).<sup>10</sup> This work included lessons about value, wages, capital, labor unions, among others.

One of the most noticeable aspects found in these lessons is the explanation of the source of value and of the determination of wages. Whately established, first of all, that in order for an object to have value, it should be *desirable* (which is related to utility), *scarce, and transferable* (or exchangeable).

Even though Whately acknowledged that people had to labor in order to obtain those objects, he did not grant labor a relevant place as a determinant of value. In his *Essay Lessons*, and also in his lectures<sup>11</sup> it is possible to see how he, just as Senior and Jevons, rejected Ricardo's labor theory of value. Whately acknowledged that labor was necessary to obtain the objects of desire and exchange, but this, he said, made economists (e.g., Ricardo) consider that labor made objects valuable. For him, this was "quite a mistake." He argued that it is not because a great quantity of labor is invested in the production of objects that they can be sold for a high price, but rather that such high price signals that the object is valuable.<sup>12</sup>

Whately's -and also Senior's- conception of value less centered on labor than Ricardo's is similar to Jevons's own development of a theory of value as suggested by the secondary role he conceded to labor. This and the less attention paid to classes and their relationship under production<sup>13</sup> indirectly undermined the importance of workers' agency and of their organization for the determination of wages. If it was acknowledged

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10. Whately 1853, 24.

11. For example, Lecture IX in his *Introductory Lectures on Political Economy*, 1831.

12. Whately 1853, 24.

13. See also Meek (in Black et al 1973). He argues that "the primary focus of attention in the theory of value was shifted from the relations between men as producers to the relations between men and goods."

the importance of labor as a major source of value, it could suggest that workers were entitled to a substantive part of the product of that labor.<sup>14</sup> Being aware of this, workers could feel encouraged to bargain for higher wages.

Yet, for Whately, “the rate of wages does not depend on the hardness of the labour but on the value of the work done.”<sup>15</sup> What was relevant for him was the supply and demand of workers in a particular trade. If the supply of workers were low, their wages would tend to be high compared to those workers whose supply is more abundant. For this reason, the price of food could not determine the value of wages either. Scarcity was what mattered so that even though provisions were cheap, the limited supply of a particular type of workers (a very educated or talented one, a “natural genius,” or those on risky jobs<sup>16</sup>) would make their wages higher with respect other workers since employers would have to bid for them.

According to Whately slavery was not convenient for laborers because it would not allow them to properly bargain their compensation. Capitalism was a much better setting because it allowed everybody to be free and to bargain. “Bargain” here, however, meant that, *individually*, workers could negotiate with employers. In other words, unions were not encouraged since their intervention could end up having similar effects as when wages are fixed too high or too low by the government, a situation that he greatly discouraged as well.<sup>17</sup>

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14. As it happened with Ricardians Socialists.

15. Whately 1853, 34-35.

16. *Ibid.*, 36.

17. Whately 1853, 39-40. Fixing wages too high for some workers would make that other workers that worked at a lower rate be out of work and production would be less than what it could be. In contrast, a wage fixed too low would encourage workers to work for masters that could avoid the law by paying them more.

Since bargaining wages collectively was as fixing wages, Whately considered harmful their existence and procedures. Indeed, when referring to combinations, he expressed that “ ... more hurtful and much more frequent is the interference from ... men who are not lawful governors and have no legal authority to combine together to control their neighbours and to dictate to each man what wages he shall pay or receive and how he shall dispose of his property.”<sup>18</sup> Combinations and unions were an affront against the harmonious atmosphere that is desirable for the progress of the system.

Agitators, also known as “committee men,”<sup>19</sup> envious of the high wages of other workers were the leaders of those belonging to unions. They, he argued, could be cruel to both “masters” and even their fellow workmen:

Most of the people of this kingdom reckon themselves freemen and boast of their liberty and profess to be ready to fight and to die rather than submit to slavery. They look down with pity and contempt on the Russian bond men or serfs and the negro slaves and on the subjects of the despotic governments of Turkey or Persia. And yet many of these people choose to subject themselves to a tyranny more arbitrary and more cruel than that of the worst Government in the world. They submit to be ruled by tyrants who do not allow them to choose how they shall employ their time or their skill or their strength. Their tyrant dictates to them what masters they shall work for, what work they shall do, what machines they shall use, and what wages they shall earn. Sometimes these tyrants order them not to earn more than a certain amount; sometimes not to earn less; and sometimes to refuse all work, and see their families starve. They are heavily taxed for the

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18. Whately 1853, 93.

19. Ibid., 98.

support of their tyrants; and if they disobey, they are punished without trial by cruel beatings, by having their limbs broken, or their eyes put out with vitriol, and by death. These unhappy persons are those who have anything to do with *Trades-unions and Combinations*.<sup>20</sup>

Whately's discomfort with unions is related to the rules those organizations imposed on their members, which he perceived as tyranny. It was a list of restrictions that limited workers individual actions and personal freedom. For instance, he argued that each member was required to obey the dictates from the union's committee; that they could not work with other workers that were not part of the combination, or could not work under a master that had refused to listen and follow their mandates; that wages could not be bargained individually with the master; and lastly, that the payment of weekly combination dues were mandatory for each worker.<sup>21</sup>

Besides tyranny, Whately opposed unions and combinations' interference in management decisions, such as the discharge of workers (even when they were idle, had committed robbery, or gotten drunk) or the selection of the type of machinery to use<sup>22</sup> in production, and others. He argued against what he saw as the punishments to which masters were put through with strikes, and even murder in some cases.<sup>23</sup>

Whately argued that because of the lack of food and other unfulfilled needs during prolonged strikes, and the possibility of physical punishment or even death due

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20. Ibid., 95-96.

21. Ibid. Also, Senior 1865, 118-9. Senior concurred with the last three rules identified by Whately and also identified four purposes that combinations generally attain: to reduce masters' control over workers; to eliminate wages differences based on skills, diligence and others, for workers of the same type; and to prevent the fall of wages.

22. Whately acknowledged that machinery could put workmen out of work, but considered it as a temporal situation since the same innovation would make other jobs necessary.

23. Whately 1853, 96.



disobedience, even the slaves in the U.S. were in much better conditions than those belonging to trade-unions.<sup>24</sup> Members of the unions were, in his view, the “slaves” of the combination or union committee.

Another idea that suggests Whately as Jevons’s predecessor of his views about unions is the opinion that strikes that are unsuccessful are harmful, but that those that are “successful” are even more harmful for their consequences last longer. For instance, Whately explained that the wages of natural geniuses, or of those well educated could be higher than those of average workers. Yet, because of the interference of unions, these wages were also reduced to everyone else’s level. The latter discourage productivity and brought unprofitability, as well as trades’ ruin,<sup>25</sup> and the emigration of masters to the U.S. and other places that could bring other social consequences, such as unemployment and the increase of beggars.

Because of those negative consequences, Whately regarded those involved with unions as oppressors of their own class.<sup>26</sup> In his own words,

In short, all the oppressions, which the poorer classes have ever suffered from the rich, in the worst governed countries, are not so bad as what the poor often inflict on one another. For even in barbarian countries, though the governors often do vast mischief by their selfishness and inhumanity, and still more, by their ignorance; the tyrants whom the labouring classes set over themselves are still more selfish and cruel, more ignorant, and more mischievous.<sup>27</sup>

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24. Ibid., 100.

25. Whately 1853, 102. He exemplifies by using the case of shipbuilding in Ireland. “Dublin for instance was once a great place for ship building. Now no ships are built and scarcely any even repaired there because the shipwrights union has driven away to Liverpool or to London all the master shipbuilders whom it has not ruined.”

26. Jevons also raised this point. See Section II.

27. Whately 1853, 104.

Yet, Whately expressed hope that eventually workers would resist combinations and unions,

It is some comfort to reflect that the people have it in their own power to remedy the worst evils which they are liable to. Whenever they come to understand their own true interests they will agree to resist all illegal Combinations. They will resolve to act together firmly, not in resisting the law, or in seeking for alterations in it, but in supporting the law and resisting all who try to encroach on any other man's rights. They will do their utmost to secure for themselves and all their countrymen, true liberty; that is, that every man should be left free to dispose of his own property, his own time, and strength, and skill, in whatever way he himself may think fit, provided he does no wrong to his neighbours.<sup>28</sup>

Resisting combinations and unions was crucial for Whately given that, similar to Senior and Jevons as seen below, he considered indispensable to offer a harmonious atmosphere to capitalists and their businesses. Nevertheless, for Whately, not only capitalists, but also the rich in general, were relevant to the system because others could invest their money also.

Even though rich persons could spend their money on themselves, they decided, freely, to save and lend money so that others could invest it. According to Whately, this allowed the creation of more jobs and the increase of wealth<sup>29</sup>. The idea was that even if the rich did not intend it, they could not avoid benefitting others.<sup>30</sup> Bringing peace by resisting the chaos brought by strikes and similar actions by unions, then, was vital for the harmonious atmosphere rich people and businesses required. As seen below, similar

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28. Ibid.

29. Ibid., 65.

30. Ibid., 52.

ideas were present in Senior, who considered the duty of the State to guarantee masters' property as well as that of workers' as expressed in their strength and skills.<sup>31</sup>

In connection to this, it is possible that Whately also preceded the ideas about "co-operation" promoted later by Jevons. He considered there was an undeniable interdependence between workers and masters, which he expresses through the fable of the stomach and the limbs,<sup>32</sup>

Once on a time, says the Fable, all the other members of the body began to murmur against the Stomach, for employing the labours of all the rest, and consuming all that they helped to provide without doing anything in return. So they all agreed to strike work and refused to wait upon this idle Stomach any longer. The feet refused to carry it about; the hands resolved to put no food into the mouth for it; the nose refused to smell for it and the eyes to look out in its service; and the ears declared they would not even listen to the dinner bell; and so of all the rest. But after the Stomach had been left empty for some time, all the members began to suffer. The legs and arms grew feeble; the eyes became dim, and all the body languid and exhausted. 'Oh foolish members,' said the Stomach, you now perceive that what you used to supply to me' was in reality supplied to yourselves. I did not consume for myself the food that was put into me; but digested it, and prepared it for being changed into blood, which was sent through

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31. Senior 1865, 121. Senior also proposed an "abstinence theory," according to which since capitalists abstained to spend money in order to invest in production, the return to capital for that investment, should be included as part of the costs of production. He did not believe in the labor theory of value either as explained below.

32. An Aesop's Fable titled the Belly and the Members, which perhaps Whately knew in the context of co-operation from the writings by Paul de Tarse.

various channels as a supply for each of you. If you are occupied in feeding me, it is by me in turn, that the blood, vessels which nourish you, are fed.’<sup>33</sup>

In other words, if masters benefit, workers and society overall benefit. Capital and labor complement each other and conflict had no reason to exist.<sup>34</sup> Indeed, Whately promoted the idea that if profits were high, wages did not have to be necessarily reduced because the good or bad outcome for workers and masters would depend only on the good or bad circumstances of the business.<sup>35</sup>

In spite of the complementarity between labor and capital found in Whately’s ideas, it is possible to see that the priority was given to capital when it came to consider what brought the prosperity of the system, including labor. Without capital, Whately established, labor hardly would be carried on. He saw capital as more relevant than labor to generate profit and the investment that would allow the creation of more jobs.<sup>36</sup>

Finally, for Whately and also Jevons as seen later, prudence in terms of savings should be encouraged among workers, not only capitalists. The latter is of importance because it complements his view of the generation of a harmonious atmosphere for capitalists. Workers could not blame others (e.g., capitalists) about a difficult economic situations if they had not been prudent enough to save during times of economic abundance.

Whately’s view about the interdependence of labor and capital and his search of a harmonious atmosphere for business, as well as his negative conclusions about labor

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33. Whately 1853, 51.

34. See Diagram 2 below.

35. Whately 1853, 61.

36. Ibid., 58-59.

unions to achieve such harmony suggest him as an important predecessor regarding Jevons's ideas on labor unions and his notions of co-operation.

### **1.2.2. Senior: laws on combinations and strikes and their modification for co-operation**

Unlike Whately and Jevons, Senior believed in a wage fund theory. He established that there was a fund, established in advanced, that constituted workers' compensation for work during the current period. From the new production, it would have to be subtracted a similar amount for the maintenance of workers for the next period and so forth.<sup>37</sup>

For Jevons, the wage fund theory was a mistake. As Whately,<sup>38</sup> he conferred more importance to scarcity and to the supply and demand of labor. Moreover, his studies allowed him to arrive to the conclusion that workers are paid according to their marginal productivity, which as seen later, is part of a larger conception about labor developed in his *Theory of Political Economy* (1871).<sup>39</sup>

Even though Jevons did not believe in the wage fund theory, the conclusion to which he arrived in the *Theory* -that workers should not expect more wages than the value of its marginal product- was similar to Senior's regarding the implications for workers, namely, that workers had no agency regarding the improvement of their wages.

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37. Senior considered the amount of capital that could be converted into wages a fixed magnitude. This fixed amount suggested that there was no reason for workers to organize and bargain for higher wages since an increase of wages for some workers, would happen at the expense of others. Marx's analysis of the "So-called Labor Fund" explained the latter as "apologetic purposes" and clarified the elastic nature of capital including the one devoted to the payment of workers. Unions were, therefore, justified from Marx's point of view. Marx 1867, 758-761.

38. See also White 2004, 315.

39. Jevons 1965 [1871].

For this reason, despite of the difference between Senior and Jevons about the determination of wages, their ideas in terms of labor unions were closely related.

Senior's experience on public policy was significant. It is well known he collaborated in the revision of the Poor Laws and of Laws on Combinations and Strikes in 1830. A decade later, from his revision of the combination laws in 1841, it is possible to note Senior's conviction that these laws and its modifications were still ineffective<sup>40</sup> for no progress had been made in implementing the recommendations of a previous commission of the House of Commons.

For instance, freedom could not be secured for workers according to him. This meant that workers could not independently decide whether to be part of a union or not, or decide for which master to work, or for which wage to bargain. Senior linked this to combinations since they had extended all over the U.K. and were difficult to control in his view.

Just as Whately, Senior was not persuaded by the way labor unions operated. He believed that instead of reaching one of their main goals (higher wages), they only contributed to their deterioration as well as the deterioration of the conditions of those engaged in combinations and even of those that were not directly engaged with them.

In this sense, Senior detected a sort of inequality produced by combinations and unions, at least not explicitly seen in Whately and Jevons. Given that unions concentrated those in skilled trades, unskilled workers, with no representation, tended to be

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40. Senior 1865, 163.

involuntarily affected by strikes and the resultant consequences of the process (e.g., loss of wages).<sup>41</sup>

According to Senior, intimidation, physical and moral punishments, the destruction of manufactures, and others were part of the situation experienced during those days,<sup>42</sup> which he considered a reflection of the loss of the ruling power by the State.<sup>43</sup>

In his report about the inquiry of the condition of handloom weavers in 1841, similar to Whately, Senior expresses hope that the situation brought by combinations would eventually change. “I still believe that the remedies suggested by us in 1831 would be useful, perhaps effectual. ... I still cherish the hope that a Home Secretary will be found wise enough and bold enough to grapple with this tremendous evil: and believe that he will find in this Essay useful suggestions.”<sup>44</sup> However, it is important to consider that he was not referring only to combinations by workers, but also to lockouts by masters, which had become relevant during that time.<sup>45</sup>

One important feature in Senior’s Law on Combinations is that it can be related to co-operation of the type Jevons later suggested. Senior recommended relaxing the common law about combinations. The latter meant that not all agreements among workers or among employers should be considered as conspiracies. He believed that both

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41. See Bowley. 2003 [1937]. Bowley suggested that “Senior had laid his finger on one of the most important of the economic and social aspects of trade unionism in emphasizing the lack of solidarity of interests between different sections of the working classes,” 279.

42. In *Capital*, Marx notes how “the manufacturers chose [Senior] as their prize-fighter, not only against the newly passed Factory Act [that he later supported] but against the Ten-hours’ Agitation which aimed to go beyond it.” The latter reflected Senior’s support to masters and his disapproval of workers efforts to try to reduce the working day to ten hours. According to him, the latter would eliminate the possibility of obtaining profits from industry. Marx, however, showed the latter did not have to be the case. Marx 1867, 333-37. In the Addenda of Part III of his *Theories of Surplus Value*, Marx also gives an interpretation of Senior’s argument against the shortening of the working day. Marx 1969.

43. Senior 1865, 157.

44. *Ibid.*, 117.

45. *Ibid.*, 167.

parties could make some type of arrangement and that it should not be considered always illegal. If this suggestion were to be ignored, the law would continue to oppress workers and masters according to him.<sup>46</sup>

He also advised to extend punishment beyond of what the common law dictated for workers combinations and masters combinations that encourage strikes on other masters; to facilitate the identification of possible offenders; and to repay those that had any loss while opposing combinations of any type since they have acted as “martyrs in the cause of liberty” bringing benefits to the community.<sup>47</sup>

Behind these suggestions was the idea that freedom from combinations would be brought to workers so that they could independently decide how to improve their own individual condition, which would benefit society<sup>48</sup> because the industry, skill, capital, and manufacture superiority would be guaranteed.<sup>49</sup> In relation to this, as mentioned above, Senior considered the government’s duty to protect the right to property (including workers’ property regarding their ability to work and the decision on how to do it). He wrote, “We believe, in short, that in this, as in almost every other matter, the duty of the government is simply to keep peace, to protect all its subjects from the violence and fraud and malice of one another, and, having done so, to leave them to pursue what they believe to be their interests in the way which they deem advisable.”<sup>50</sup>

Senior’s idea about government’s duty to protect property rights, his suggestion of the modification of the common law so that not all agreements between masters or

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46. Ibid., 166-167.

47. Ibid., 170-172.

48. Ibid., 172.

49. Ibid., 170.

50. Ibid., 122.



workers could be condemned as conspiracies,<sup>51</sup> as well as his suggestion of control over combinations and unions suggest him as another predecessor of Jevons's ideas regarding the importance of a harmonious environment for business through co-operation.

To conclude this section, we note that in spite of the differences regarding the determination of wages between Whately, Senior, and Jevons, they had in common the rejection of workers' agency via collective bargaining as a determinant feature for the formation of wages. The type of workers' agency portrayed in their works is limited to workers' individual decisions on whether to be part of a union or not, or for whom to work, and so forth; yet workers' capacity to make decisions about their own compensation via collective bargaining with the help of labor unions was not relevant in their view.

These authors saw labor unions as dispensable forms of organization and, because of the mechanisms to bargain (e.g., strikes), as potential obstacles for the progress of the economic and social system. A harmonious and collaborative relationship between workers and capitalists was the actual form of organization to support if progress was to be attained according to them. Senior and Whately, then, are important predecessors regarding the idea of co-operation between workers and capitalists developed later by Jevons.

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51. Senior also expressed awareness about other kind of (indirect) collaboration between workers and masters. Due competition, some masters wanted other masters to pay higher wages so that the others would have higher costs. "He sympathizes with his workmen in their indignation against knobsticks, and is not very anxious to resist a strike that is not directed against himself." Ibid,159. This is illustrated with cases in which masters had been the actual instigators of strikes in order to affect their rivals, which even though not many, were still relevant enough to call Senior's attention, 161.

### 1.3. Jevons on labor and the role of labor unions and co-operation

Throughout Jevons's work, it is possible to note a concern about the material conditions of workers.<sup>52</sup> Jevons, however, believed that workers could not improve their fate by their own, by demanding higher wages through unions and strikes, for example. The solution he proposed was the support of capitalists and rich people since they had the resources and abilities that could facilitate the improvement of the whole system.

It is possible to consider that Jevons aimed at the protection of the capitalist system for he believed capitalists could lead to an improved state of society.<sup>53</sup> For Jevons, it was clear that capitalists were the ones who invested their own means, developed the mental work indispensable to have a successful process of production, and were those who suffered stress, anxiety, and even got into trouble when workers refused to work.

In Jevons's view, one way of furthering protection for the system was that workers should not try to improve their own economic situation by demanding higher wages with the help of unions. This had the implication of undermining the relevance of workers' struggle and agency while aiming to improve their material conditions. However, this is not to say that Jevons wanted to diminish the importance previously conceded to class conflict in classical political economy, but that even though he acknowledged it, he considered it mainly the result of workers' lack of understanding about how the system worked. Workers did not understand, according to him, that

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52. See Peart 1996, 142.

53. As mentioned in the previous section, Whately had similar views. He established, for instance, that "the welfare of any country and especially of the labouring classes depends greatly on the abundance of capital; and when capitalists are able to establish great manufactories such as the cotton mills in Lancashire, each of them gives employment to many hundreds of families" Whately 1853, 96.

capitalists had to be supported because if they succeeded, the rest of society would do it as well. He also believed there was no solution to the conflict between workers and masters because, again, it was the result of a misunderstanding, mainly by workers.<sup>54</sup>

In this section, I introduce first of all, Jevons's theoretical ideas about labor. Here it is possible to observe the less relevant role conceded to labor as a determinant of value than the one allotted by classical political economists (e.g., Ricardo). In the second part, I present Jevons's views about labor unions and his opinion of the use of strikes as a counterproductive way of pursuing wage improvements.

### **1.3.1. Labor as an important element of production; capital as an indispensable one**

For Jevons, the "knowledge of the whole science" of political economy requires the comprehension of specific notions such as value, labor, capital, and others. In his *Theory*, Jevons claims to investigate the conditions and relations of such notions. One of his first propositions is regarding the determination of value.

Classical political economists, such as Ricardo, had studied the relevance of labor in the determination of value. However, for Jevons, labor was only in certain cases, an indirect determinant of value (a determinant circumstance) when by affecting the supply of a commodity, generated variations in its degree of utility. In a well-known piece of his *Theory*, Jevons explained,

Repeated reflection and inquiry have led me to the somewhat novel opinion, that value depends entirely upon utility. Prevailing opinions make labour rather

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54. Reprinted in Black 1977, P&C, VI: 74-9. Jevons says, "Any real amelioration [related to this conflict] ... will mainly consist in great progress of intelligence on the part of the men." See Peart 2000. Peart points out "Jevons's belief that, especially among the uneducated labouring classes, economic decisions might persistently be incorrect," 177.

than utility the origin of value; and there are even those who distinctly assert that labour is the cause of value. I show, on the contrary, that we have only to trace out carefully the natural laws of the variation of utility, as depending upon the quantity of commodity in our possession, in order to arrive at a satisfactory theory of exchange, of which the ordinary laws of supply and demand are a necessary consequence.<sup>55</sup>

The importance of labor in terms of value is secondary and conditional on how it may affect the level of utility in Jevons's view.<sup>56</sup> The idea that labor had a relevant role in the system was true for Jevons only insofar as it was the "*beginning of the process treated by economists, as consumption is the end and purpose.*"<sup>57</sup> The attention is directed towards consumption because it is through it that more utility and pleasure can be experienced.<sup>58</sup>

In Jevons's analysis of labor, it appears as if it is possible for workers to decide the amount of time they want to work. Labor is "painful," which implies a disutility or negative utility; "it is a painful exertion of mind or body undergone ... with a view to a future good."<sup>59</sup> For that reason, Jevons defines the problem of political economy as the satisfaction<sup>60</sup> of "our wants with the least possible sum of labour" since as labor is prolonged, according to him, it becomes more disagreeable.<sup>61</sup> Curiously, this is something Jevons seemed to have experienced for himself. For instance, Thomas E.

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55. Jevons 1871, 1-2.

56. Jevons connects labor and value in the following chain: Cost of production determines supply. Supply determines final degree of utility. Final degree of utility determines value. Jevons 1871, 165.

57. Jevons 1871, 167 (italics mine).

58. See Antal 1985. Antal notes how the latter was related to the different starting point of analysis, consumption, in Jevons' work, as opposed to production in classical political economy, 16. See also Schabas (2005), 152.

59. Jevons 1871, 168.

60. See Bruni 2004, 36. See also Maas 2008.

61. See also Spencer 2003, 505-6.

Jevons (TEJ) asks William Stanley Jevons (WSJ) several times to not overwork and tax his health due the consequences on Jevons's health<sup>62</sup> He tells him, "I was very sorry indeed to hear from your last letter that you have again been overworking yourself. Why are you not [...] more careful of yourself and not pressure upon your strength?" (May 29th, 1876).<sup>63</sup>

Portraying workers as if they are *generally*<sup>64</sup> able to decide the amount of hours to be worked, allows emphasizing utility as the main determinant of value. Working is a bothersome activity, but as long as workers are free, they can decide upon the allocation of time devoted to it. Even if workers were to work long hours, they do it because they know they will obtain an equivalent pleasure from it and that they will stop as soon as "the pain becomes equal to the corresponding pleasure gained."<sup>65</sup>

This view of the relationship between work and wages - "[a]s long as he [the worker] gains, he labours, and when he ceases to gain, he ceases to labour"<sup>66</sup>- allowed Jevons to present a framework coherent with the preeminence given to utility in his *Theory*; however, it also undermined the relevance of power in social relations as suggested previously.

Another implication of the theory of labor in Jevons is related to wages. Since

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62. TEJ Jevons Letters to WSJ Jevons. Letters of January 11th, 1873; March 10th, 1872; November 3rd, 1872 ; August 31st, 1873. In the Seton Jevons family papers, 1780s-1930, Mss 0005, in the Monsignor William Noé Field Archives & Special Collections Center, Walsh Library, Seton Hall University.

63. TEJ also tells WSJ "But I do beg of you, now that you have received [...] your strength, not to trifle with it but preserve it carefully for the sake of your friends and true science." September 12th, 1874. Also that "Your account of your own health is satisfactory. Though I shall like to hear that you're working well within your health and not up to it." May 18th, 1875. See also letter of October 20th, 1878; May 30th, 1879. Ibid.

64. Jevons 1871, 182.

65. Ibid., 176. After all, Jevons saw "the economic agent as an energetic system that optimizes pleasures and pains." Maas 2009, 506. See also Morgan 2006, 1-27.

66. Ibid., 177. Spencer also points out to the weakness of this point in Jevons's theory of labor, Spencer 2003, 508 (footnote 5).

workers will work until the pain of working is equal to the pleasure of the produce obtained, wages cannot increase more than a certain limit since in order to obtain greater wages, unbearable pain would have to be experienced. Jevons justifies this in the following way

Agreeably to the theory of utility, already given, the curve shows that, the larger the wages earned, the less is the pleasure derived from a further increment. There will, of necessity, be some point ... such that ... the pleasure gained is exactly equal to the labour endured. Now, if we pass the least beyond this point, a balance of pain will result: there will be an ever-decreasing motive in favour of labour, and an ever increasing motive against it. It would be inconsistent with human nature for a man to work when the pain of work exceeds the desire of possession, including all the motives for exertion.<sup>67</sup>

Workers, then, are responsible for the wages they receive as compensation for their work. Demanding more wages, through labor unions makes no sense in this context because it is up to the workers to decide how long to labor and because there is a limit in terms of pleasure that neutralizes any wish of possession beyond the possibility imposed by the equalization of pains and pleasures. In addition, these ideas are complemented with Jevons's reflection of the predisposition of race towards labor. He establishes that,

Persons of an energetic disposition feel labour less painfully than their fellow-men, and, if they happen to be endowed with various and acute sensibilities, their desire of further acquisition never ceases. A man of lower race, a negro for

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67. Ibid., 173-4. See also Spencer 2003. Spencer argues that Jevons's "theory of labor remains sensitive to variations in the nature and organization of work, and it is recognized that workers can acquire positive work motives under conditions where work is 'interesting and stimulating' to perform," 506.

instance, enjoys possession less, and loathes labour more; his exertions, therefore, soon stop. A poor savage would be content to gather the almost gratuitous fruits of nature, if they were sufficient to give sustenance; it is only physical want which drives him to exertion. The rich man in modern society is supplied apparently with all he can desire, and yet he often labours unceasingly for more.<sup>68</sup>

The capitalist, the rich person, with a “superior” disposition towards work, not only “labors unceasingly for more” but also experiences the risk of investing his own resources for the sake of obtaining more and contribute to society.<sup>69</sup> These persons were portrayed as leaders, and, therefore, their whole compensation or profit was to be, accordingly, superior than that of workers and landlords due all the trouble capitalists went through when developing a business and making it succeed since it was for the benefit of everybody.

In his *Political Economy*, Jevons explained that the “proper share” of the capitalist is *interest*, what is paid for the use of capital, but this, he makes clear, is “a good deal less than what actually remains in the hands of the capitalist.”<sup>70</sup> This means that as part of their compensation, capitalists also obtain wages of superintendence since they work “with the head and pen” as managers in order to have a successful business. This generates income for them, workers, and landlords. The mental efforts by capitalist justify wages of superintendence that are usually high.

Severe mental labour is really far more difficult and exhausting than manual labour; and in raising up a good business, and in carrying it through times of

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68. Jevons 1871, 182-3. See Peart and Levy 2005, 15–31 and Peart and Levy 2003, 261–88. See also White 1994.

69. As also suggested by Whately as seen in Section I.

70. Jevons 1881, 50.

danger, a manager has to undergo great anxiety and mental fatigue. Thus, it is necessary that a successful manager should receive a considerable share of the produce, so as to make it worthwhile to give this labour.<sup>71</sup>

Besides interest and the wages of the superintendence, for Jevons, capitalists are entitled to a “recompense for risk.” They are the ones that go under stress, fatigue and uncertainty to make the business succeed. Therefore, capitalists must have some stimulus for running a business into such stressful conditions.

There is always more or less uncertainty in trade, and even the most skillful and careful manager may lose money by circumstances over which he has no control. Sometimes, after building a factory, the demand for the goods he is going to produce falls off; sometimes the materials cannot be bought; ... occasionally, too, the workmen are discontented, and refuse to work for such wages as the capitalist can afford to pay.<sup>72</sup>

As seen above, Jevons shows a particular interest on providing a harmonious business environment because, after all, capitalists can manage businesses that generate income for the other classes. In Jevons’s view, then, the recompense for their enterprise “should be at least enough to make the profit of the successful business balance the losses of the unfortunate ones, so that on the average capitalist will get the interest of capital and the wages of the superintendence free from loss.”<sup>73</sup> As suggested below, Jevons’s protective views towards business is also found in the way he conceives the ideal function of labor unions.

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71. Ibid., 51.

72. Ibid., 52.

73. Ibid.



### 1.3.2. Unions and their “selfish foolish mistake”: strikes

“Why, then, did not the Professor protest against the ‘ignorance’ of many capitalists?”  
Fragment of anonymous response to one of Jevons’s Lectures, 1866.<sup>74</sup>

Jevons refers to trade unions as a “society of men belonging to any one kind of trade who agree to act together as they are directed by their elected council, and who subscribe money to pay the expenses.”<sup>75</sup> He identified three classes of purposes that unions pursue.<sup>76</sup> First, to regulate wages; second, to regulate working hours; and, third, to act as benefit societies. Jevons had no complain about the last and even the second purpose, but he deeply disagreed with the first one.<sup>77</sup>

In Chapter VII of his *Political Economy*, when discussing wages, Jevons mentioned that “there is no more a fair rate of wages than there is a fair price of cotton or iron” and that “It is all a matter of bargaining.”<sup>78</sup> For the latter, he considered reasonable for workers to look for higher wages, but while doing that, they should not interfere with other workers’ right of making their own decisions on how to sell their labor, or on whether to join a union or not. Being able to make this decision individually and *voluntarily* while acting according to the law is what Jevons called the principle of the “freedom of labour”. A violation of this principle was for him an attempt to make other workers act against their will.

Jevons rejected the unions’ purpose of influencing wages. However, part of the reason he was not completely opposed to their existence is that he considered them as a

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74. The author refers to Jevons’s emphasis on strikes while ignoring lockouts during his lecture at Owens College. Reprinted in Black 1977, P&C, III: 129-31.

75. Jevons 1881, 61.

76. Jevons 1876, reprinted in Black 1977.

77. Ibid. See his Lecture XII.

78. Jevons 1881, 61.

traditional form of organization in England for more than a thousand years. “Trade Unions, some think, are a new thing and a rising danger, but they are quite as old as England, and appeared at least 1,000 years ago.... A kind of union or co-operation is innate in Saxon nature...”<sup>79</sup>

However, when it came to establishing unions’ role in society, Jevons set boundaries suggesting that they should be involved only in activities unrelated to wages. For instance, in Chapter VIII of his *Political Economy*, Jevons established that these organizations could play an important role for society if “well directed” as *assurance societies*. In this way, they could benefit workers providing money during illness, job losing, and others. Unions should be, then, in Jevons’s eyes, organizations that provide such benefits for workers. They should as well make sure that workers perform their activities in a proper and safe environment. Jevons recognized the relevance of labor unions in this sense, as long as they “occupy themselves in this way,” as *assurance societies*.<sup>80</sup>

Jevons acknowledged how powerful organized workers could be. He noted how likely it is that a single worker may fail in his attempt to change particular conditions at the working place, and how a group of workers complaining at the same time were more likely to be heard. He says, “the employer will think about the matter seriously, and will do anything that is reasonable to avoid disputes and trouble.”<sup>81</sup> However, Jevons

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79. Lecture XII in Jevons, including footnote 5. Reprinted in Black 1977, P&C, VI: 68-73. In the same lecture, Jevons clarifies that it was until the Gladstone’s Trade Union Act of 1871 that unions were granted legal status. A complementary Act that prohibited coercion from worker to worker was passed at the same time. Reprinted in Black 1977, in the same volume of the correspondences, also explains that the second law criminalized even peace picketing, but that it was later substituted by the Conspiracy and Protection Property Act (1875) that eliminated that restriction, see footnote 5 in the lecture, 73. See also Perring 1970 [1963].

80. Jevons 1876. Reprinted in Black 1977, P&C, VI: 68-73.

81. Jevons 1881, 62.

suggestions about unions show that ideally unions should not act beyond being an assurance or friendly society. They should act in harmony to capitalists and the system. For those that go beyond those boundaries, he says, “They may ask for something which is impossible, or would cost so much as to stop the trade all together. In all such matters, therefore, working-men should proceed cautiously, hearing what their employers have to say and taking note of what the public opinion is ...”<sup>82</sup> since he considered the public would provide a more objective point of view.

For Jevons, it was reasonable that those that join unions may not understand the implications or consequences of their own decisions. He says, “Those who have not much time to get knowledge, and learn science and political economy, will often not see the effects of what they demand.”<sup>83</sup> Many of these demands and the activities of unions such as strikes are, according to him, due mistakes of perception as had also been mentioned by Whately. Similarly to Senior, Jevons also provided an explanation about strikes founded on workers ignorance and selfishness. Workers only thought about the increase on their own wages, but they did not realize about the implications for the society as a whole.

Jevons also linked the participation by common workmen in unions with the purpose of increasing wages to another type of misunderstanding by workers: class interest. With the growth of manufacture and the separation of masters and workers in factories during the 1770s, workers experienced a change in the way they perceived masters according to Jevons. Initially, workers believed they and their masters were of

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82. Ibid, 63.

83. Ibid. Jevons’s and masters’ fear of the working classes’ misunderstanding of political economy was parallel to a bigger fear, that is, workers’ potential misuse of political power (e.g., their introduction to the franchise). See the *Anonymous “Article on Jevons...”* Edited by Peart 2003, 4-6.

the same kind and held similar interest. Yet, with the changes mentioned above, it became evident that masters had not only different but opposed interests to theirs. Given that this led to conspiracy against masters and the formation of unions, masters felt encouraged to advocate for a law against labor unions. The combination laws,<sup>84</sup> explained above, were the result of the masters' demand and of their legislative power.<sup>85</sup>

There was no reason, in Jevons's view, for workers to consider their masters as "tyrants" and whimsical, or to suspect that masters would be able to increase indefinitely their profits without increasing wages since as soon as other capitalists knew that other capitalist was making unusual profits, they would try to be part of the same trade and obtain the same profits.

Additionally, Jevons belittled the importance of labor unions by promoting the idea that their bargaining power was not as high as workers tended to believe. He claimed that even though unions worked for the increase of wages, it was not usually through unions that raises in wages took place. A rise would depend upon different circumstances such as the discovery of gold and others. These ideas and unions' bargaining methods (e.g., strikes) made him conclude that unions' activities only interfered with the business climate.<sup>86</sup> In this sense, for him, unions represented a threat for the system when attempting to improve wages.

However, he also explained that both strikes from workers and lockouts by employers are not necessarily morally or legally wrong when "properly conducted."<sup>87</sup> Proper in this case, meant that whether there was a strike or a lockout, both workers and

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84. Which he recognized as "oppressive" since they prohibited workers from legally organizing. Lecture XII in Jevons 1876. In Black 1977, P&C, III: 71.

85. Ibid., 70.

86. Ibid., 72.

87. Jevons 1881, 62.

capitalists should honor the work commitments they had agreed upon and also that workers would not stop working all of a sudden when striking since this could carry serious consequences for the public.

Nevertheless, in his criticism about this matter, Jevons exemplifies with the case of strikes and suggests that they are unnecessary since their general effect is to create a “dead loss of wages” not only to those that strike, but also to others. He adds, “I believe that if there had not been a strike during the last thirty years, wages would now be higher in general than they are, and an immense amount of loss and privation would also have been saved.”<sup>88</sup> When citing the “Catechism of Wages and Capital” Jevons expressed, as seen with Whately, that even successful strikes are harmful. Strikes always cause losses since even though higher wages may be obtained, some time has to pass in order to compensate for the loss generated when production was stopped; a successful strike is then “only less ruinous than an unsuccessful one.”<sup>89</sup> He adds,

If we remember that a large portion of strikes are unsuccessful, in which case of course there is simple loss to every one concerned; that when successful, the rise of wages might probably have been gradually obtained without a strike; that the loss by strikes is not restricted to the simple loss of wages, but that there is also injury to the employer's business and capital, which is sure to injure the men also in the end; it is impossible to doubt that the nett result of strikes is a dead loss.

The conclusion to which I come is that, **as a general rule, to strike is an act of folly.**<sup>90</sup>

Intimidation from strikers to the workers that are still willing to work at the rate

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88. Ibid, 66. See also 64-65.

89. Ibid.

90. Ibid, 67.

offered by the masters is a crime<sup>91</sup> and a reflection of that folly for Jevons. If during the time of a strike, there are workers willing to work at the current level of wages, that is a reflection of the strikers lack of understanding of their own demands and of the way supply and demand works:

If there are unemployed people, able and willing to work at the lower wages, it is for the benefit of everybody, excepting the strikers, that they should be employed [...] The employer, generally speaking, is right in getting work done at the lowest possible cost; and, if there is a supply of labor forthcoming at lower rates of wages, it would not be wise of him to pay higher rates.<sup>92</sup>

Jevons states very similar conclusions in relation to lockouts by capitalists and that both strikes and lockouts are appropriate only as experiments to detect whether wages could become higher or lower. When workers demand higher wages, a strike will show whether wages are indeed too low or not. If employers can still find workers willing to work at the same wage, strikers would have made a mistake and wages will be maintained at the current level.

However, what is even more important in Jevons's thought is that he wanted workers to understand that if wages were to come up during a strike, such increase would not come from the pocket of capitalists but from consumers, which included the whole working class. In other words, with the increase in wages, workers in a trade would benefit at the expense of workers in other trades. Therefore, according to Jevons, the

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91. Ibid.

92. Ibid., 67.

increase in wages would affect masters only as consumers, not as capitalists.<sup>93</sup>

Finally, Jevons considered how lockouts could involve intimidation to the employers that do not want to pay low wages; however, he believed that those cases of intimidation from capitalist to capitalist “seldom or never”<sup>94</sup> occur. Jevons’s negative conclusions about strikes, thus, suggest he was concerned that strikes could be more threatening to capitalism than lockouts. As suggested previously, his concern was due his protective view of the system. Since capitalists were the engine that allowed the system to progress and capitalist society to continue existing, it was important to guarantee a harmonious and collaborative environment for them instead of the chaotic and uncertain one brought by unions and their strikes.

#### **1.4. The ideal role of labor unions and co-operation: less powerful (non) unions**

*“To argue that labour will always get fun justice without resorting to combination is a fallacy contradicted by all experience...”*  
W. Macdonald<sup>95</sup>

In this section, I discuss how in Jevons analysis, the ideal role of labor unions is a “cooperative” form of organization to businesses<sup>96</sup> that is a less politically powerful institution than a traditional union. I also propose a diagrammatic explanation of the views about labor’s and capital’s interests, conflict, and the notion of co-operation

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93. Jevons 1876. Reprinted in Black 1977, P&C, VI: 68-73.

94. Jevons 1881, 68.

95. Fragment of a letter by W. Macdonald to the editor of the Manchester City News. Reprinted in Black, P & C iii: 132-36.

96. This is what I call the *implicit* form of co-operation, from workers to businesses, found in his ideas.

mentioned above.<sup>97</sup>

In his lectures in the 1870s, Jevons recognized that some of the negative consequences he perceived from unions were being overcome. For instance, he established that the consequences on trade through the promotion of artificial emigration, or the destruction of new machines were problems less relevant than in the past.

He was relieved that the expansion of unions (a universal system within the country and even an international one) would lead, eventually, to a contradictory situation that would debilitate unions. For example, wages would not be able to increase in one trade, without hurting another one as explained above.<sup>98</sup>

Yet, if unions were to exist, according to Jevons, their ideal role was to be cooperative to business and workers. As mentioned before, they should be, for instance, assurance societies. Unions “carry out the best object of civilization,” according to Jevons, when acting in this form. As assurance societies, they should help workers in times of illness, or when they have lost their tools due to an accident. Additionally, they should help workers by making sure they labor in safe conditions; free of threats in case of disagreement with masters or other workers. If they were to strike, they should not prevent other workers from working if they want. They should not use violence or threaten those workers that are still willing to work.<sup>99</sup> Hoping unions to become assurance societies suggests that Jevons’s ideal role for labor unions was a less political powerful institution, less likely to interfere in distributional issues.

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97. The diagrams in these sections can be seen as a way of thinking about class conflict and cooperation and as a way to see whether class interest is shaped when industrial partnerships are considered.

98. Reprinted in Black 1977, P&C, VI: 74-9.

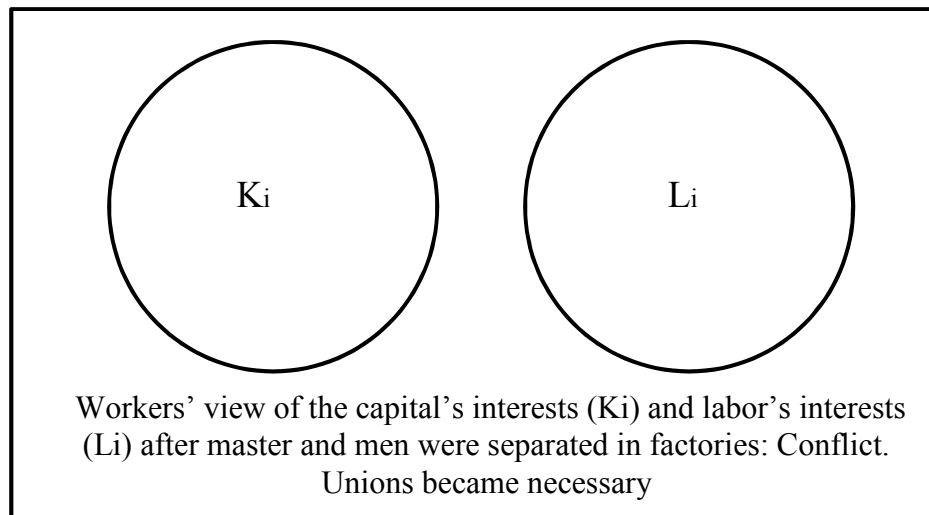
99. Other ideal characteristics listed by Jevons are the following: to provide funeral benefits; superannuation benefit, emigration benefit; and benevolent grants. Ibid, 73.



I propose the following diagrams to explain the views about labor's and capital's interests, conflict, and the notion of co-operation mentioned above. In Section II (2), I explained that Jevons argued that after masters and workers were separated with the growth of industry, workers perceived their "circumstances as opposed to their masters."<sup>100</sup>

Diagram 1.1 depicts this view. There, it is possible to consider capitalists' interests as different from those of workers. Thus, they are represented by mutually exclusive sets. In this context, because interests are not the same, workers need labor unions so that they can look after their own interests.

Diagram 1.1 Workers' view of class interest



For Jevons, though, workers' view was a mistake because, as seen also with Whately and the fable of the stomach and the limbs, workers' and masters' relationship was interdependent in a way their interests could theoretically overlap (Whately's view

<sup>100</sup>. See his lecture of January 28 of 1876. Ibid, 70.

'a' below, Diagram 1.2), or overlap at least in some way (Jevons' view 'a,' Diagram 1.3) since the benefit of the capitalist would benefit the rest of the society.

Diagram 1.2 Whately's View (a)

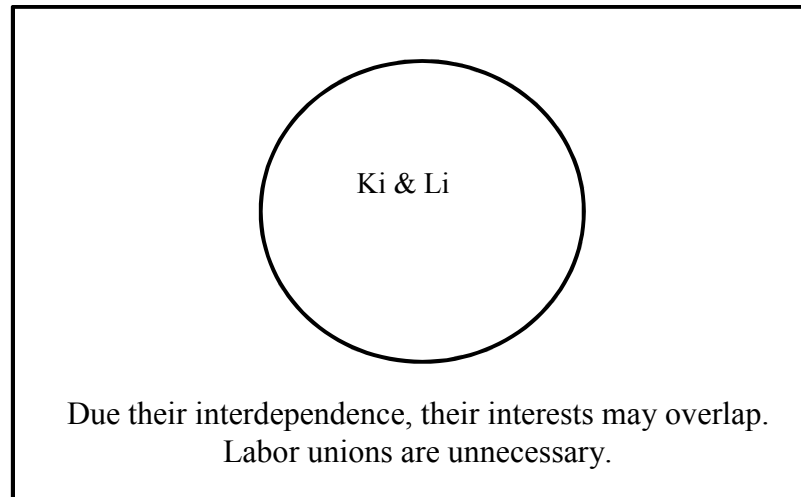
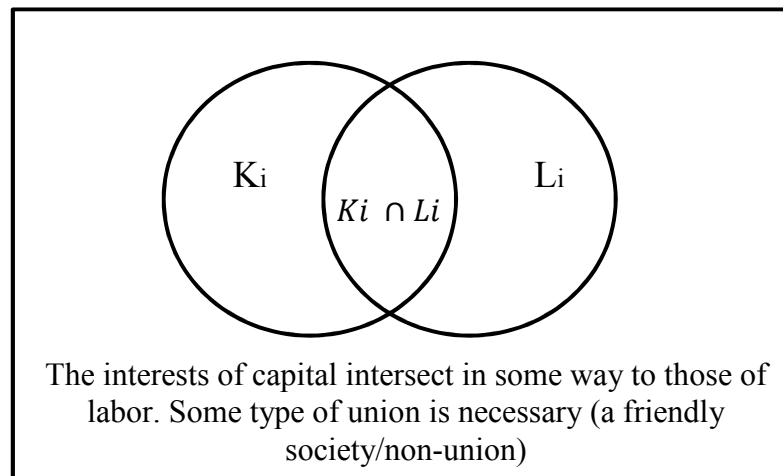


Diagram 1.3 Jevons's View (a)



Jevons acknowledged conflict (even though, as explained before, due workers' misunderstanding<sup>101</sup>). According to the intersection in Diagram 1.3 ( $Ki \cap Li$ ), even if conflict is present, there are at least some interests in common between capitalists and

101. Jevons 1876. Reprinted in Black 1977, P&C, VI: 68-73.

workers according to Jevons. In the context of Diagram 1.2 and 1.3, unions are not indispensable, at least not to seek for higher wages. They may exist as friendly or assurance societies. For Jevons, then, even if some conflict is present, co-operation between classes may still exist.

It is important to consider that besides that form of (indirect) co-operation (from workers to capitalist due the elimination of the need for unions), the co-operation feature of the relationship between workers and capitalists promoted by Jevons also included industrial partnerships with profit sharing.<sup>102</sup> Because “co-operation” could be interpreted in different ways, Jevons explained that he was not referring to cooperative retail societies<sup>103</sup> that offered cheap products, or to cooperative protective (joint stock) companies<sup>104</sup> where workmen provided the capital and, therefore, were their shareholders. Only industrial partnerships were “the truest form of co-operation to my mind” according to Jevons.<sup>105</sup> This form of co-operation is characterized by employers who, as “main capitalists,” voluntarily share part of their profits above wages to the workmen<sup>106</sup> due their “diligence and constancy.” Diagram 1.4 may be used to illustrate the latter.<sup>107</sup>

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102. Which is the explicit form of co-operation mentioned in his work. Before Jevons, Babbage (1832) promoted this system.

103. Ibid., 75.

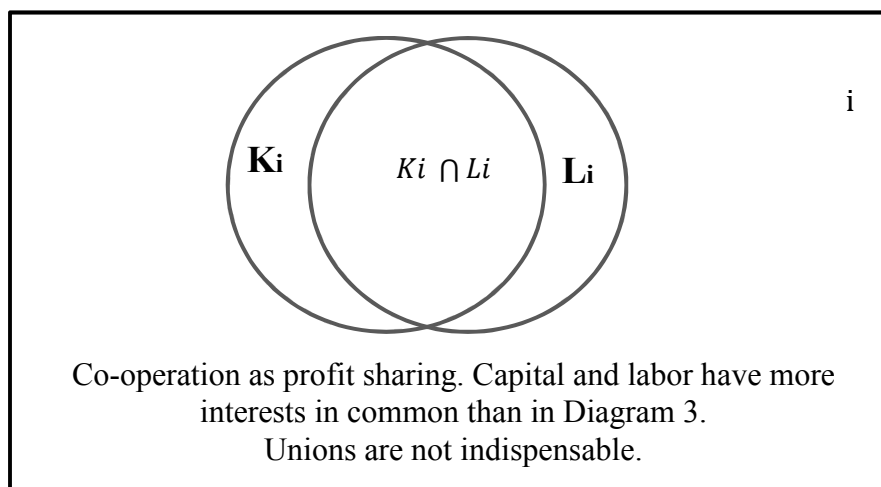
104. Ibid.

105. Jevons 1876. In Black 1977, P&C, VI: 68-73.

106. He suggested “bonus system” as a possible name for this scheme (Lecture XIII. Reprinted in Black 1977, P&C, VI: 74-9).

107. The only difference between Diagram 3 and 4 is the size of the ‘intersection’ area.

Diagram 1.4 Jevons's View (b)



In Jevons's industrial partnership scheme, there was a percentage of total profits that constituted the capitalist's share. Profits beyond that were divided equally between the capitalist (50%) and the workers (the other 50%).<sup>108</sup> Since industrial partnerships involved profit sharing, co-operation would be also from capitalists to workers and not only from workers to capitalists. Both, then, would be required for successful co-operation so that both classes benefit from the scheme. If workers were prevented from an active participation to bargain for higher wages, and their organization was merely collaborative to businesses without receiving the benefits of profit sharing, capitalists could end up being the only benefited from this scheme of co-operation.

Likewise, Jevons associated the potential failure of some of these schemes to labor unions. He considered that workers could not be part of the partnership and of labor unions at the same time for capitalists would be in the uncertainty that even when workers were to receive part of the profits, they could go into strike and demand higher

108. In Black 1977, P&C, VI: 74-9. There were also variants of the scheme depending on whether profits were good enough to split or not. If they were not enough, arrangements were made to delay the payments of the bonus to workers. According to Jevons, these arrangements worked well for workers always received their wages even if the bonus was paid later.

wages at any time. Workers could hurt the scheme by striking and delaying production and profits and still had the right to claim their wages and the part of the profits that belonged to them. Therefore, unions should be dispensable forms of organization from Jevons's point of view or just a collaborative assurance society. Additionally, in order to have a successful scheme, Jevons suggested supportive laws as well as to demystify the process for those unfamiliar with it.

Jevons considered that there were other possible schemes, though not as ideal as the industrial partnerships, that could be pursued to try to eliminate the conflict between workers and capitalists such as a "sliding scale arrangement"<sup>109</sup> (a form of wage indexation); arbitration (which he considered as bargaining); and conciliation (another form of arbitration).<sup>110</sup> Even though not explicitly mentioned by Jevons, each of these schemes would involve the same co-operation from workers to capitalists as with the industrial partnerships. For instance, no strikes would be expected from workers.

Still, Jevons identified problems with all schemes of co-operation, and established that there was not an absolute way of solving the conflict between workers and masters mainly, as seen before, due to workers' misunderstanding about class interests.<sup>111</sup>

How much you try to mitigate these troubles you will not succeed- ... it is only in a gradual progress of affairs that any real amelioration will take place, and that will mainly consist in great progress of intelligence on the part of the men. I believe myself that masters generally speaking are quite correct ... that free trade and free competition both of employers and workmen are the true thing and that

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109. Reprinted in Black 1977, P&C, VI: 74-9.

110. Ibid.

111. Ibid., 79.

both strikes and lockouts and all those violent measures are quite wrong.<sup>112</sup>

Finally, according to Jevons, once workers reached the knowledge and understanding of free trade and competition, they would be able to understand that they did not need to fight through unions for higher wages, that they could just move from one master to another and stay where they felt “satisfied.”<sup>113</sup> For him, this would be the time when unions would be “friendly societies.”<sup>114</sup> This is, again, Jevons’ ideal role for unions, an assurance society, or in other words a non-union. Thus, even though he did not advocate for unions elimination directly, the idea of their transformation into friendly societies suggest that he did it in some way indirectly.

## 1.5. Conclusion

The purpose of this research was to analyze Jevons’s ideas about labor unions and his notion of co-operation. After examining Jevons’s recommendations about labor unions this research finds that Jevons’s ideal role for labor unions was a less powerful institution than traditional unions, less likely, for instance, to fight for higher wages. The latter reveals that his notion of co-operation was not only characterized by the profit sharing (from capitalists to workers) he explicitly mentioned in his works, but by a form of co-operation that remains implicit through most his work. This form of co-operation is the one from workers to capitalists when workers support friendly societies instead of labor unions that collectively bargain for higher wages.

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112. Ibid.

113. Ibid.

114. Ibid.

Jevons, as Whately and Senior, did not deem important workers' agency for the determination of wages. Workers could decide on whether to be part of a union or for whom to work; but not on their own compensation, at least not collectively.

Jevons's conclusions about strikes suggest he was concerned that unions could be threatening to capitalism due to the chaos and uncertainty they could bring. Labor unions, then, were in his view, dispensable forms of organization. Due to the interdependence of workers and capitalists' interests, a harmonious and collaborative relationship between workers and capitalists was the actual form of organization to support if progress was to be attained according to Jevons.

Yet, for him, a policy of workers' organizations with less bargaining power had to be complemented with a profit sharing scheme. Both forms of co-operation had to be present for the scheme to be beneficial –not necessarily equally- for both classes.

## 2. Inequality as Lack of Co-operation in Economic Thought

### 2.1. Introduction

Classical political economists, such as David Ricardo, emphasized early in the 19<sup>th</sup> century the importance of distributional aspects among classes. An important part of the economic thought of the rest of the 19<sup>th</sup> century in the United Kingdom (UK) maintained the emphasis on the study on how to develop a society that guaranteed better conditions for the lower classes. One way of addressing workers' material deprivation as well as the distributional issues that allowed its perpetuation was via the principle of co-operation. As seen in the next sections, the notion of co-operation would take different forms.

Generally, co-operation is understood as the instance of persons assisting each other for a common purpose, interest, or benefit.<sup>115</sup> Expressions of co-operation have been constant in human civilization<sup>116</sup> to overcome difficulties and to improve aspects of daily life. Tribal communities and production and consumption co-operatives around the world in different points in time are examples of activities related to the idea of co-operation as well.

The purpose of this chapter is to compare the different notions of co-operation developed by five well-known economists along the 19<sup>th</sup> century in the UK.<sup>117</sup> Robert Owen's ideas were published in 1813; Charles Babbage's between 1832 and 1835; John

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115. Cambridge Dictionary.

116. In the beginning, it was a co-operation, usually of a small scale, based on common ownership and on the tights among community members. Marx ([1867] 1992, 452).

117. Other economists that studied co-operation and the functioning of co-operatives were John Elliot Cairnes (See Cairnes [1873] 2004), Leon Walras and Alfred Marshall (See Ros 2001).



Stuart Mill's in 1848, and William Stanley Jevons's in 1880s.<sup>118</sup> Marx's ideas were also published at the end of the 19<sup>th</sup> century.

It is critical to understand that even though these authors' ideas of co-operation are different; all of them considered the issue of *class* in relation to the idea of co-operation. In the following sections, I analyze the notion of co-operation considering two different but related perspectives (acknowledged by all authors). First, co-operation from the perspective of the process of production. It is the unconscious, or at least not always conscious, co-operation that takes place *among* workers in the process of production via, for example, the division of labor.<sup>119</sup> Second, co-operation from the perspective of type of economic system. It is a co-operation *between* classes (workers and masters in a system of competition, for example) or between persons of different classes, whom eventually become part of the same "class" (classes may fade away, for instance in a form of socialism). Both perspectives complement each other. For that reason, I study them together in order to understand their implications as expressed in their relationship to inequality.

By using primary and secondary sources of information related to each author, I show that the idea of co-operation was developed in depth by the authors mentioned above. Second, I show that the suggestions and implementation of co-operation ideas by these authors, even though differently, had social and economic implications. For instance, they aimed to reduce inequality in most cases. I also show that Marx had a different view. For him, under capitalism, the whole idea of co-operation could end up

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118. Even though his ideas come almost literally from the ones Babbage developed in 1832.

119. It is important to note that within the same process of production, simultaneously, there is another form co-operation that may also be unconscious, the one between workers and masters when the process of production takes place without interference. I do not study further this idea here.

reinforcing inequality. Third, I show that all authors can be grouped by their views on co-operation and by the type of inequality (economic or social) their policies intended to tackle (see Table 1.1 below).

The chapter is divided into four sections. In Section 2.2, I introduce the ideas on co-operation developed and, in many cases, implemented by Owen, Babbage, Mill, and Jevons. Here, I compare the author ideas and their schemes or plans of co-operation as seen in Table 1.1. In this section, I show how, in some cases, the notion of co-operation, to be effective, involved a major change regarding the economic and social order, particularly in the case of Owen and Mill.<sup>120</sup> In Section 2.3, I analyze the relationship between the notions of co-operation studied in Section 2.2 and economic and social inequality. Economic inequality is income based and is linked to the ideas of co-operation as profit sharing. Social inequality, besides income, considers the improvement of the lower classes living conditions via education and the fulfillment of women and children's rights. In Section 3.3, I introduce a discussion of the idea co-operation found in Volume I and III of Marx's Capital, and its link to inequality in relation to the views of the four economists above. The final section includes the concluding remarks.

## **2.2. Notions of Co-operation. Collaboration between workers, profit sharing between classes, and associations for social justice**

This section compares the notions and schemes of co-operation by Robert Owen, Charles Babbage, WS Jevons, and JS Mill. First, I present, Owen and his principle of

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<sup>120</sup>. And indirectly in Marx (since for him, under capitalism, class co-operation could not bring positive outcomes).

union and mutual co-operation. Next, I incorporate Babbage's and Jevons's ideas in the discussion together since they overlap in the main principles. This section concludes introducing to the discussion Mill's ideas on the topic. As mentioned before, all authors see co-operation from two perspectives: co-operation in the process of production and co-operation among classes within a particular economic system.

### **2.2.1. Robert Owen and the Principle of Union and Mutual Co-operation<sup>121</sup>**

In this section, I show that when discussing co-operation, Owen referred to both the collaboration among workers within the process of production, as well as to a co-operative system for the distribution and consumption of what is produced.

The origins of the theoretical development of the notion of co-operation in economic thought are found in Owen, and in the system he developed throughout his works. Owen's ideas were creative and original. Yet, due his unconventional suggestions and his aspiration of an almost perfect society, he was considered a utopian and even a prophet (since his ideas appeared as if they were the preamble of a new state of society, or a superior system).

It is well known how Owen inspired others with similar ideas such as Utopian Socialists, who interpreted classical political economy<sup>122</sup> notions of labor and value from a socialist perspective. It is also well known that by misinterpreting Ricardo's theory of value, the latter concluded that the value of any commodity was determined only by the

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121. Owen [1813-16] 2007, xxxi, 135, 276, 295-296.

122. Engels. Preface to the 1st German Edition in Marx ([1847] 1955).

quantity of labor required to produce it. In this way, they justified their claim that the whole product obtained from the production process must belong to workers.<sup>123</sup>

Even though Owen pioneered the implementation of the idea of co-operation for social change,<sup>124</sup> he acknowledged that the principles of the system of co-operation he was proposing were indebted to John Bellers,<sup>125</sup> a Quaker and a philanthropist. Indeed, according to Owen, the belief that the combination or co-operation of labor for the common benefit of society, supported by the proper training as well as by the appropriate social and working environment was a principle that belonged “all exclusively to John Bellers.”<sup>126</sup> Nevertheless, Owen took up these ideas to a different level. For example, as seen below, he developed a proposal for a new system of communities of co-operation that he implemented. The experiment, however, did not last for a long time.

Similar to Bellers, for Owen, the idea that human beings are a product of their social circumstances was critical. For that reason, in order to understand Owen’s views on co-operation and their implications in terms of inequality, it is indispensable to understand that believe.<sup>127</sup>

First of all, Owen believed that the idea of a *free will*<sup>128</sup> and the view of human beings as having *agency* and complete responsibility for their actions and beliefs ought to be demystified. The idea of a free will suggested that independently of human beings’

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123. Having as a main reference the classical labor theory of value, William Thompson developed, for instance, *Labour Rewarded. The Claims of Labour and Capital Conciliated; Or, How to Secure to Labour the Whole Product of Its Exertion ...* (1827). Thompson was critical of capitalism and suggested its substitution by a cooperative communism. It is well known that he, together with other “Ricardian” Socialists such as Thomas Hodgskin, Charles Hall, John Gray and others, believed that not only exchange value is created from labor, but also that labor should retain all that it produces.

124. See also Trincado and Santos-Redondo (2014, 266).

125. Bellers (1696) in Owen (2005 [1819-1825]).

126. *Ibid.*, 53.

127. Owen [1813-16] 2007..., xxiii.

128. *Ibid.*, 346.

circumstances in their life, they were the only responsible for deciding the type of life they wanted to live. For that reason, they were completely accountable for their present and future circumstances.

For Owen, such view was misleading. According to him, the environment in which human beings grew up influenced their beliefs, their decisions, and acts. Indeed, such circumstances irreversibly affected<sup>129</sup> their future. Human beings, then, were not completely responsible for their current and even future conditions. It was that environment, and not necessarily their will, which determined at least a great part of their life and position in society.

In other words, for Owen, circumstances were formed *for* the individuals and not *by* them.<sup>130</sup> This was a major foundation of his doctrine. For this reason, he proposed to generate a system of communities that would provide the best possible environment –in terms of material conditions and education- for society and in particular for the lower classes. Only co-operation in community would guarantee the creation and maintenance of such system.

From Owen's works, it is possible to extract the meaning of his notion of co-operation in community as the confluence of two aspects.<sup>131</sup> The first aspect is the *collaboration* among *all* members of society for production and the development of a system of communities that allow their reproduction, mutual life, and happiness. The members of that society would be fellow producers collaborating with each other with the

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129. Ibid., 116-117, 164, 252, 279, 287, 289, 301, 305.

130. Ibid., 248.

131. It is important to note that his view about the system, in which co-operation could unfold, was not static and changed over time (see what I have called his two "moments" in Table 1.1).

purpose of obtaining specific products for the community. This is his principle of *unity* and *mutual co-operation*.<sup>132</sup>

The first stages of the development of Owen's idea of co-operation take place within a system of competition. In the early stages of his ideas on co-operation, there was still a distinction between masters and workers. Indeed, during that period, Owen expressed to the rich that his views on co-operation were not meant to affect their current status,<sup>133</sup> but that it would just provide a better environment for the lower classes.<sup>134</sup> He wanted to prove to the rich that co-operation would have a positive effect on them also.<sup>135</sup> If workers collaborated with each other, as one force, they would have the strength to produce, to educate each other, and so forth for the benefit of society. If workers were to buy, they would do it *together*, so that they could afford to buy and to buy more. In other words, masters would be able to sell more and benefit from the better conditions of the lower classes.

Around 1848, however, Owen came to the conclusion that the attainment of real co-operation implied a change of economic system. He had experienced a turn in his political views and concluded that within a new system, the distinction between workers and masters would not be necessary.<sup>136</sup> Even though there were different occupations in the experiments Owen was able to implement,<sup>137</sup> in principle, everyone would be just a collaborator to each other and classes would eventually disappear.

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132. Owen [1813-16] 2007, 181.

133. He did not hold revolutionary views (in terms of a change of system) during the years when he developed the first part of his analysis.

134. As seen later, with the changes mentioned above, co-operation involved not only the improvement of material conditions, but the reduction of inequality.

135. Owen [1813-16] 2007, 202.

136. As explained later, the system of competition would not be necessary forever in Owen's view.

137. Ibid.

In the description of the structure of Owen's communities, there is, though, a distinction of co-operators based on age.<sup>138</sup> The first generation of those entering the communities would face a transition and adaptation to the new system. However, the following generations would be used to the life in community since their childhood. This would be a system of equality in different aspects, including in the introduction of each person to stages of learning and collaboration that would advance along with their age. Even though at the beginning there were classifications based on income, there will be a period in which everybody would be part of a cooperative and communal effort. According to this, then, when referring to co-operation, Owen meant first of all, *collaboration* between persons that are working together within and for their community (first within a system of competition with different social classes) and later under a different, more socially oriented system, with no classes.

The second aspect in the meaning of co-operation in Owen is his *co-operative system for buying and selling*. Its purpose was to finance the communities mentioned above. In principle, the idea of a co-operative was that the combination of people, for instance the poor, would have the advantage of buying in great quantities. In this way, they would be able to afford the consumption of products, which they could not afford otherwise. Additionally, parallel to this advantage was the aim of accumulating a fund that would allow the co-operatives to rent land to produce and generate resources for the creation and maintenance of the communities.

To summarize, when referring to co-operation, Owen meant, first, the collaborative way of performing activities for the production that would satisfy the needs of the members of the new communities, and second, the co-operative stores for the

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138. Ibid., 347-52.

distribution and consumption of what had been produced. The latter, at the same time, would serve to fund and maintain the new system of communities. Owen wanted to demonstrate that through these forms of co-operation, it was possible to reach the (social) happiness of mankind. He saw this as the central purpose of his system.



Table 1.1 Main Characteristics of Co-operation in Economic Thought in the 19th century

<p><b>Robert Owen (1813)</b>            First moment            Co-operation-----co-operation in community (within system of competition); goal: to change workers’ environment and improve their living conditions            ----- 1. Collaboration (between classes –workers and masters- and among those in the same class for production -workers; all members of a community)            ----- 2. Cooperatives (to finance communities)//parallel to traditional business            -----Expected result: educated lower classes, able to work for their own benefit and to choose a path of success;            not in conflict with masters; less poverty; benefits for higher classes (to sell more, to have more educated workers)</p> <p>Second moment            Co-operation-----co-operation in community (in a different system (e.g., socialism)            ----- 1. Collaboration (one class; all members of a community)            ----- 2. Cooperatives (to finance communities)            -----Expected result: educated lower classes, able to work for their own benefit and to choose a path of success;            conflict with masters is present until classes disappear; less poverty and inequality</p>
<p><b>Charles Babbage (1835) &amp; WS Jevons (1881)</b>            Co-operation-----Co-operation for production of a physical good or an intellectual result (no fundamental change in system)            -----Division of -physical and mental- labor (co-operation among workers)            -----Profit sharing (workers and capitalists)            -----Expected Result: expansion of the system; efficiency; reduction of conflict with masters; less poverty; benefits for higher classes (to sell more); less inequality (higher and fairer compensation for workers)</p>
<p><b>JS Mill (1848)</b>            Co-operation-----co-operation in production and co-operation as association            -----1. Simple and complex co-operation (under system of competition): “combination” or division of labor (workers)/first step for social improvement            -----Expected result: expansion of the system; efficiency; less poverty            -----2. Association (first step for social transformation)            -----Profit sharing (workers and capitalists as a first step of transitional stage)            -----3. Association in communities (to share the results of work/possibility of a different system)            -----Expected result: economic improvement and less poverty and inequality</p>
<p><b>Karl Marx (1870)</b>            Co-operation under capitalism-----co-operation for capitalist production/division of labor            -----profit sharing (mechanism of control and subjection of labor to capital)            -----Result: collaboration between classes; high inequality</p>

## 2.2.2. Charles Babbage and WS Jevons on Co-operation as Profit Sharing

In this section, I show that the type of co-operation found in Babbage and Jevons is mainly of an economic character, income related and with direct effects on productivity and efficiency. It does not require a change of economic system as in the case of Owen.

Similar to Owen, Charles Babbage was a visionary and an implementer of his ideas. Among other aspects, he created different designs of machines that he later attempted to develop. Babbage also traveled around the world and many of his journeys involved visits to manufactures to observe production processes.<sup>139</sup> This allowed him to provide detailed opinions and suggestions about those areas as well as improvements about contrivances related to them.

Like other Victorians, Babbage's work covered a variety of topics such as mathematics and natural science.<sup>140</sup> Another area of interest for Babbage was political economy, including the notion of co-operation. This section shows how Babbage played an important role in the development of ideas of co-operation as profit sharing in economics. These ideas generated an important impression in Jevons. Indeed, Jevons quoted pages of Babbage's work when considering this topic. Due the overlap on these ideas, Babbage and Jevons are included together in this section.<sup>141</sup>

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139. See Geary and Prendergast 2008, 572.

140. Niman 2008, 479–90.

141. It is important to mention that Jevons also acknowledge JS Mill's influence on the topic. See Bowman 1997a, 204.

Babbage's main contribution on political economy is his *On the Economy of Machinery and Manufactures* (1832).<sup>142</sup> He divided the work into two sections where he presents, first of all, the mechanical aspects of the use and advantages of tools and machines; their classification, as well as the implications of their use as a substitute or complement for human work. These chapters are full of details and descriptions of the processes involved in manufacture, the use of machinery and the savings of time result of their implementation, the economy of materials, and others. In the second section, Babbage concentrates in the political economy involved in the use of machinery and manufacture while considering their future prospects and relations to the advance of science. It is in this section where Babbage introduces his opinions about co-operation.<sup>143</sup> In his case, he means *profit sharing* between capitalists and workers.

The physical and mental division of labor played an important role as a foundation for co-operation in Babbage. In principle, both divisions of labor allow manufacture to grow.<sup>144</sup> The physical division of labor was linked to what Adam Smith had already identified in his work.<sup>145</sup> Workers collaborating with each other, through different but linked activities, produce faster and in higher quantities than if they were participating in each and all stages of the production process. The increase of dexterity in every worker, as well as the saving of time and the adoption of machinery that facilitated that production, were the causes of the increase in productivity generated by the physical division of labor.

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142. Babbage 1832.

143. However, he introduced profit sharing only until the 2nd edition of his book after being criticized for not introducing enough aspects related to the political economy of the system he was illustrating.

144. Also via technical change according to Babbage.

145. Smith 1776.

For Babbage, even though these principles had been obvious for a long time, there was still one advantage in terms of costs that had not been clarified. This was the possibility, for manufacturers, to buy the *exact amount* of *skill* necessary in each stage of the production process (the Babbage Principle<sup>146</sup>). In this way, producers could reduce costs by paying only for the amount of skill that was actually required.<sup>147</sup> This implied a more efficient allocation of workers.<sup>148</sup> According to Babbage,

[...] Yet it appears to me, that any explanation of the cheapness of manufactured articles, as consequent upon the division of labour, would be incomplete if the following principle were omitted to be stated.

That the master manufacturer, by dividing the work to be executed into different processes, each requiring different degrees of skill or of force, can purchase exactly that precise quantity of both which is necessary for each process [...] <sup>149</sup>

The advantages identified by the physical division of labor were also present in the *mental* division of labor signaled by Babbage. Just as the work of laborers in a factory could be divided into different tasks for the creation of physical products, workers with different mental abilities and skills could be divided in different tasks that would lead to the production of a different type of *intellectual* product. The example Babbage introduces is the calculation of trigonometric and logarithmic tables in which workers

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146. Cord 2017, 283.

147. Babbage was careful to explain that this principle was even more important for large manufacturers. Babbage 1832, 173-174. The latter is also part of the distinction he made between being a maker and being a manufacturer, 99. The size of the manufacture would also be determinant for the promotion of technical change via the division of labor. Both Marx (in Capital Vol. I) and Mill (Principles) acknowledge knowing Babbage's work in this regard.

148. An attempt to allocate the more suitable worker to a specific task.

149. Ibid., 137. As noted by Babbage, Melchiorre Gioia had already specified this principle in 1815.

were divided according to three different types of mathematical skills,<sup>150</sup> where high skilled workers would be more expensive and difficult to replace compared to those of intermediate or low mathematical skills.

The mental division of labor enabled the hiring of only the mental skill required in each step of the process of production so that underutilization of the abilities of the most skillful workers could be avoided, and vice versa. At the same time the cost of all mental skills could be kept in that sense to a minimum necessary.<sup>151</sup> The latter would allow time and money savings. The possibility of hiring only the necessary amount of skill in each stage of production plus a large division of labor could reduce the time of apprenticeships, among others, due the reduction of the unproductive phase of apprentices, indirectly contributing to reduce more costs.

Then, the first characteristic of co-operation in Babbage's thought is, first of all, collaboration between workers during the division of labor while producing a physical good or an intellectual result.

The second type of co-operation identified in Babbage, and also in Jevons, is the one between capitalists and workers via profit sharing.<sup>152</sup> This is a conscious or direct cooperation between classes with the aim of mutual participation in profits. This is

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150. The project to which Babbage referred to is the one organized by M. de Prony in which he acknowledges the implementation of Adam Smith division of labor. Note sur la publication, proposée par le gouvernement anglais des grandes tables logarithmiques et trigonométriques de M. de Prony, De l'imprimerie de F. Didot, 1 décembre 1829, p. 7. In Babbage 1832, 154-7.

151. Requisites for the success of the division of labor, according to Babbage, are the high or sufficient demand of production as well as a large amount of capital for the arts where it is implemented. Babbage 1832, 162.

152. John Bates Clark also considered the issue of profit sharing. See his Profit-Sharing, Old and New. The Harpers Monthly, April 1905, 772-776.

Babbage's explicit type of co-operation addressed in his *On the Economy...*, the same work Jevons referenced in his own work.<sup>153</sup>

Both Babbage and Jevons wanted to show, first of all, that workers interests were not separated from those of masters. In this way, the profit sharing aspect of what they considered a *new system*<sup>154</sup> was seen as a suitable incentive for co-operation between these two classes.<sup>155</sup> At the same time, according to Babbage this would allow workers to obtain a higher and fairer compensation for their work.

Profit sharing under Babbage's scheme of payment, and therefore in Jevons's, involved at least two important features. On the one hand, it would create a different atmosphere at the working place.<sup>156</sup> Since workers would have a direct part in the profits, there would be an incentive to use their talents and skills towards the improvement of the business and to cooperate to guard business' interests (which now are also their own). For the latter, and as part of their co-operation to business, they would have to collaborate with and to monitor each other. Overall, the latter would have a benefit on productivity. This suggests that unlike Owen, in the case of Babbage and Jevons, co-operation did not involve major changes in terms of the economic system. It involved improvements for its expansion.

On the other hand, this system had the particularity of making workers participate not only of the profit of the business during times of prosperity, but also of its losses during difficult periods. Every person independently of his role in the business "should

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153. In his *Primer on Political Economy* (1880), 80. And in his *Methods of Social Reform* (1883), 118.

154. Babbage (1832). Third Ed. viii, 250-259.

155. It is important to note that when describing more specifically his system, Babbage emphasizes that it was ideal for workmen of high character and skill, *Ibid.*, 257.

156. As seen in section III, Marx also refers to this only as a 'supposed' advantage of co-operation since he actually saw it as part of the despotism from capitalists to workers.

receive one half of what his service is worth in fixed salary, the other part varying with the success of the undertaking.”<sup>157</sup> “If the factory went on prosperously, the wages of the men would increase; if the sales fell off they would be diminished.”<sup>158</sup> Hence, unified interests and class collaboration were part of the advantages derived from Babbage’s scheme of payments proposal. Yet, a potential vulnerability for workers was revealed in that total workers’ compensation could be affected either by the good or bad business periods.

The bonus system and the proposal that an important part of workers’ compensation (after wages) should come from profits are the core principles in Babbage’s (and Jevons’s) system. Its major challenge, according to Babbage, were large capitalists’ acceptance and implementation of the new scheme due to their fear that workers’ share would end up being too high. For Babbage, that was not possible because the increase in total profits from co-operation would be sufficient to cover workers’ share as well as to keep a high share for masters.

Another challenging aspect in Babbage’s scheme of payment was to establish the division of profit for the use of capital and labor. The difficulty could appear when the capital supplied by each partner was different. In that case, Babbage established that “the proportion must be left to find its level”<sup>159</sup> so that experience would take care of it. Laws relating to partnerships would have to change to accommodate the new system. Finally,

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157. Babbage 1832, 256.

158. Ibid.

159. Ibid.

an important difficulty identified by Babbage was the dismissal of incompetent workers unwilling to keep with the required efforts to make business succeed.<sup>160</sup>

Babbage believed that the advantages related to the system would compensate these difficulties. One of the most significant advantages for him was the potential elimination of conflict between classes as represented by combinations. As Babbage explained,

The workmen and the capitalist would so shade into each other- would so evidently have a common interest, and their difficulties and distresses would be mutually so well understood that, instead of combining to oppress one another, the only combination which could exist would be a most powerful union between both parties to overcome their common difficulties.<sup>161</sup>

Jevons was also knowledgeable of the importance of classes' perception of common interest in different areas, which would potentiate the progress of the economic and social system in his view. In a Letter from Thomas E. Jevons (TEJ) to William Stanley Jevons (WSJ), the former acknowledged to WS Jevons the importance of "common object[s] of rejoicing among all classes" because that is "likely to create more sympathy between them."<sup>162</sup>

To summarize, in contrast to Owen, Babbage and Jevons's view on co-operation are, first of all, less challenging for the economic system of the time. It is mainly co-operation for the efficient production of a physical good or an intellectual result as well

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160. It is important to note that these views may have also influenced Jevons on his ideas about labor unions, as seen in Chapter 1 of this dissertation.

161. Babbage, [1832] (1841 version), 256.

162. In the letter, TEJ uses as example of common object of rejoicing the devotion for Princess Alexandra shown among the British of all classes. TEJ to WSJ, March 21st, 1863. In the Seton Jevons family papers, 1780s-1930, Mss 0005, in the Monsignor William Noé Field Archives & Special Collections Center, Walsh Library, Seton Hall University.



as for the creation of a harmonious atmosphere between masters and workers that may facilitate the expansion of the system (i.e., capitalism). Different from Owen, for whom co-operation was in principle a form of collaboration in community that could have an effect in the social environment and the future prospects of the lower classes, the type of co-operation found in Babbage and Jevons is mainly one of an economic character related to productivity and efficiency.<sup>163</sup> As seen below, when it comes to inequality, this form of co-operation can be linked to economic inequality.

### **2.2.3. John Stuart Mill and Co-operation as Association for Social Justice**

In this section, I show that there are at least two forms of co-operation that stand out in the case of John Stuart Mill. One is the simple or complex co-operation that takes place as part of the process of production; and second, the association that may exist between members of society (from different classes or not) in a particular system.<sup>164</sup>

In his *Principles of Political Economy* (1848<sup>165</sup>), similar to Babbage,<sup>166</sup> Mill refers first to a form of co-operation between persons of the same class. It is the one between workers, a “combination” of workers in terms of the organization of production, or the work developed by different persons under the division of labor identified by Smith and Babbage previously.

According to Mill, this form of co-operation can be *simple* or *complex*. The simple one alludes to a form of collaboration and “mutual assistance” between workers

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163. Even when considering topics such as education, Jevons associated it to productivity. See Bowman 1997b, 455-477.

164. See also Smith 1998.

165. Mill [1848] 1909.

166. And in some way also to Owen.

laboring on the same set of operations, in the same field of work. Workers assist each other to obtain the products they need to subsist, for which they do not produce a surplus. According to Mill, this form of co-operation is “the first step in social improvement.”<sup>167</sup>

On the other hand, workers collaborating with each other in order to produce a surplus product that will be used for exchange characterize the complex form of cooperation (the second step of social improvement). This one involves, as some of the cases above, an indirect, not necessarily conscious, collaboration between workers laboring in different fields; their work will eventually be used for the reproduction of workers in other fields. “Every person who took part in producing food or erecting houses for this series of producers, has, however unconsciously on his part, combined his labour with theirs.”<sup>168</sup>

Moreover, complex cooperation involves the accumulation of capital for the expansion of production and employment. At the same time, complex cooperation involves a *high* division of labor<sup>169</sup> and an increase of productivity<sup>170</sup> as a result of the increase in workers’ dexterity, time saving, and innovation. It also allows reducing costs - as Gioia and Babbage previously pointed out.<sup>171</sup> From this perspective, then, the simple and complex forms of co-operation between workers are indispensable forms of co-operation for they trigger the improvement and expansion of the system.

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167. Marx also identified this form of co-operation as seen later. See also Mill [1848] 1909, 117.

168. Ibid., 118.

169. Which, according to Mill, can only be limited by the size of the market, workers’ indolence, or the nature of certain employments that do not allow for simultaneous operations. Ibid, 124-25.

170. This productivity, besides being influenced by time and place, is also influenced by natural advantages; the greater energy of labor; skill and knowledge; the superiority of intelligence, and the “security” or the trustworthiness in the community. Ibid. 122-30.

171. Mill, however, also offered counterexamples of the ideas presented by Babbage in terms of the productivity of someone working in the same activity during long periods of time. Ibid, 125-26.

The second form of co-operation in Mill is *association*.<sup>172</sup> This form of co-operation can also adopt two forms. On the one hand, similar to the scheme of profit sharing by Babbage and Jevons, it may take place among persons of different classes (i.e., capitalists and workers). It could take the form of a different payment system instead of traditional wages, particularly *via* profit sharing. On the other hand, it could take a more advanced form if the co-operation happens among members of a more advanced state of society.<sup>173</sup>

The second form of association could be experienced only under a different state of society. In this state, association would be among members of a society laboring with each other and sharing among themselves the product of their work.<sup>174</sup> This form of co-operation is one “of the labourers themselves on terms of equality, collectively owning the capital with which they carry on their operations, and working under managers elected and removable by themselves.”<sup>175</sup> This is similar to the system Owen had already popularized with his ideas and experimental communities in Europe and in the U.S. As explained below, in contrast to Owen, Mill believed that the elimination of competition was not a requirement for the implementation of this type of cooperation.

Mill acknowledged that Babbage had already exemplified that the form of association as profit sharing between capitalist and workers had taken place more than

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172. Different from socialists, according to Mill, co-operation or association was only the first step of a social transformation. It would take some time to arrive to a state where socialism can be fully embraced. The main factor to guarantee the success of the latter would be the increase of intelligence and reasoning by the laboring classes. If they had not reach a higher understanding, they could not be prepared to assume socialism according to him. Ibid., 772. Mill believed the second form of association would be unrealistic until the working classes reach a more mature level of education and of understanding of its implications.

173. In this state, there is no distinction between a productive and an idle class because all persons would be productive. Ibid, 752-753.

174. Ibid. 764. Before a system like this one takes place, partnerships between workers and capitalists as well as those among workers could coexist during some period of time. Ibid. 790-791.

175. Ibid. 773-774.

once in the past (e.g., in fields such as mines, cotton, wool, and fishing) in France, Germany, Switzerland, and England<sup>176</sup> and that its benefits were related to risk and costs sharing, and the increase of workers' interest in the prosperity of the business. For Mill, the latter was a form of co-operation that even though had advantages in the past, it was only a preamble for a most advanced state of association. Similar to Owen, then, Mill thought that the second form of association was the form that would eventually predominate, though again, only in the future.

Mill perceived that disadvantages of co-operation as association in profit sharing could appear due to the potential uncertainty for capitalists when having to share profit and information on their business with workers. Moreover, there could be periods of irregular earnings in which they would have to borrow to compensate for that lack of funding during difficult years. Yet, the advantages from profit sharing would be greater than these disadvantages. The improvement of discipline, "intelligence, independence and moral elevation"<sup>177</sup> would compensate drawbacks. A new character, dignity, and pride in workers would be generated. Besides, as also Babbage had pointed out, under this system, workers would not feel the need of combination to fight for their own interests.<sup>178</sup>

Finally, as mentioned, in spite of the similarities in some of the ideas about co-operation between Mill and Owen, their ideas are not identical. A major point of contrast between them is related to the system of *competition*.<sup>179</sup> Even though both agreed that changes in the system were necessary to develop association of interests, Mill did not share Owen's and other socialists' claims on competition -and private property- as an

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176. Ibid., 783.

177. Ibid., 765.

178. Ibid., 779.

179. See also Persky 2016, 2.

obstacle for the improvement of society.<sup>180</sup> Indeed, for Mill the real problem was not competition but “the subjection of labor to capital and the enormous share which the possessors of the instruments of industry are able to take from the produce...”<sup>181</sup>

For Mill, the potential disadvantages of competition had been outweighed. If they were true, it was also true that competition had advantages such as preventing monopoly, encouraging innovation and change *via* “judicious” risks, efficiency, and personal improvement,<sup>182</sup> which was for the benefit of everybody.<sup>183</sup> For that reason, he concluded that *all* forms of competition –with the exception of the one among workers– were beneficial for workers.<sup>184</sup> Competition among associations should be encouraged because it would be for the benefit of all.<sup>185</sup> For Mill, then, competition was the necessary guarantee against the natural tendency in human beings to a passivity that could prevent social improvement.<sup>186</sup> Thus, unlike Owen, for Mill, co-operation and association could and should coexist with competition.<sup>187</sup>

In conclusion, in this section, we saw that the economists studied here developed different notions of co-operation along the 19<sup>th</sup> century. Co-operation commonly included two components as mentioned before. One, collaboration in the process of production; and second, a social or “economic system” in which classes (or the lack of classes) play an important role.

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180. Owen’s view on competition is analyzed in the next section, for instance.

181. Mill [1848] 1909, IV, 7.64.

182. *Ibid.*

183. *Ibid.*, 792-794.

184. The elimination of competition between workers could be an option only when the principle of association became universal.

185. Owen., 793.

186. Ultimately, if wages were to be defined by competition, it was for the good of everybody according to Mill. The lack of competition could encourage the maintenance of mediocre workers just for tradition.

187. *Ibid.* Preface to the 3rd ed., xxx.

## 2.3. The Relationship between Co-operation and Inequality

Owen's ideas on co-operation were interconnected to ideas on inequality. His view of the importance of the social environment that surrounded people's lives was relevant in this relationship as well. Like the poor, the rich were not independent of the circumstances that surrounded them and their ancestors. It was these circumstances, which played a crucial role in the poor's and the rich's decisions and in their future condition.

Changing the poor and working classes' environment through education would be an effective strategy to deal with inequality in Owen's view.<sup>188</sup> Even though Owen was not religious, he reminded the government and the nation<sup>189</sup> what the Bible said about education as a way to persuade them for a change: "Train up a child in the way he would go and when he is old, he will not depart from it."<sup>190</sup>

In addition, according to Owen, the role of co-operation was critical to overcome the inequality that had resulted from the belief of a *free will*.<sup>191</sup> As seen in the last section, only when the poor could combine to work together, they would be able to overcome the inequality, ignorance, deprivation, and the unhappiness they had been experiencing for a long time. This would be accomplished with new communities of co-operation with a different environment for the prosperity of the lower classes (this was Owen's principles of *prevention*).<sup>192</sup>

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188. This was a period of time in which he had not changed yet his political views in terms of the economic system. Owen [1813-16] 2007..., 265-266.

189. Ibid., 103-104.

190. Proverbs 22: 6 in Owen ([1813-16] 2007).

191. Ibid., 164-167.

192. Ibid., 138.

Owen also addressed workers' poverty, lack of education, and other disadvantages related to the inequality of the time by suggesting changes in terms of labor law (e.g., elimination of child work and the reduction of working hours<sup>193</sup>), changes in education (for children and adults), and in the economic system.

According to Owen, in a system of competition, the gains of masters were perceived as obtained at the expense of workers, which generated antagonism. A different system would create a better atmosphere since it would stimulate good feelings among people, more efficient and committed workers, and better economic conditions for the lower classes.

As mentioned previously, Owen's political thought was not the same throughout his life. When Owen developed his first ideas on education and on the importance of people's social circumstances for their personal development, he did not consider the possibility of a political revolution as a way to reach his objectives. He believed that the introduction of a new system of production would be accepted because of the advantages brought with the new communities of co-operation.<sup>194</sup> If masters understood these advantages and how they would be economically benefited,<sup>195</sup> changes could be expected without the need of a political revolution. Workers, by union and co-operation would obtain their own resources,<sup>196</sup> without affecting the rich. At that time, Owen was also of the opinion that workers needed to understand that blaming masters about all bad circumstances was a great evil.<sup>197</sup> Likewise, he expected masters to understand that if

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193. He became particularly acquainted with this situation during his time as a manager in the Mills of Manchester.

194. Owen [1813-16] 2007, xxix.

195. Ibid., 100.

196. Ibid., 245, 297.

197. Ibid., 244, 297.

they ignored this opportunity of change, this would only bring a dangerous state for the country and masters' status.<sup>198</sup>

It has been suggested by Claeys (1991)<sup>199</sup> that it was only around 1848 that Owen would appreciate the potential that a political revolution could have for social change. Owen interpreted that the system of competition allowed the perpetuation of the circumstances, such as inequality, he considered perverse for society.

Owen considered, then, competition and the system funded in it as the root of the evils of society. In his *Manifesto*<sup>200</sup> (1840), Owen explained that competition, the one used for “producing and distributing wealth,” generated rivalry between individuals involved in the same trade. When individuals in different companies, but in the same trade, created the same type of product, they would try to sell them without any consideration of the sales of the rest of producers. When considering the system as a whole, the latter meant that, due competition, individuals were inevitably involved in a “civil warfare.”<sup>201</sup> A system based on competition created unnecessary feelings of antipathy between individuals and those in different enterprises, which also generated the impression that individual company owners had interests that were different with respect of each other.<sup>202</sup>

According to Owen, irrationality had permitted the system of competition to spread and prevail. Certainly, this system allowed the creation and the distribution of wealth, but for Owen it was important to show that other systems could perform better for the majority of people. Under a system of competition, improved conditions for one part

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198. Ibid., 98, 238-239.

199. In Owen. Ibid.

200. Owen 1840.

201. Ibid., 46.

202. Ibid., 47.



of the society were being obtained at the expense of the misery of many. In Owen's words,

Individual and national competition and contest are the best modes that, have-been, or perhaps can be devised, under the existing irrational notions of the world, by which wealth can be created and distributed and the object desired is thereby effected, in some manner, to a certain extent. But it is obtained by creating and calling into full action, the most inferior feelings, the meanest faculties, the worst passions, and the most injurious vices, which can be cultivated in human nature; and the objects sought to be obtained by these measures, destructive as they are to the well-being and happiness of mankind, are yet most imperfectly obtained.<sup>203</sup>

A system of competition created not only a rivalry between producers but it also encouraged the adoption of meager conditions for workers who had to sell their labor to merely survive. As mentioned, Owen knew very well this due his experience at the mills at Manchester. In his address about the employment of children in manufactures in 1818, Owen pointed out how the future of society, or children, was undermined by the prioritization conceived to immediate gain.<sup>204</sup> Masters' eagerness for profit had created the worst effects of the system of manufacture on children according to him.<sup>205</sup>

Yet, children were not the only group affected by the system of competition. Owen identified three ways in which all those belonging to the working classes could be oppressed.<sup>206</sup> First of all, they were oppressed when neglected as children as just seen.<sup>207</sup>

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203. Ibid., 46.

204. Owen [1813-16] 2007, 232.

205. Owen's plans for a new system included an increase of the required age for children to start working. It would be raised from around 5 to at least 12 years.

206. Owen [1813-16] 2007, 237.

207. He referred to the employment of children in manufacture in 1818. A year in which he still held a non-revolutionary view about the social changes he envisioned later.

Second, workers were oppressed when overworked, and finally when paid low wages. These three modes of oppression that perpetuated inequality were encouraged by the system of competition according to Owen.

In his Report to the Country of Lanark<sup>208</sup> he also established that labor should receive ample and fair remuneration since he was aware that workers generated a surplus product of which they could have a greater participation. Owen wanted to reduce the higher classes' anxiety about change letting them know that all changes were with the purpose of increasing the advantages of the poor as well as those of the rich. To educate workers, for instance, was also for the rich advantage. More educated workers would be more responsible, waste less, and so forth. In other words, he suggested that workers well educated and directed under a new system of co-operation would be more powerful than competition itself.<sup>209</sup>

The system of competition generated distress to workers, and it contributed to perpetuate inequality. If workers' environment did not change, it would create a vicious cycle from which the lower classes would not be able to escape. The gap between the low and the higher classes could not be reduced in these circumstances because there would be no stimulus for change among the lower classes and because competition and the survival of business would encourage masters to continue adopting strategies that would maintain workers in a less privilege position.

If instead of competition, the system of co-operation in communities was adopted, the opposite or at least a reduction of the gap between those classes could be attained. Owen established, for instance, that the markets of the world would not fail if workers

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208. Owen 1821.

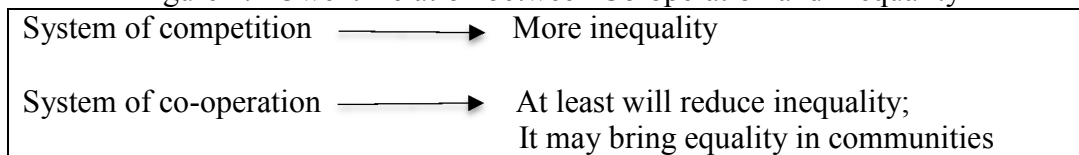
209. Owen [1813-16] 2007, 238-239.

were better paid.<sup>210</sup> Co-operation between fellow workers, then, would be the way to bring dignifying conditions for them. Yet, he was aware of the difficulties of implementing such principle. He established that,

The markets of the world are created solely by the remuneration allowed for the industry of the working classes, and those markets are more or less extended and profitable in proportion as these classes are well or ill remunerated for their labour. But the existing arrangements of society will not permit the labourer to be remunerated for his industry, and in consequence all markets fail.<sup>211</sup>

A system that generated weak people, physically and mentally, like the one based on competition, could not bring prosperity to everybody at the same time. In this sense, a system based on co-operation, for Owen, was superior than the one based on competition (see Figure 2.1).

Figure 2.1 Owen: Relation between Co-operation and Inequality



Another example of Owen's view on co-operation and the relation to inequality is that in order to remove any obstruction towards the amelioration of society, he proposed the change of the then current "standard of value" based on money to a natural one based on labor. He claimed to have confirmed the "theory which practice first suggested [...] that the natural standard of value is, in principle, human labour, or the combined manual and mental powers of men called into action; and that it would be highly beneficial, and has now become absolutely necessary, to reduce this principle into immediate

210. Ibid.

211. Ibid., 270.

practice.”<sup>212</sup> With this Owen wanted to counteract what he saw as the “evils” of the technical progress obtained from the industrial revolution. He recognized that both the steam machine and the spinning machine had magnified the “productive powers” of labor not only in England, but also in other countries. However, as mentioned, Owen was convinced that different social classes did not equally enjoy all the increase of wealth obtained through these advancements. He established that,

They [innovations] have created an aggregate of wealth, and placed it in the hands of a few, who, by its aid, continue to absorb the wealth produced by the industry of the many. Thus the mass of the population are becom[ing] mere slaves to the ignorance and caprice of these monopolists, and are far more truly helpless and wretched than they were before the names of WATT and ARKWRIGHT were known.<sup>213</sup>

Owen believed that the current organization of society put a limit on the benefits it could achieve with the increase in wealth brought by innovation, which according to him, was contradictory to what he identified as the goal of society: not only to create wealth, but to “enjoy” it.<sup>214</sup> Only when the change from a standard of value based on metals to a standard of value based on labor was implemented, labor would be “liberally remunerated,” which in turn, would guarantee high profits for society, including current landlords and capitalists.

Owen’s view of co-operation and its relation to inequality is part of a broad social concern. His system was not intended to address isolated economic problems as separated

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212. Owen 1821, 10.

213. Ibid., 15.

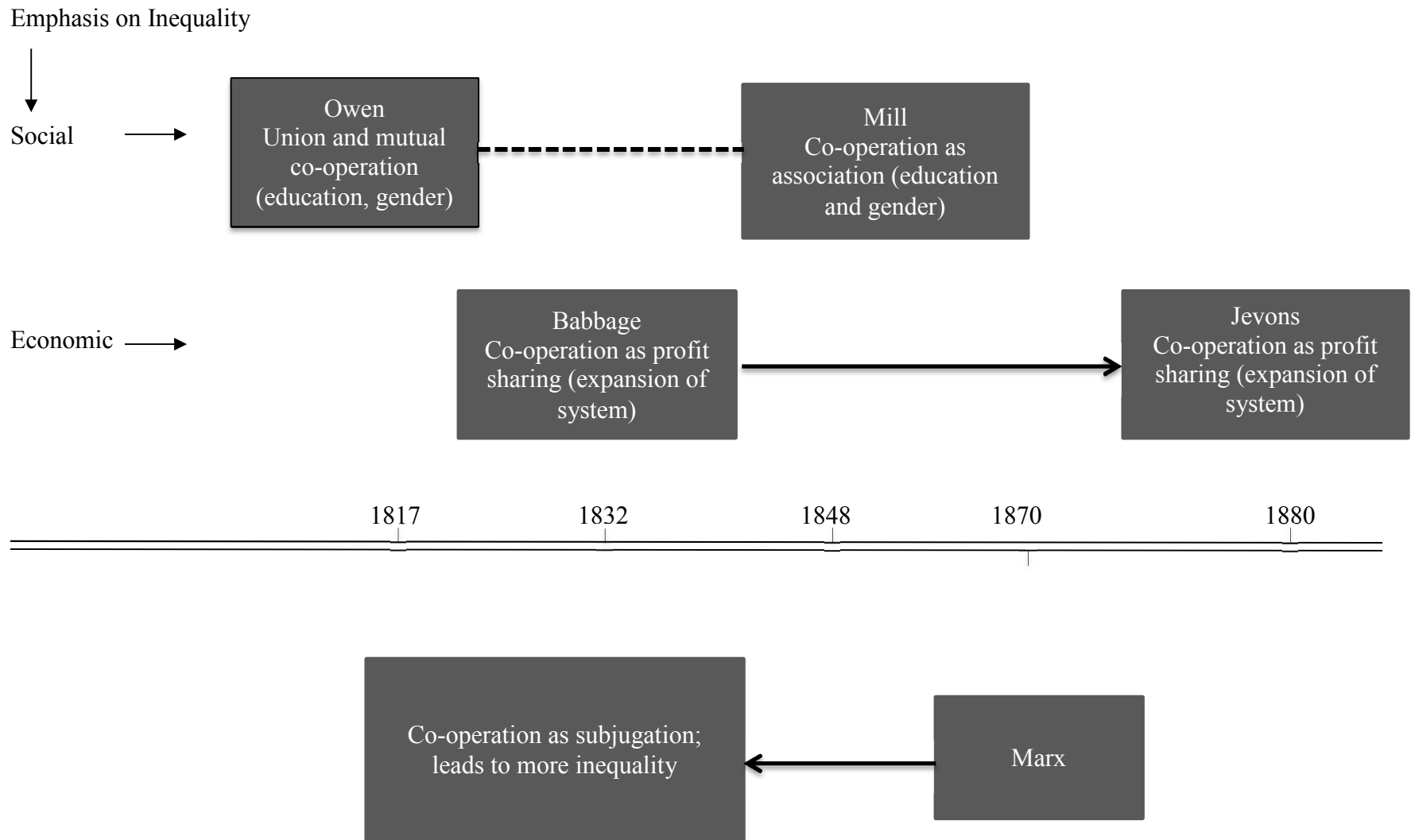
214. Ibid., 20, 60.

from other social aspects related to the system of competition. His plan included the possibility of changing the circumstances of the poor, the uneducated, of women and so forth while at the same time, it considered changes in the economic system via the new organization of production and consumption.

This suggests that Owen's view on co-operation is socially-oriented and multidimensional due its economic and social scope. In Owen's system, economic outcomes such as profits were important insofar as they allowed the expansion of the co-operative and social system (Figure 2.2 group authors according to their view on co-operation and the relation to inequality).

All the authors considered in this research claimed to offer recommendations to achieve a better social order. As seen here, and below with the other authors, they had different views on how to do it. For Owen, the improvement of the working classes was a starting point to generate improvements for society (as seen above, he established that "workers were more powerful than competition"). As seen next, Babbage and Jevons's view, in contrast to Owen, was that it was necessary the improvement of the economic system first in order to bring benefits for everybody.

Figure 2.2 Authors grouped by their ideas on co-operation and their relation to inequality



Similar to Owen, Babbage's and Jevons's notion of co-operation had a link to inequality. Their notion of co-operation was founded on the idea that even though workers had an important participation in the generation of profits, they did not enjoy a compensation proportional to their work, which in turn generated major economic and social differences between workers and masters that created an obstacle for the economic system to expand. As seen previously, they believed that a different scheme of payments for workers was necessary and that it should be based on profit sharing. The latter would allow workers to obtain a higher and fairer compensation according to them.

Nevertheless, it is important to remember that a crucial feature in Babbage's and Jevons's ideas in relation to co-operation was the fewer requirements in the form of changes to the economic system than the one introduced by Owen. Babbage and Jevons's concern was that, within the capitalist system, workers receive a compensation that allowed them to enjoy a bigger part of the product of their work and feel included in the participation of profits. This feeling could contribute to the improvement of the relationship between workers and masters and to the stability of the system.

For this reason, Babbage's and Jevons's co-operation and related ideas were part of a co-operation plan devised for the expansion of the economic system. Babbage recognized, for instance, that there were economic differences between classes, but he did not link this to the need of a change in the economic system. The issue for Babbage was mainly how to make the same system more productive and efficient because that would ultimately benefit all classes.

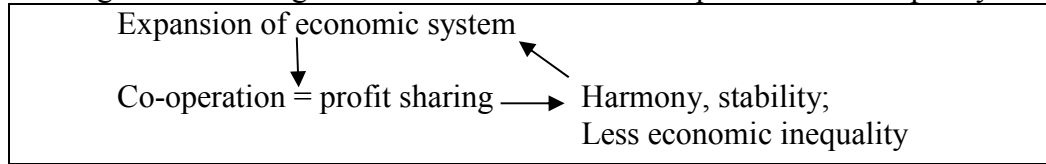
In Babbage's own words, this system "appears to me to be pregnant with the most important results, both to the class of workmen and to the country at large; and which, if acted upon, would, in my opinion, permanently raise the working classes, and greatly extend the manufacturing system"<sup>215</sup> (see Figure 2.3) This would be guaranteed by the employment of the most skillful men (only men of "high character and qualifications"<sup>216</sup>), which would possess a small amount of capital and which would be put together with other small manufacturers with larger portions.

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215. Babbage 1832, 253.

216. Ibid.

Figure 2.3 Babbage and Jevons: Relation of co-operation and inequality



As mentioned, Babbage's and Jevons's scheme of payment is characterized by maintaining a portion of the total payment to workers in the form of wages and another in the form of a bonus (due innovation and suggestions) and profit sharing. According to Babbage, "every person employed should derive advantage from the success of the whole; and [...] the profits of each individual should advance, as the factory itself produced profit, without the necessity of making any change in the wages."<sup>217</sup> His wish was to generalize the implementation of this scheme of payment. "It should become general, because no other mode of payment affords to the workmen a measure of success so directly proportioned to the industry, the integrity, and the talent, which they exert."<sup>218</sup>

The bonus mentioned above was another reason the system could contribute to the stability and expansion of the system because it would encourage workers to innovate and to inform about new discoveries in production. In order to guarantee this, Babbage believed that the compensation workers obtained from such innovations should be higher when applied to the establishment they work for than the one they could receive if they were to apply it somewhere else. This system of rewards for innovations and improved methods was inspired in the division of labor.

Finally, the system endorsed by Babbage and Jevons had an important difficulty that could paradoxically reinforce inequality. As mentioned in the first section, an important feature of co-operation in this system was the generation of a collaborative environment between workers and masters given that workers could end up perceiving themselves as businessmen and would monitor each other as a way to improve profits. Yet, the potential vulnerability for workers of a compensation affected by good or bad business periods could still raise antagonistic feelings since the economic consequences of the bad periods could affect workers more than masters.

In any case, the important difference between this system and the one by Owen, and Mill as seen below, is the preeminence of the prioritization of the economic system in

217. Ibid. 251.

218. Ibid. 253.



order to obtain social improvement. The resulting efficiency from harmony and co-operation from workers could produce social benefits. Thus, Babbage and Jevons's view about cooperation as profit sharing dealt with economic inequality that aimed first of all for the continuation and development of the capitalist system. Only after that, social improvement could be attained.

In order to consider Mill's ideas of co-operation and their relationship to inequality, it's important to note the link of his ideas of co-operation with what he considered the conflicting theories of dependence and independence regarding the laboring classes.

In the "Probable Futurity of the Laboring Classes," in Book IV of his *Principles*,<sup>219</sup> Mill explained that the state of social relations, where some worked and others were idle, did not have to be permanent. A more desirable state of society (one in which all persons were productive<sup>220</sup> and in which the laboring classes were socially and morally independent due less poverty and inequality) had yet to arrive. This had created different interpretations about the more suitable way to accomplish a better situation for the laboring classes. The theories of dependence and independence were an example of this.

The *theory of dependence* argued for the incapacity of workers to improve their own conditions. It is the "higher classes'" responsibility to protect them and to establish ways in which the latter could ameliorate their status. According to this theory,

The lot of the poor, in all things which affect them collectively, should be regulated *for* them, not *by* them. They should not be required or encouraged to think for themselves, or give to their own reflection or forecast an influential voice in the determination of their destiny. It is supposed to be the duty of the higher classes to think for them, and to take the responsibility of their lot.<sup>221</sup>

The maintenance of the system, and indirectly of the inequality between the both classes, was warranted under such theory. If the rich, which were also the educated and powerful,

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219. Mill [1848] 1909, 752.

220. At the time of the publication of his *Principles* in 1848, he considered a laboring class and a non-laboring class, which he hopes to become productive. That would require a different state of social relations. *Ibid.*

221. *Ibid.*, 753. This is different from Owen's suggestion of changes in the environment that surrounded the working classes and the poor. The latter would lead to the improvement of their condition and would allow them, at the same time, to become independent. Different from Owen, the theory of dependence implied the need for protection and guidance for workers, which at the same time, indirectly allowed the perpetuation of their dependence to masters.

were in charge of the decisions in relation to the lot of the poor and workers, the latter would not be able to emancipate.

Mill was aware that inequality had an economic dimension, but he was also aware about other dimensions. For instance, he pointed out how the situation of privilege for the rich was replicated in terms of gender. Women<sup>222</sup> of both the lower and higher classes were subordinated to men. Again, Mill expressed doubts about the theory of dependence as the proper way to solve the situation experienced by women and the poor. The theory of dependence responded to an idealization of the past, a romantic idea of a form of protection from a parent to a child that was not applicable in the current situation.

Besides, according to Mill, the higher classes had never assumed the role the theory of independence conferred to them. Even if there were instances in which someone from the higher classes was protective to workers, as a class, they had not played the role of an objective and protective guide to others. Instead of working to reduce the economic and social deprivation of the poor, those in charge of making decisions for them were concentrated in their own improvement. “All privileged and powerful classes, as such, have used their power in the interest of their own selfishness, and have indulged their self-importance in despising, and not in lovingly caring for, those who were, in their estimation, degraded, by being under the necessity of working for their benefit.”<sup>223</sup> The theory of dependence helped strengthening the powerful and to maintain the status quo in this sense.

Indeed, for Mill, the selfishness that had characterized the higher classes could be eliminated only insofar as power was withdrawn from them.<sup>224</sup> At the same time, Mill considered that by the time the higher classes were “prepared” to assume the role assigned to them by the theory of dependence, the laboring classes would be prepared to assume their own destiny so that the higher classes’ protection would not be necessary. Perhaps even more important to Mill was that there was no real danger from which the laboring classes (and women) needed to be protected against. A rude and early state of society, in which protection would have been necessary, did not represent their current reality, particularly considering that workers (as well as women) were more prepared

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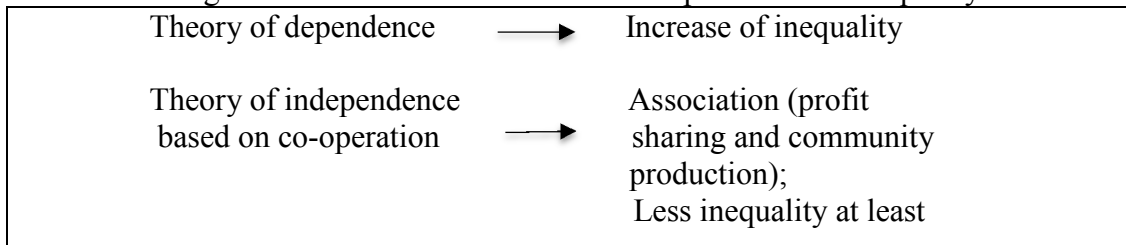
222. Ibid. 753, 755, 759.

223. Ibid. 754.

224. Ibid.

than before to have an independent livelihood.<sup>225</sup> The theory of dependence, therefore, had the disadvantage of the possibility of deepening the dependence and poverty of those in the lower classes (Figure 2.4).<sup>226</sup>

Figure 2.4 Mill: Relation between Co-operation and Inequality



Additionally, Mill was also aware that by the time of the writing of his Principles, workers had gained understanding about their situation and were more conscious about how their interests were opposed to those of the higher classes. The diffusion of ideas *via* trade unions, better schools, and access to some forms of communication (e.g., newspapers) had increased workers' intelligence and understanding about these aspects. As a consequence, workers became less willing to be guided by those not belonging to their own class. At least, they would not listen without questioning them. In this way, instead of reinforcing dependence, what seemed necessary for Mill was the increase of the poor's knowledge and understanding so that they could make their own decisions.

As part of his multidimensional approach on inequality, for Mill, the increase of intelligence that was taking place among workers could help bring independence for them as well as for women. In his own words,

The same reasons which make it no longer necessary that the poor should depend on the rich, make it equally unnecessary that women should depend on men, and the least which justice requires is that law and custom should not enforce dependence [...] by ordaining that a woman, who does not happen to have a provision by inheritance, shall have scarcely any means open to her of gaining a livelihood, except as a wife and mother. Let women who prefer that occupation, adopt it; but that there should be no option, no other carrière possible for the great majority of women, except in the humbler departments of life, is a flagrant social injustice. The ideas and institutions by which the accident of sex is made the groundwork of an inequality of legal rights, and a forced dissimilarity of social

225. Ibid, 755.

226. Ibid., 757.

functions, must ere long be recognised as the greatest hindrance to moral, social, and even intellectual improvement.<sup>227</sup>

Likewise, eventually, workers would also be ready to demand a different way of payment, which as mentioned above, is one of the forms of co-operation as association in Mill. A change of payment would involve a scheme that goes beyond a mere increase of wages according to Mill. For example, industrial partnerships characterized by profit sharing would be the main feature of this new scheme of payments. This would be the logical development of a society with increased awareness about the advantages of equality and the identification of common interests.

In the present stage of human progress, when ideas of equality are daily spreading more widely among the poorer classes, [...] it is not to be expected that the division of the human race into two hereditary classes, employers and employed, can be permanently maintained. The relation is nearly as unsatisfactory to the payer of wages as to the receiver. [...] Capitalists are almost as much interested as labourers in placing the operations of industry on such a footing, that those who labour for them may feel the same interest in the work, which is felt by those who labour on their own account.<sup>228</sup> [...]

But if public spirit, generous sentiments, or true justice and equality are desired, association, not isolation, of interests, is the school in which these excellences are nurtured. The aim of improvement should be not solely to place human beings in a condition in which they will be able to do without one another, but to enable them to work with or for one another in relations not involving dependence. [...] But the civilizing and improving influences of association, and the efficiency and economy of production on a large scale, may be obtained without dividing the producers into two parties with hostile interests and feelings, the many who do the work being mere servants under the command of the one who supplies the funds, and having no interest of their own in the enterprise except to earn their wages with as little labour as possible.<sup>229</sup>

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227. Ibid., 759. Including women in working life would also have the advantage of reducing overpopulation according to Mill, 760. See also Ward and McGlynn 2016, 227-253.

228. Mill [1848] 1909, 761.

229. Ibid., 763.

With this scheme of payments, Mill considered possible to reach a state of society -similar to the one Babbage had identified<sup>230</sup> in which workers and masters would become partners and hold common interests.<sup>231</sup> Mill saw the same advantages of profit sharing identified by Babbage. Similarly, he also concerned for the improvement in the distribution of production and for obtaining a larger remuneration for workers.<sup>232</sup> As seen above, Babbage considered distribution important as well, but different from Mill, his primary goal was the increase of efficiency and productivity because, in his view, this could create better social conditions.

Beyond profit sharing, Mill saw the association between workers (in an advanced state of society) as the possible way to bring equality in different dimensions (economic, gender, and so forth) as well as social justice<sup>233</sup> because of the freedom and independence promoted with it. Also, power, or the exercise of it (e.g., managers for instance) would not be the stimulus for profit or the end of it.<sup>234</sup> Workers would be in charge. While facing the anti-socialist reaction of the time, the police, and the government, workers would be responsible for the “brilliant” future “reserved for the principle of co-operation”<sup>235</sup> according to Mill.

Even if this form of co-operation stayed only at the level of consumption and distribution, without involving production, a great economy of resources would take place according to Mill.<sup>236</sup> The advance of co-operation would bring industrial order as well as the increase in the aggregate productiveness of industry by limiting the number of distributors (more workers will be available to work on production, for example), or by increasing the “stimulus given to [the] productive energies” of workers.<sup>237</sup>

Yet, the most important aspect perhaps for Mill was the potential for the moral revolution<sup>238</sup> that would be brought with this form of association between workers.

The healing of the standing feud between capital and labour; the transformation of human life, from a conflict of classes struggling for opposite interests, to a friendly rivalry in the pursuit of a good common to all; the elevation of the dignity

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230. Mill acknowledged that it was Babbage who “pointed out the advantage of extending the principle to manufacturing industry generally.” Ibid, 766.

231. Similar to Jevons, Mill was not referring to joint-stock companies. Ibid., 790.

232. Ibid., 752.

233. Ibid., 792.

234. Ibid. 781.

235. Ibid. 782.

236. Ibid., 789.

237. Ibid.

238. See also Verburg 2006, 225.

of labour; a new sense of security and independence in the labouring class; and the conversion of each human being's daily occupation into a school of the social sympathies and the practical intelligence.<sup>239</sup>

A situation like this would take place when the second form of association explained above multiply and predominate favoring a more equal state of society.<sup>240</sup>

## 2.4. Marx: Co-operation as despotism and inequality generator

In Chapter 13 of *Capital* (Vol. I), Marx introduces a definition of co-operation as well as an analysis of what it entails in capitalism. There are at least three major aspects that can be derived from his discussion on this topic. I present them in the following paragraphs considering their relation to the forms of co-operation and the ideas on inequality presented above. I include Marx separately from the authors above because his ideas add a new perspective to the discussion of co-operation. For instance, co-operation may not necessarily reduce inequality.

The first idea to note in Marx's analysis of co-operation is that, like the authors above, he considered that co-operation was related to labor and the process of production. Co-operation happens and comes to existence<sup>241</sup> during such process. In his definition of co-operation, for instance, Marx explains that co-operation alludes to a form of labor that is characterized by a *large* quantity of workers that work *together* according to a *plan* "whether in the same process, or in different but connected processes."<sup>242</sup> According to this, co-operation involves workers helping each other directly or indirectly (e.g., division of labor) for the consecution of production.

In addition, similar to the four authors above, for Marx, co-operation is not exclusive of the capitalist mode of production.<sup>243</sup> Yet, in contrast to some of them,<sup>244</sup> he concentrates in the characteristics of co-operation under capitalism. For instance, he associates the beginning of capitalist production, and the move from handcraft to manufacture, to a particular form of co-operation, which involves, as mentioned, a large

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239. Mill [1848] 1909, 789-90.

240. Ibid., 790-91.

241. Marx, [1867] 1992, 453.

242. Ibid., 443.

243. Ibid., 452-3.

244. Particularly Owen and, in some way, Mill.

quantity of workers employed by the same capitalist,<sup>245</sup> simultaneous work with the division of labor, and large scale production. In Marx words, “A large number of workers working together, at the same time, in one place (or, if you like, in the same field of labour), in order to produce the same sort of commodity under the command of the same capitalist constitutes the starting-point of capitalist production.”<sup>246</sup> From that point of view, co-operation materializes through the (unconscious) collaboration between workers of the same social class (simplest form of co-operation). However, as shown below, “co-operation” also happens and is reinforced indirectly by the conflict of interests and antagonism<sup>247</sup> between workers and capitalists.

The second major aspect derived from Marx’s ideas on co-operation is that, under capitalism, co-operation marks the appearance of a revolution in production and the labor process. A major evidence of this is that *value* is generated under co-operation. The starting point of capitalism and the collective activities by workers in the process of production coincide with the appearance of average social labor and the collective form of labor power. This collective power and the collective production capabilities (and their unique effects such as the efficiency and effectiveness<sup>248</sup> that can be generated only by collective labor power,<sup>249</sup> which are the result of the collective body of co-operators having “more eyes and hands” than the individual worker has an “omnipresent” character<sup>250</sup>) are the ones that count towards value and not the specific and individual ones that each worker possesses.

As noted by Marx, the collective working day, divided by the total amount of workers, generates average social labor. The labor time worked by the workers that produce value gravitates around such average. Therefore, it is the average determined under co-operation, the one that is the point of reference for minimum efficiency<sup>251</sup> and for the generation of value under this system. Likewise, only the individual capitalist that

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245. The concentration of large amounts of the means of production under individual capitalists is a condition for co-operation. The extent of co-operation, thus, depends on the extent of such concentration. Ibid., 448.

246. Marx, [1867] 1992, 439.

247. Ibid., 449.

248. Ibid., 446.

249. Ibid., 443, 445, 447.

250. Ibid., 445.

251. Ibid., 441.

is able to generate the type of work of a socially average character<sup>252</sup> would be able to engage in the valorization process that could increase the value of his or her capital.<sup>253</sup>

Furthermore, co-operation generates economies in the application of the means of production. The same tools, for instance, are used by a large amount of workers. But while those economies entail an increase in the usefulness of tools, they do not increase their value. The means of production transfer only a small amount of value to the also large amount of products that are obtained with them. According to Marx, it is as if part of the cost of the constant capital falls, which in turn generates a proportional fall in the value on the commodities. Therefore, co-operation also generates an economy in the application of the means of production. It generates an effect as if these means had cost less,<sup>254</sup> which also generate a decrease in wages.<sup>255</sup>

Co-operation generates an economy in the use of the means of production,<sup>256</sup> and by consequence an economy of time (e.g., not only shortens production time or extends the working day,<sup>257</sup> but it also allows to complete tasks on time<sup>258</sup>). The crucial aspect of this is that workers do not realize that it is their collective work who allows that efficiency. They see the means of production as something independent of themselves. For these reason, Marx points out that these effects of the collective labor power appear as a *gift* to the capitalist for the latter pays for the individual labor power that comes with each worker but not for the collective one that is generated when they work under co-operation.<sup>259</sup>

“On entering the labor process, they [workers] are incorporated into capital. As co-operators, as members of a working organism, they merely form a particular mode of existence of capital. Hence the productive power developed by the worker socially is the productive power of capital.”<sup>260</sup> The collective labor is then costless to the individual capitalist under which many are employed.<sup>261</sup> Finally, and in relation to this, workers do

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252. Ibid.

253. Ibid.

254. Ibid., 442.

255. Marx explains in Vol. I of Capital that the economy of means of production also affects the rate of surplus value to the total capital advanced, a discussion he postpones for Vol. 3 of Capital. Ibid. It is important to note that in that volume, Engels refers to the rate of profit. Marx [1894] 1993.

256. Also an economy of workers since fewer workers can be employed to generate the same amount of product, or more product with the same amount of workers. Marx, [1867] 1992, 447.

257. Ibid., 445.

258. For instance, in agriculture. Ibid.

259. Ibid., 451.

260. Ibid.

261. Ibid., 447.



not realize that their collective work stimulates them to work harder<sup>262</sup> and that, given their ignorance about the effects of their collective work, the whole process of co-operation also generates and indirectly reinforces<sup>263</sup> the inequality between workers and capitalists.

The third aspect that can be derived from Marx discussion on co-operation is that even though co-operation involves a form of harmony between workers and between them and capitalists, such harmony is based in the control of the latter over the former.<sup>264</sup> The collaboration between workers and their “unification into a single productive body, and the establishment of a connection between their individual functions, lies outside their competence. These things are not their own act, but the act of the capital that brings them together and maintains them in that situation.”<sup>265</sup> Workers are, then, subjugated by capital<sup>266</sup> and as long as this occurs, it is also an unconscious form of co-operation between workers and capitalists. The latter are in charge of the direction this harmonious form of co-operation.<sup>267</sup>

Similarly, the partnerships suggested by Babbage and Jevons are seen from this point of view as mechanisms of despotism to guarantee the continuation of the system under capitalists’ control. On the one hand, as seen above, with co-operation, the number of workers employed under capitalism increases and also stimulates their “animal spirits.”<sup>268</sup> Yet, parallel to this process is the development of workers’ wish to organize and resist the forces of capital. If workers co-operate with masters by not organizing at all (they only co-operate with other workers in the process of production, but not with them as a class that could organize in a labor union, for example), their resistance to the control of capital would be less, and this would allow a harmonious development of capitalism.

However, on the other hand, if workers organize in trade unions and strike or demand better working conditions and so forth, the control over workers and the maintenance of the system would not be so smooth. Given the deteriorated conditions of workers around the time of the writings of all the authors discussed here, the most likely

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262. Ibid., 443.

263. Ibid., 450.

264. As seen before, this can be interpreted as capitalists’ direction of production, but also, as seen below, as despotism. Ibid. See also Tinel 2013, 255.

265. Ibid., 449-50.

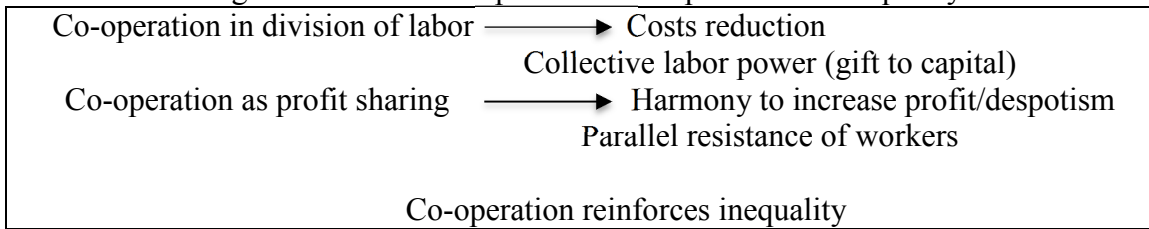
266. Ibid., 448.

267. Ibid. 448-49.

268. Ibid., 443.

scenario would be an antagonistic one with a conflictive working class. For that reason, different forms of control and exploitation of workers have to be developed by capital.<sup>269</sup>

Figure 2.5 Marx: Co-operation as despotism and inequality



For Marx, the industrial partnerships of the type devised by Babbage, Jevons, and even Mill could stimulate a cooperative spirit among workers, for example. The latter could create the illusion for workers of becoming owners and businessmen equal to their masters. Yet, the illusion could quickly vanish when they realize that not all can be owners and capitalists at the same time, at least not under the same system.

## 2.5. Conclusion

This chapter systematizes the notions of co-operation by economic and social thinkers in the UK along the 19<sup>th</sup> century. I saw that Owen, Babbage, Jevons, and Mill had different ideas about the notion of co-operation and about its relation to economic and social inequality. On the one hand, it is possible to group two of these economists as tackling economic inequality with their ideas on co-operation. Babbage and Jevons believed that co-operation between capitalists and workers via profit sharing would allow decreasing material deprivation and inequality. Their ideas suggest that in order to reach such situation, it was necessary first to increase efficiency and the expansion of the capitalist system.

On the other hand, Owen and Mill, seemed to have quite similar ideas. Both had a vision of co-operation that involved the reduction of economic, and also, of social inequality.<sup>270</sup> For instance, their ideas on co-operation included a social component (education and gender, for example). In that sense, these authors can be grouped together.

Nevertheless, their ideas regarding the system of competition revealed how separated their views were. For Owen competition generated inequality and was an evil of the capitalist system. For Mill competition had a bad side, but it was also determinant

269. Ibid. 443, 449.

270. See Clark and Elliott 2001, 467-490.

for the expansion and welfare of society. Competition and co-operation were not mutually exclusive in Mill's view,<sup>271</sup> but they were in Owen's.

Finally, when Marx interpretation of co-operation is included in the analysis, it is possible to see that while for the four economists studied before, some forms of co-operation could reduce economic and social inequality even in capitalism, for Marx, they could not. For him, co-operation can only reinforce it or increase inequality. This is an important point of difference between Marx and the rest of thinkers.

In other words, for the economists above, inequality can be seen as a lack of co-operation under capitalism (because co-operation can be at least a palliative to it). In their view, co-operation could also lead to an alternative system with less inequality -as seen with Owen and Mill. However, from Marx's point of view, under capitalism, inequality is a result of the co-operation that gives rise to the system and to its permanence.

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271. See also Whyman 2012, 837.

### 3. An Unintended Consequence of Uncoordinated International Monetary Policy on Central America

#### 3.1. Introduction

*“International policy coordination is like the Loch Ness monster: much discussed but rarely seen” (Blanchard et al., 2013)*

After the economic and financial crisis of 2008 and the unsatisfactory results in terms of economic growth obtained from a policy of low interest rates, central banks of developed countries (e.g., United States, Europe, and the U.K., all large enough to impact the rest of the world with their monetary policies) implemented unconventional policies that included rounds of large-scale asset purchases, commonly known as quantitative easing (QE), which aimed at stimulating the economic activity of those countries (See Ashworth 2013). There appears to be at least one unintended consequence of QE with the appearance of the global liquidity<sup>272</sup> that took place after its implementation, that is, the generation or potentiation of new sources of funding for other countries around the world. For instance, emerging economies such as those of China and Brazil have shown a significant increase of foreign bond issues, in which private corporations have played an important role (Shin 2013). The purpose of this chapter is to identify whether developing countries with smaller economies, specifically in Central America,<sup>273</sup> experienced a similar or any other change that may be linked to the changes in the international monetary policy of the developed countries mentioned above. More specifically, I want to know if there are changes in the pattern of foreign indebtedness in Central America and if this can be related to the second phase of global liquidity that took place with the rounds of QE policies that were implemented by developed countries, as well as to consider its implications.

It is important to note that the case of QE by developed countries having a potential impact elsewhere is seen here as a matter of un-coordinated policy, in that one country's lack of coordination regarding their international monetary policy can bring

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272. Global liquidity generally refers to the ease of financing in global financial markets (BIS 2011). “It encompasses both funding liquidity (the ease of raising cash by selling new obligations to investors) and market liquidity (the ease of raising cash by selling assets)” (BIS 2015 and Tarashev et al 2016). It is linked to monetary policy spillovers from developed economies (Shin 2013).

273. Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama.

unintended (desirable and or undesirable) consequences for other countries.<sup>274</sup> This situation is not new. As pointed out by Blanchard et al (2013), cases of international macroeconomic coordination have been rare. “Examples of international macro policy coordination have been few. The most successful cases have been when the world economy seemed on the brink of collapse.<sup>275</sup> In more normal times, despite strong theoretical arguments and evident systemic stresses, policymaking takes a national rather than multilateral perspective” (Blanchard et al. 2013). "International policy coordination is like the Loch Ness monster: much discussed but rarely seen." (Ibid., 2013). QE implementation is not the exception. It is another example of the chronic lack of coordination among countries.

There have been explanations for this lack of coordination. For instance, Taylor (2013) argues that “Empirical research beginning in the early 1980s predicted that the gains from international coordination of monetary policy would be quantitatively small compared to those achieved from each central bank following a monetary policy which optimized its own country’s economic performance.” He adds, “By choosing policies that worked well domestically with relatively little concern about spillover effects, central banks contributed -in ‘invisible hand’ like fashion- to better global economic conditions” and that “Attempts to formally coordinate policy choices across countries would probably have added little to macroeconomic stability during the Great Moderation. [...] The international monetary system was operating near an internationally cooperative equilibrium (NICE)” (Taylor, 2013). These explanations, however, are not uncontroversial. As seen in this chapter, un-coordinated policies such as QE by developed countries can have unintended (many times negative) side effects elsewhere, which suggest that un-coordinated policies do not always add up to “better global economic conditions” or to an "as if" coordinated outcome.

In addition, it makes sense to clarify some of the general mechanisms involved in the unconventional policy considered here. First, generally, bank loans tend to be high during expansions and observed measures of loan performance problems tend to be low during the same periods (Berger and Udell 2002). During this part of the business cycle,

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274 This raises the question of the desirability or not of coordinated macroeconomic policy between nations (See McCallum 1996).

275. See, for example, Obstfeld and Taylor (2017). The authors explain how the need for international coordination of bank regulation appeared after the collapse of the Bretton Woods system.

interest rates on bank loans may be relatively low even though they may increase at some point to prevent excessive inflation. However, it is also possible that, at the very top of the expansion, banks may grant loans of a high-risk nature, which may coincide with the appearance of loan performance problems. This increase in high-risk lending has been studied theoretically and empirically under different hypotheses, for instance, the institutional memory hypothesis (Berger and Udell 2002); herds behavior (Rajan 1994); reduced supervisory toughness (Asea and Bloomberg 1998); disaster myopia (Guttentag and Herring 1984); Minsky's financial instability hypothesis (Kregel 2007), and the provisioning system (Bouvatier and Lepetit 2012). The opposite trend is likely to be observed during recessionary periods. During this time, banks may keep a high interest rate on their loans and be less willing to provide credit in general.

From the point of view of endogenous money theory, solvent commercial banks cannot be reserve constrained. The quantity of (broad) money in an economy is not determined by the Central Bank, but via the demand for credit. It is the result of the interaction between loans, deposits, and bank reserves.<sup>276</sup> In contrast, from a conventional point of view, central banks are considered in charge of implementing expansionary policy such as the reduction of the discount rate mentioned above so that commercial banks can have more resources available for lending. A reduction of the interest rate, will likely lead to an increase in the money supply, which may put direct pressure on private banks to reduce the short-term interest rates they charge each other. This, in turn, may indirectly affect the long-term interest rate paid by private borrowers. Related reductions in the real interest rate may also increase consumers' spending and businesses' investment (the interest rate channel of monetary policy transmission). Moreover, the expansionary monetary policy may in principle be magnified by the reduction in the external finance premium that may increase credit availability in the economy (the credit channel, Bernanke and Gertler 1995). Yet, after a crisis, banks may still be reluctant to grant credit (See Ashworth 2013; Brunnermeier 2009). A credit crunch, for instance, may not be quickly overcome.

Given that the use of conventional measures such as changes in the interest rate may not be enough to stimulate the economy, unconventional measures such as QE have

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276. See for instance Lavoie (in Ronchon and Rossi 2003) as well as Arestis and Sawyer (2006).

become one of the preferred options by central banks to stimulate aggregate demand and economic growth. QE may bring an increase in liquidity and a reduction in borrowing costs that can be used to attain these goals. Thus, just as the more traditional monetary policies have transmission channels to affect the real economy, QE has its own transmission mechanisms, which will be explained further in section one.

Parallel to those processes in the countries where QE was originally implemented, and with the amount of resources available to borrowers at lower costs, there is the possibility of an unintended incentive for public and private borrowers in other countries to consider new sources of debt (e.g., the foreign bond market). According to Shin (2013), global liquidity, particularly in its second phase,<sup>277</sup> conveyed a significant incentive for the private and public sectors of developing countries to move from bank loans to funding with foreign bonds.

As mentioned, the possibility of a change in the pattern of indebtedness in the context of QE is explored in this chapter for the case of countries in Central America. Besides exploring whether and how the global liquidity created by QE had an impact on the debt of their private and public sectors, the purpose of this chapter is also to consider its implications.

The chapter has five sections. Section one includes an explanation of the transmission of QE policies to the real economy, as well as their implementation in terms of the Central Banks involved, the period of time over which they have been implemented, as well as their potential implications for the rest of the world in terms of global liquidity. The second section presents an analysis of the sectoral financial balances in Central American countries from 2000 to 2015, their historical dependence on bank lending, as well as an analysis of the evolution of their external debt. Section three discusses these countries' use of international debt securities (IDS) as part of their contemporary sources of funding, and the change in their pattern of indebtedness in the last decade, the decade that coincides with the implementation of QE. Section four shows the implications of the changes observed (e.g., whether they signal potential financial vulnerabilities or not). The last section presents the final conclusion.

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277. In the next section, I clarify the phases of global liquidity as suggested by Azis and Shin (2015).

## 3.2. Quantitative Easing and Global Liquidity

It is important to consider that QE is a controversial topic. First, as mentioned before, it is an unconventional monetary policy; second, within unconventional policies (e.g., negative interest rates), it is the one that appeared to have prevailed to stimulate the economy of developed countries after the 2008 crisis. Additionally, there are different views on the way QE is supposed to work (and as seen below there is also controversy on whether it conveyed the expected results or not).

This section starts by considering the different ways QE is supposed to work. Then, the section presents an overview on how QE policies were implemented by the Federal Reserve (Fed), the Bank of England (BoE), and the European Central Bank (ECB), their purpose, and the type of assets involved in the different rounds of QE, as well as the period of time during which they were implemented. It includes a brief explanation of their implications for the economies that implemented them as well as for the rest of the world. In regards to the latter, emphasis is placed on the second phase of global liquidity brought with QE, which is the one that impacted emerging economies through the foreign bond market (Shin 2013 and Azis and Shin 2015).

### 3.2.1. The Transmission Mechanism of QE to the Real Economy

As a controversial policy, there are different views on the way QE is supposed to work. For instance, just as traditional monetary policies, QE can have different transmission mechanisms to affect the real economy. Five channels have been identified as the way in which this may happen (See Hausken and Ncub 2013 as well as BoE Quarterly Bulletin, 3Q 2011 in Ashworth 2013). First, once the large scale purchases of assets start, a *confidence channel* could positively affect the expectations of households, and of financial and non-financial corporations. Second, investors may see QE as an indication of future monetary policy, which they may interpret as a sign of stability (*signaling channel*). Third, there is a *portfolio-rebalancing channel* (investors may want to use the money lent by the central bank to buy other type of assets. The price of that



other type of assets may increase and their yields be reduced, lowering in this way the cost of borrowing for private businesses<sup>278</sup>).

A fourth channel is *market liquidity* (See Christensen and Guillan 2017 and Christensen 2016), which alludes to the idea of QE improving the market's ability to trade or to allow for the buying and selling of assets while maintaining stable prices. Finally, the *money channel* refers to the increase in the quantity of money in the system that takes place after the central bank buys assets from the non-bank private sector. Since the private sector will likely increase its deposits in commercial banks, lending may increase again and have a positive impact in the real economy. It is important to note that since not all channels may work with the same intensity when QE is implemented, as transmission mechanisms, some of them may become more crucial than the others when affecting the real economy, which is ultimately the intended consequence or goal of QE.

In the US, for instance, the creation of money with QE, that would serve to stimulate spending and that was pursued with Large Scale Asset Purchases (LSAPs) from banks (e.g., the purchase of securities such as bonds from governments or private corporations), was expected to increase banks' reserves by the quantity of assets purchased and have the effect of stimulating banks to lend more. The expected effect was that when loans increased, this would be sufficient to stimulate investment, aggregate demand, and economic growth.

### 3.2.2. QE Implementation and Global Liquidity

There have been different rounds of QE in the US. The Fed implemented three rounds between 2008 and 2013. According to Ashworth (2013), the Fed started the first round (QE1) in November of 2008 purchasing agency debt (\$100bn) and Mortgage Backed Securities (MBS, \$500bn). Moreover, in 2009, it purchased \$100bn more of debt security, \$750bn more of MBS, and \$300bn of long-term Treasury securities. The specific official purpose of QE1 was to make credit available in private markets as well as to revitalize mortgage lending and the housing market (Ricketts 2011).

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278. This has been a crucial channel of QE to the global bond market (See Fratzscher et al 2014 and Lo Duca et al 2014). According to Perez (2017), the portfolio-rebalancing channel, by changing relative asset profitability, has "contributed to improve the performance of global capital markets including that of the global bond market and its importance as a source of finance." It is important to note, then, that while all channels could have been activated in the countries that implemented QE, the portfolio rebalancing one was the channel through which developing countries have been impacted.

The second round, or QE2, took place between November 2010 and the end of the second quarter of 2011. It involved the purchase of long term treasury securities by \$600bn with the official purpose of strengthening the U.S. economy's recovery and avoiding deflation. Both QE1 and QE2 meant an increase in the Fed's balance sheet to more than \$4 Trillion. A third round (QE3) took place between 2012 and 2013 and involved further purchases of long-term and mortgaged backed securities.

Similarly, between March of 2009 and January of 2010, the Bank of England (BoE) purchased around \$200bn of government bonds as well as commercial paper and corporate bonds to increase liquidity in those markets. The BoE also engaged in rounds of QE2 and QE3 that amount to purchases of around \$175bn in total.

Even though the European Central Bank (ECB) did not officially engage in QE (Antolin Diaz 2013 in Pronobis 2014), it developed programs that would help maintain the availability of credit for the private sector. For instance, the ECB eased borrowing for financial institutions by providing unlimited resources as well as by extending, in 2011 and in 2012, the length of refinancing operations so that these institutions would not have to cut the provision of credit to the private sector.

The ECB's policies involved private and public asset purchases of around \$1.2 trillion, which were later expanded to "address the risks of a too prolonged period of low inflation." The expanded Asset Purchase Programme (APP) consisted of monthly purchases in the form of a third covered bond purchase programme; an asset-backed securities purchase programme; a public sector purchase programme; and a corporate sector purchase programme. These purchases amount to a monthly average of 80bn euro between March of 2015 and March of 2016, and of 60bn euro in average from April 2017 onwards.

In the sections that follow, the emphasis is on QE and the second phase of global liquidity that reached countries in Central America.

### **3.2.3. Outcomes and Implications of QE for the rest of the world: Global liquidity**

As mentioned before, the controversy raised by QE policies is also reflected in the assessment of their results. Different studies have assessed the outcomes of successive

rounds of QE in terms of the economic activity of the countries that implemented them. Ashworth (2013) explains that empirical studies that explored the effects of QE on the U.S. and the U.K. generally concluded that it had reduced the long-term government interest rates by 1% or slightly less in both countries. They also explain that other empirical studies have shown that, as expected, QE1 had a positive impact on GDP, inflation, and the debt dynamics of the same countries. According to the same source, QE1 had a less pronounced impact on generating broader measures of monetary aggregates and on the provision of credit to the private sector. In the case of QE2 in the U.S., some studies concluded that it contributed to a reduction of long-term interest rates, increased stock prices, and led to higher inflation expectations. According to Ashworth (2013), even though QE2 and QE3 had positive effects in the U.K., studies have shown that they were more modest than the ones obtained with QE1. As for the measures taken by the ECB, it has been acknowledged that among other positive aspects, they helped prevent “a major disorderly deleveraging of banks’ balance sheets which would have entailed self reinforcing sells of government bond holdings and a major ‘credit crunch’ across the region” (Ashworth 2013).

In contrast, other studies suggest that the potential benefits of QE could quickly disappear once interest rates are increased again by central banks. Moreover, it has been suggested that QE may have generated an inefficient allocation of resources, which could have a negative impact on economic growth. Critics also argue that if applied for too long, QE could reduce the margins of financial intermediaries, which would discourage their provision of credit (Shirakawa 2012 in Ashworth 2013). Another unintended consequence for the countries that implemented QE is the risk of financial instability, given that investors may engage in excessive forms of high risk-taking (Ashworth 2013).

In spite of the advantages and disadvantages associated with QE and its potential to contribute to the economies that have used it as an alternative policy to stimulate economic growth, it is generally accepted that QE impacted global liquidity (Shin 2013). A first phase of global liquidity took place between 2003 and 2008 and involved the global transmission of looser financial conditions that expedited the movement of bank sector capital flows. In contrast to the first phase, the second phase of global liquidity

took place after 2010, on a different stage (the bond market), and it was stimulated by QE (Azis and Shin 2015<sup>279</sup>).

In relation to the second phase, Perez (2017) explains that QE altered the relative profitability of investing in different assets (via de portfolio rebalancing channel). “QE had a positive effect on the performance of the international bond market,” which permeated into emerging market economies.

With the low costs of borrowing in the foreign bond market post-QE, the latter became an option and an important source of funding for governments as well as for private financial and non-financial corporations around the world, particularly in developing economies.

This suggests that besides the intended and unintended consequences of QE in the countries that implemented these policies, QE may have had unintended financial consequences for the rest of the world. For instance, the global liquidity generated after 2010 with QE may have positive or negative consequences for developing countries, since they are some of the receptors of an important amount of the resources that became available.

This possibility is studied in the following sections for the case of countries in Central America. Before that, I present their sectoral financial balances as well as a description of the historic dependence on bank lending and of the evolution of external debt of the region.

### **3.3. Sectoral Financial Balances, Historic Dependence on Bank Lending, and External Debt in Central America**

In this section, I present the sectoral financial balances in countries in Central America in order to consider the evolution of the financial relationship between the foreign, public, and private sectors. I also show that, historically, there has been a dependence on bank lending in these countries. Finally, I show the evolution of the countries’ external debt and its increasing importance as a contemporary source of funding. This analysis is relevant to show that all countries in Central America are

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279. Azis and Shin (2015) identify a third phase of global liquidity, linked to the reduction of QE or the normalization of monetary policy and capital flow reversal in emerging economies.

dependent on capital inflows and have been structurally in a position of borrowing from abroad even before the onset of QE policies.

### 3.3.1. Sectoral Financial Balances

In order to consider the financial connection between the foreign, private, and public sectors in countries in Central America, the sectoral financial balances (Godley, 1999) are analyzed for every country. This information allows us to clarify if countries in Central America are dependent on capital inflows from abroad.

The sectoral financial balance framework builds on the fact that one economic unit's spending is another unit's income, so that total spending in an economy is equal to total income in any given accounting period.

The sectoral financial balances summed over all sectors must equal zero, so that if one sector runs a surplus, at least one of the others must be running a deficit. This is reflected in the identity below. Where I is private investment, S is private saving, G is Government spending, T is Taxes, X is exports and factor income from the rest of the world, and M is imports and factor payments to the rest of the world.

Identity 1 
$$(S - I) + (T - G) + (M - X) = 0$$

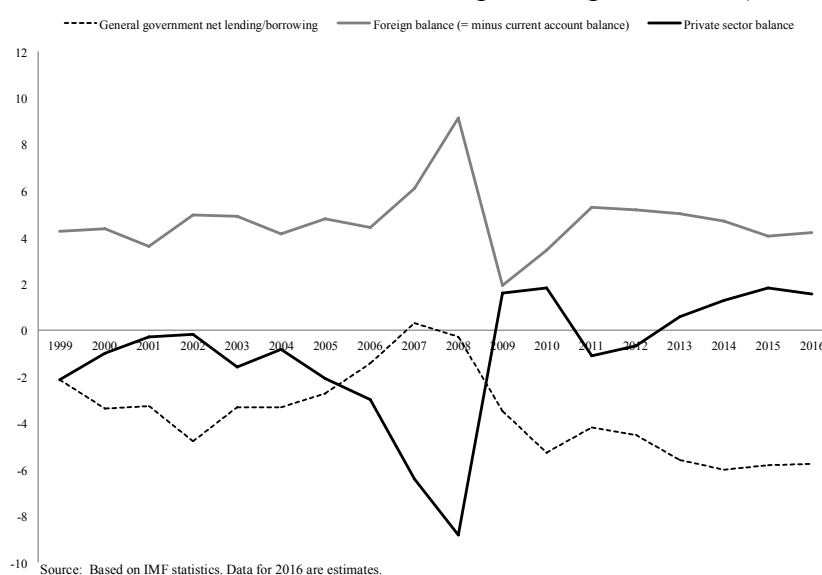
If there is a surplus in the foreign sector ( $M - X > 0$ ), there must be a deficit either in the public sector ( $T - G < 0$ ) or in the private sector ( $S - I < 0$ ) or in both. Then, Identity 1 shows how changes or adjustments in the financial balance of one sector always imply adjustments in the financial balance of at least one of the other sectors.

It is important to consider that a foreign sector surplus is a current account deficit from the perspective of the domestic economy. Then, a deficit on the current account of the domestic economy implies the need for capital inflows in order to meet local investment and consumption demand. These inflows into the domestic economy, then, allow the current and capital accounts to balance each other out and have a balance of payments equal to zero.

Figures 3.1 to 3.5 depict the sectoral balances for each country in Central America for the period 1999-2016. In the case of Costa Rica (Figure 3.1), the figure suggests that the rest of the world financed the spending of the public and private sector (households

and businesses) during most of the period considered. Between 2001 and 2002, the private sector was close to balance, which suggests that the rest of the world financed specifically the spending of the public sector. Between 2007 and 2008, the public sector was close to balance, which in this case suggests that the rest of the world financed mainly the spending of the private sector in the run up to the financial crisis. After 2008, both the rest of the world and the private sector -the latter mainly after 2012- financed the deficit of the public sector. The information for Costa Rica shows then that this country has been dependent on capital inflows to finance the private and public sectors for most of the period considered.

Figure 3.1 Costa Rica Sectoral Balances as percentage of GDP, (1999-2016)<sup>280</sup>



In the case of El Salvador (Figure 3.2), the figure shows how the rest of the world was a net lender to the public sector throughout almost the whole period and to the private sector for most years (from 2003 and 2008 and from 2011 to 2015). Figure 3.3 also shows how previous to the crisis, the rest of the world also financed the deficits of the public and private sector in Guatemala. After the crisis, the public sector became a net borrower from the private sector also in some years (e.g., between 2009-2010 and 2015-2016). El Salvador and Guatemala, then, have also been dependent on capital inflows and prone to borrow from abroad.

280. No data for Honduras is available in the IMF's statistics used to create the sectoral financial balances presented here.

Figure 3.2 El Salvador Sectoral Balances as percentage of GDP, (1999-2016)

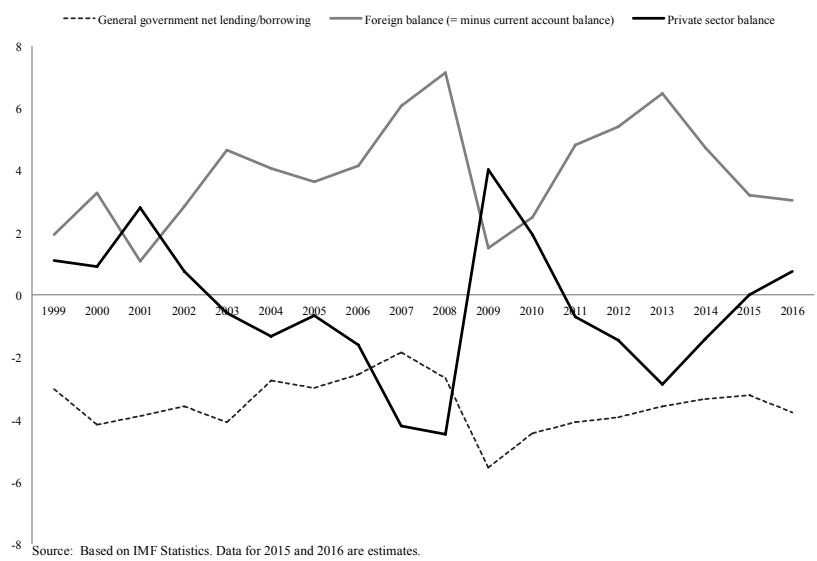


Figure 3.3 Guatemala Sectoral Balances as percentage of GDP, (1999-2016)

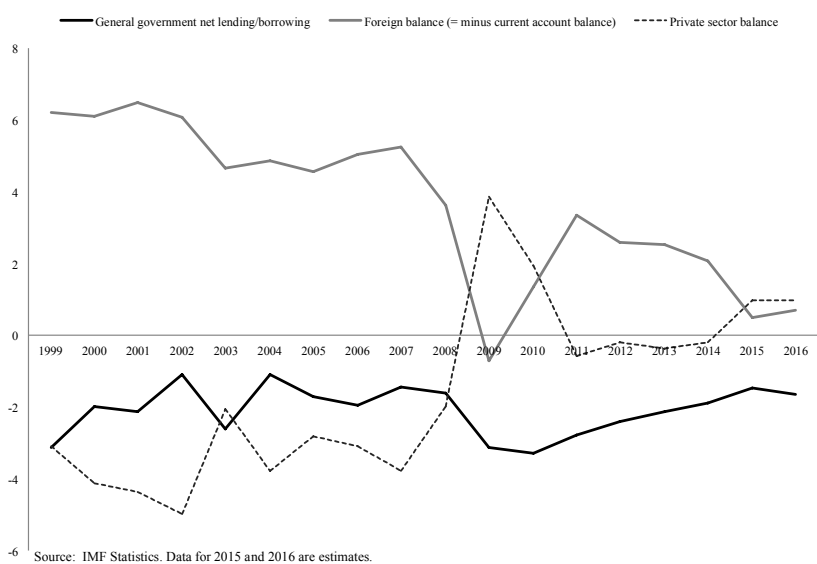


Figure 3.4 Nicaragua Sectoral Balances as percentage of GDP, (1999-2016)

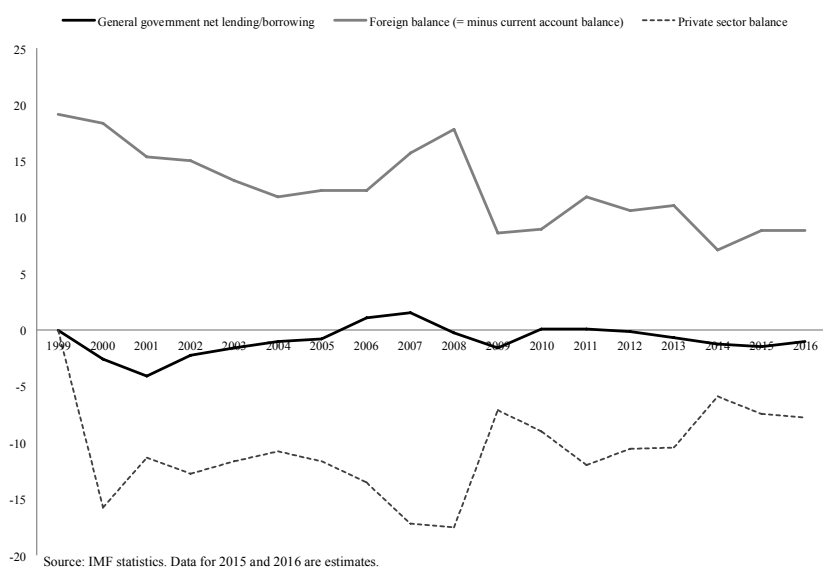
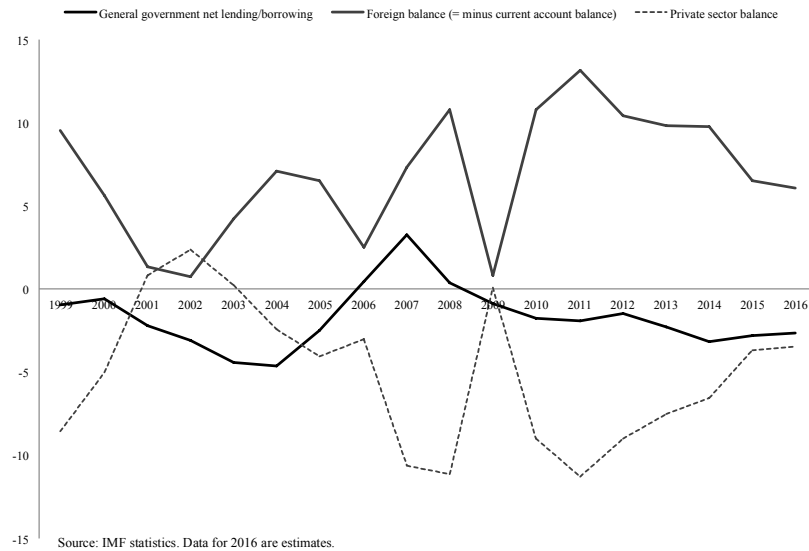


Figure 3.5 Panama Sectoral Balances as percentage of GDP, (1999-2016)



In Nicaragua (Figure 3.4 above), the rest of the world has financed mainly the deficit of the private sector. The public sector has been almost in balance during the whole period. As seen below, the international debt of Nicaragua as a percentage of GDP dropped significantly after 2003<sup>281</sup>. As shown later, the international debt securities for this country became insignificant during the same period. Still, the Figure shows that this country has also been dependent on capital inflows in order to finance the other sectors.

Panama has also been dependent on capital inflows and therefore in a position of borrowing from abroad (Figure 3.5). The rest of the world became a net lender to the private and public sector throughout the whole period. Between 2001 and 2002, the private sector also financed the deficit of the public sector. The public sector was a net borrower throughout the period, except in 2007 and 2008, the only year in which the public sector ran a surplus.

In conclusion, when considering the private and the public sectors separately, there is no general trend in the region in terms of which was the sector with the highest borrowing requirements. In the case of El Salvador and Costa Rica, for most years (with the exception of the years of the financial crisis), the public sector's borrowing requirements seem to have been generally higher than the private sector ones. Yet, for countries like Nicaragua and Panama, the opposite situation is observed. In Guatemala, the latter situation is also observed for the period before the financial crisis, but after that,

281. This reduction is related to the Heavily Indebted Poor Countries (HIPC) Initiative. Both Nicaragua and Honduras are part of the initiative.



it is closer to the situation observed for Costa Rica and El Salvador (the public sector's borrowing requirements were higher than the private sector's one).

In contrast, in the case of the foreign sector, there is an evident pattern. The data shows that, in all Central American countries, the external sector financed the deficit of the public and/or private sector during almost the whole period considered (the main exception being Guatemala for the year 2009). This shows how all countries are dependent on capital inflows and are structurally in a position of borrowing from abroad. Their proclivity to borrow from abroad, then, is not a new feature of the QE era.

### **3.3.2. Historical Bank Lending Dependence**

Parallel to the dependence on capital inflows observed from the subsection above, we observe that countries in Central America have been dependent on bank lending. Given the developing status of countries in Central America, it is expected that commercial banks dominate the financial system as opposed to a domestic stock market (World Bank 2008), which in most cases is considerably small.

The table below shows a summary of the current structure of the financial system in these countries. There are approximately 120 banks in total in the region. They hold more than 90% of total financial assets (see also SECMCA 2015). Most commercial banks are foreign owned with the exception of those in Guatemala. It is not surprising that most of the foreign banks are located in Panama given its status as an offshore financial center. Costa Rica has four state banks, which at least duplicates the number of state banks in other Central American countries.

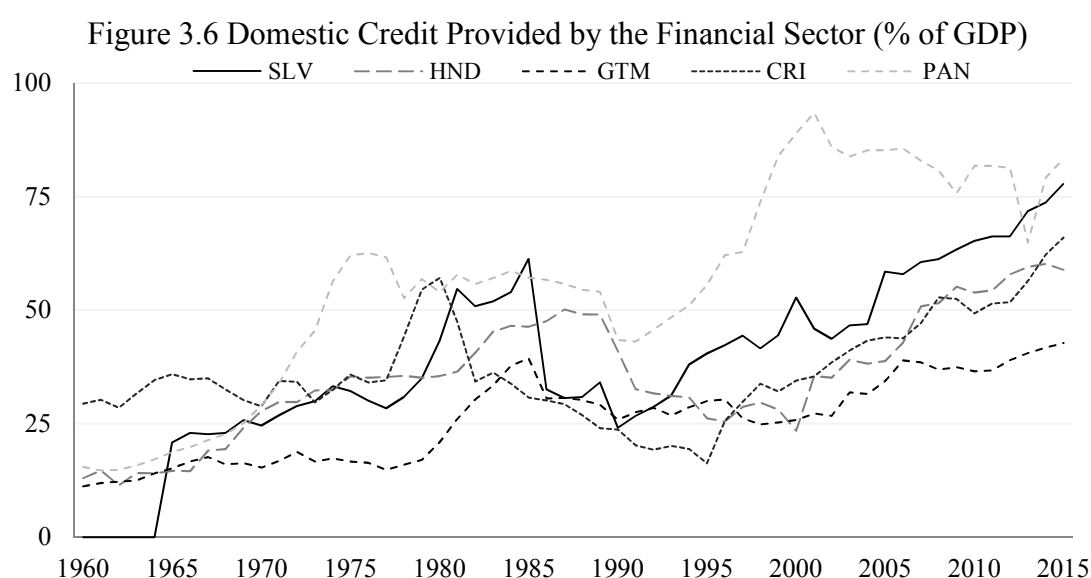
The financial system also includes other financial institutions such as pension funds and insurance companies. It is also important to note that financial dollarization in most countries in Central America is relatively high. According to Piñon et al (2012) deposits dollarization have continually increased since the 1990s in all countries. El Salvador and Panama have been officially dollarized and use the US dollar as legal tender. In the case of the other countries, they have experienced a spontaneous or partial dollarization (Rodlauer and Schipke 2005; see also IMF 2010).

Table 2.1 Central America Financial System Structure

	2009	2015	2016	2016	2016	2016
	El Salvador	Costa Rica	Guatemala	Honduras	Nicaragua	Panama
<b>Banks</b>	13	15	17	17	8	48*
Private domestic	0	3	10	6	..	18
State owned	2	4	1	1	..	2
Foreign owned	9	8	6	9	..	28
Branch of foreign banks	2	..	..	1	..	..
<b>Other non-Bank financial institutions</b>	52	38	..	28	5	..

Source by country: El Salvador, IMF (2014), Costa Rica, IMF (2016), Guatemala IMF (2016); Honduras, National Commission of Banking and IMF (2016); Nicaragua, Superintendency of Banks and Financial Institutions of Nicaragua and Central America Monetary Council; Panama, Superintendency of Banks of Panama. \*Being a financial center, Panama hosts a significant amount of banks. This number only includes banks that are authorized to work in the domestic market.

As mentioned, resources from the banking system have been an essential source of funding for countries in Central America. The share of domestic credit provided by the financial sector with respect to GDP has continued increasing more or less steadily and even though it was slightly reduced after 2008 in most countries, it recovered after 2012 (Figure 3.6). Additionally, according to the net flows of commercial bank and other lending,<sup>282</sup> all countries in the region have relied on bank lending as a source of funding at least since the 1960s.



Source: World Development Indicators, World Bank. Note: In the case of Nicaragua, the indicator fell significantly between 1994 and 1996. Since 2010, it remains around 50%. We do not include Nicaragua in the figure due an outlier in 1993.

As of 2015, domestic credit via the financial sector represents more than 40% of GDP in Guatemala, around 48% in Nicaragua, more than 60% in Honduras, around 66% in Costa Rica, more than 75% in El Salvador, and more than 80% in Panama. When compared to the average value of other middle-income countries,<sup>283</sup> though, these

282. Commercial banks and other lending public publicly guaranteed and public non-publicly guaranteed (net flows on debt, current US\$) (World Bank 2017).

283. According to data from the World Bank, between 2010 and 2015, in high-income countries the share was between 190 and 205% on average while in middle-income countries, it was between 65 and 126%, and only around 21 and 26% for low-income countries.

percentages are still low.<sup>284</sup> Still, it is possible to see that all countries in the region have been relying in bank lending as a source of funding for decades and that the importance of bank lending as percentage of GDP has increased even more after the 2010s for all countries. However, the still low percentage of credit by the financial sector in each country in the last decade suggests that the countries in Central America may have covered their need of funding with other sources (e.g., foreign ones as it was also suggested by the analysis of the sectoral balances before).

To conclude, countries in Central America have been relying on bank lending as a major source of funding for decades. Nevertheless, the low level of development of the financial system in the region, as suggested by the relatively low proportion of domestic credit to GDP by the financial sector corroborates these countries chronic need to keep on obtaining funding from other sources (e.g., external ones). This is also corroborated in the next sections, where I show that these countries are also dependent on foreign resources. During the period of implementation of QE, a new source of foreign funding became available for countries in Central America (i.e., the foreign bond market).

### **3.3.3. Contemporary Sources of Funding**

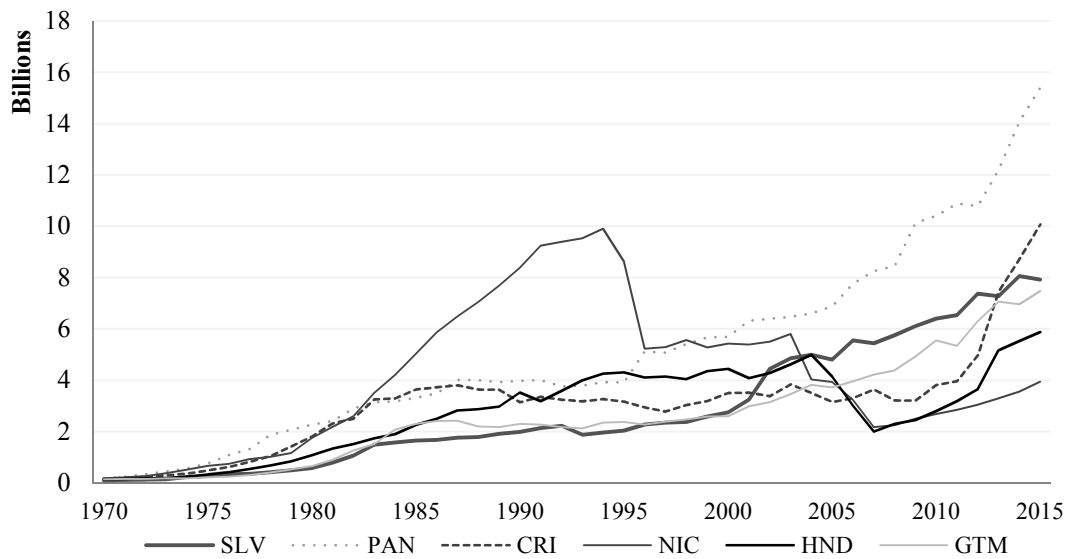
As seen in the last subsection, in spite of the increasing importance of domestic sources of domestic funding, the foreign sector has also been an important and increasing source of funding for countries in Central America (which reinforces these countries' historical dependence on capital inflows, as seen in section two).

Figure 3.7 shows the long-term external debt of the government, political subdivisions, autonomous public bodies, and private debtors guaranteed for repayment by a public entity. This debt started increasing during the late 1980s and 1990s, and it shows a further increase after the 2007 for all countries. This evolution is consistent with the sectoral balances discussed above.

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284. A similar statistic, credit specific to the private sector, reveals that credit to this sector is still low when compared to other countries of similar economic development. World Development Indicators 2017. World map of domestic credit to the private sector (% of GDP). Also, Hansen and Sulla (2013) explain how credit markets in Latin America remain “shallow as witness by low-credit to GDP ratios vis-à-vis other countries with comparable income levels.” According to the same source, bank credit to the private sector in Latin America grew faster between 2004 and 2007. They identify Guatemala and El Salvador as two exceptions in Central America. They also explain how real credit receded during 2008 and 2009 and how credit increased to its pre-crisis levels by 2010 or 2011.

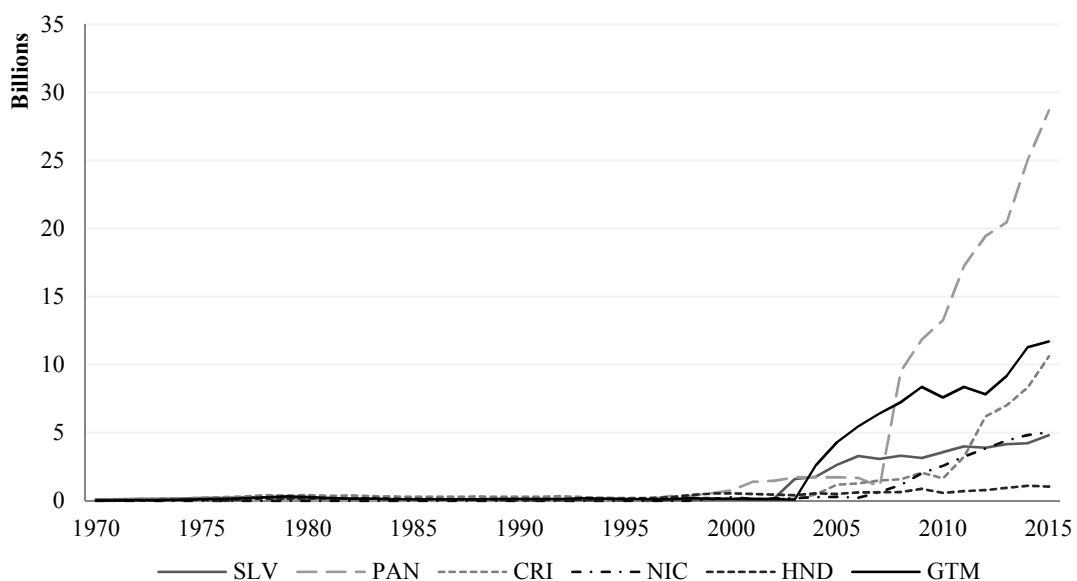
Figure 3.7 External Debt Stocks, public and publicly guaranteed (PPG) (DOD, current US\$)



Source: World Development Indicators.

Figure 3.8 shows the external debt stock of private entities that is not guaranteed for repayment by a public entity. It is possible to see how the external debt for the private sector had a significant increase after the year 2000 for most countries with the exception of Honduras and El Salvador. The private sectors of Panama, Guatemala, Nicaragua, and Costa Rica have been increasingly using more resources from abroad. This is consistent with the information above about the foreign sector as a net lender for most of the countries. It also suggests a first change in the pattern of indebtedness regarding the private sector in the sense of its higher use of foreign resources than in previous years.

Figure 3.8 External Debt Stocks, private non-guaranteed (PNG) (DOD, current US\$)



Sources: World Development Indicators.

In the next section, I examine the international debt securities (IDS) issued in the foreign market by both the private and public sector of all countries in order to determine

whether the bond market has had a more prominent role in the use of more external funding in the region during the QE era. The purpose is to link the information in this section to the one in section three, so that I can examine whether there has been a change in the pattern of foreign indebtedness for Central American countries that is related to the low cost of debt associated with the foreign bond market in the context of QE implementation by developed countries. Additionally, as mentioned previously, I would like to know if there is an increase in the bond issuance by non-financial corporations given that this is the sector that has been impacted widely among big emerging economies in Latin America and in other regions (Shin 2013). This is relevant considering that the non-financial private sector in Central America has not traditionally relied on foreign bond financing.

### **3.4. QE, Global Liquidity, and Foreign Bond Debt in Central America**

In this section, I consider whether the foreign bond market is becoming an important source of funding for the economies in Central America. This is important in order to understand the link between QE, the global liquidity created with it, and its impact on developing countries. In addition, I respond to the question of whether the foreign bond market became a prominent source of funding for non-financial corporations, as has been shown to have occurred in bigger emerging economies such as Brazil and China (Shin 2013). Given that bond issues by non-financial corporations have not been common in Central America, clarifying this situation is important for identifying changes in the patterns of indebtedness of the countries studied here.

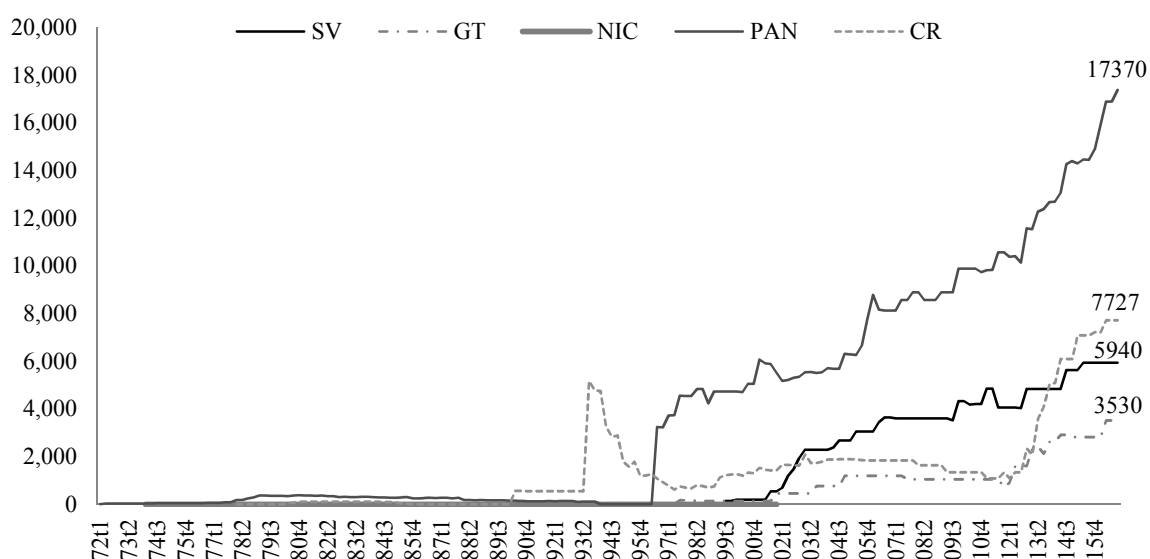
#### **3.4.1. The Role of International Debt Securities in Central America**

According to the Bank for International Settlements, International Debt Securities (IDS) refer to “debt securities issued in a market other than the local market of the country where the borrower resides” (BIS 2017). According to the same source, IDS comprise issues known as Eurobonds as well as foreign bonds.

The foreign bond market has become an important source of debt for the economies in Central America in the last decade. Figure 3.9 depicts the outstanding volume of debt securities in international markets for these countries since the first quarter of 1972.<sup>285</sup> If we consider the years previous to 1990, IDS were almost non-existent for the majority of countries. After 2000, this type of debt gained importance in countries such as Guatemala and El Salvador. In the case of Panama, Guatemala, and Costa Rica, this situation appears to have strengthened even more after 2011. As of 2016, IDS represents more than 35% of GDP in Panama, more than 20% in El Salvador, around 13% in Costa Rica, and almost 6% in Guatemala.

The higher levels of outstanding international debt in the last decade relative to the previous ones shows the growing importance of IDS as a source of funding for the region, which signals a change in the pattern of indebtedness for these economies. Even though they started issuing bigger quantities of this type of debt in the 1990s, external bond issuance has strengthened more after 2010 for most countries. This shows that these countries made use of the lower cost of borrowing provided by the foreign bond market during the second phase of global liquidity and that their financial structures were, indeed, affected by QE.

Figure 3.9 Total International Debt Securities Outstanding 1972Q1-2016Q4 (mill US\$)



Source: Bank of International Settlements

Panama, El Salvador, and Costa Rica are the countries where the bond market has become most important when considering the countries individually. These are also the

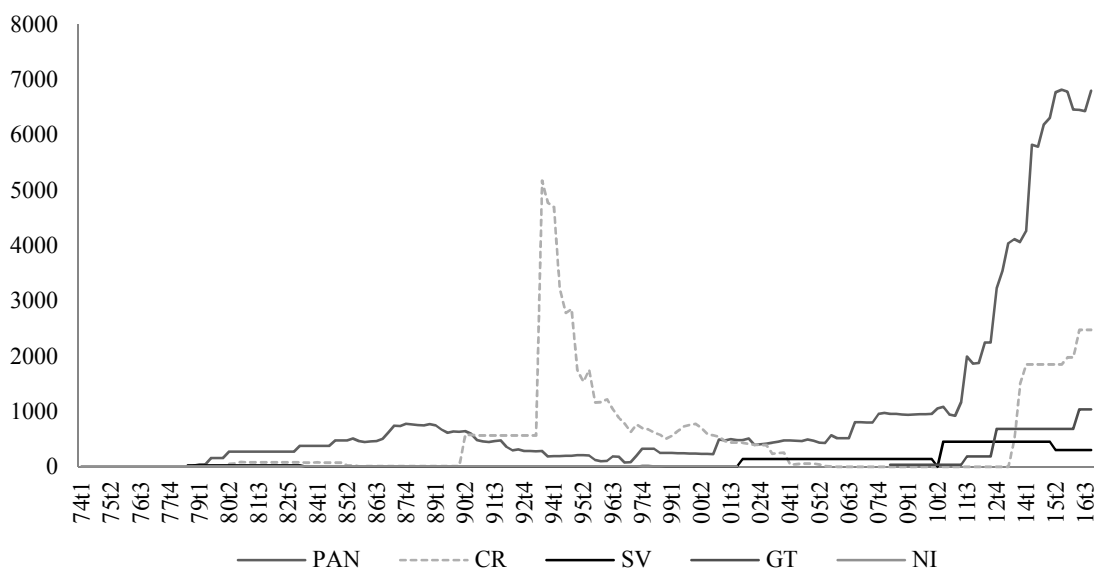
285. The numbers at the end of each line represent the volume of IDS for each country for the first quarter of 2016.

countries with the highest stock of debt outstanding during the whole period considered. Their debt represents more than 90% of the total debt outstanding from the region during the whole period.

As mentioned previously, we also want to know if non-financial corporations of Central American countries also took advantage of the lower costs of debt offered in the foreign market, as it has been suggested for bigger emerging economies. The following three figures show Financial Corporations' IDS, General Government's IDS and Non-Financial Corporations' IDS for all countries. This serves to explore which sectors are having a higher participation in the foreign bond market.

First, Figure 3.10 shows that Panama, Costa Rica, Guatemala, and El Salvador are the countries with the highest stock of IDS from financial corporations in the last decade in the region. As of the first quarter of 2016, this debt represents more than 33% of Panama's total IDS; more than 27% in the case of Costa Rica; less than 19% in Guatemala and less than 8% in El Salvador. Yet, in the case of the last two countries, IDS from financial corporations have increased more than 90% with respect to 2000 (El Salvador) and with respect to 2008 (Guatemala). This shows that the debt issued in the foreign bond market by financial corporations has increased in Central America during the QE era, which confirms our null hypothesis that QE has affected the financial structure of these countries.

Figure 3.10 Financial Corporations IDS Outstanding 1974Q1-2016Q4 (mill US\$)

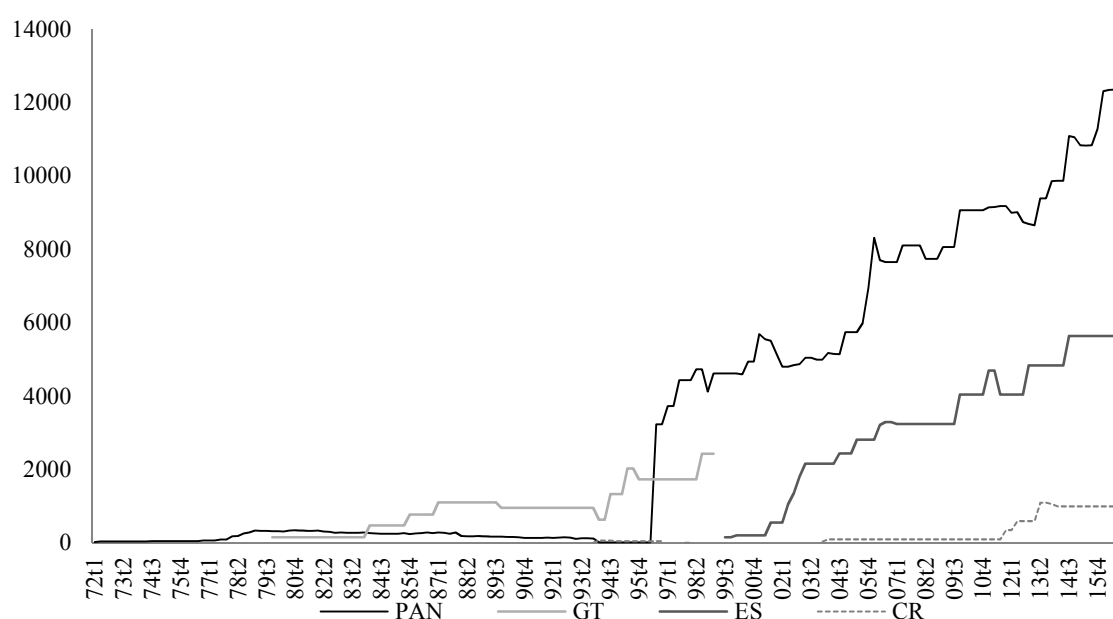


Source: Bank of International Settlements

Second, the General Government of most countries has also increased its IDS outstanding in the last decade as well (Figure 3.11). This is particularly important in the

case of Panama (since the second half of the 1990s) and in the case of El Salvador (since the early 2000s), as well as in Costa Rica (after 2011). It is important to note that within the total IDS outstanding of Central America, the debt issued by the general government represents the highest proportion with respect to the total IDS in the case of all countries. For instance, in the case of El Salvador, it represents 90% (since 2003); more than 60% as of the first quarter of 2016 in Panama (even though in this case it has been decreasing); and almost 59% and 50% respectively during the same period in Costa Rica and Guatemala. Additionally, the largest and fastest increase in IDS outstanding in the same cases took place after 2010. This shows that the low cost of debt in the foreign bond market, brought by global liquidity and QE, increasingly served to cover the need of funding by the general government of those countries.

Figure 3.11 General Government IDS Outstanding 1972Q1-2016Q4 (mill US\$)



Source: Bank of International Settlements.

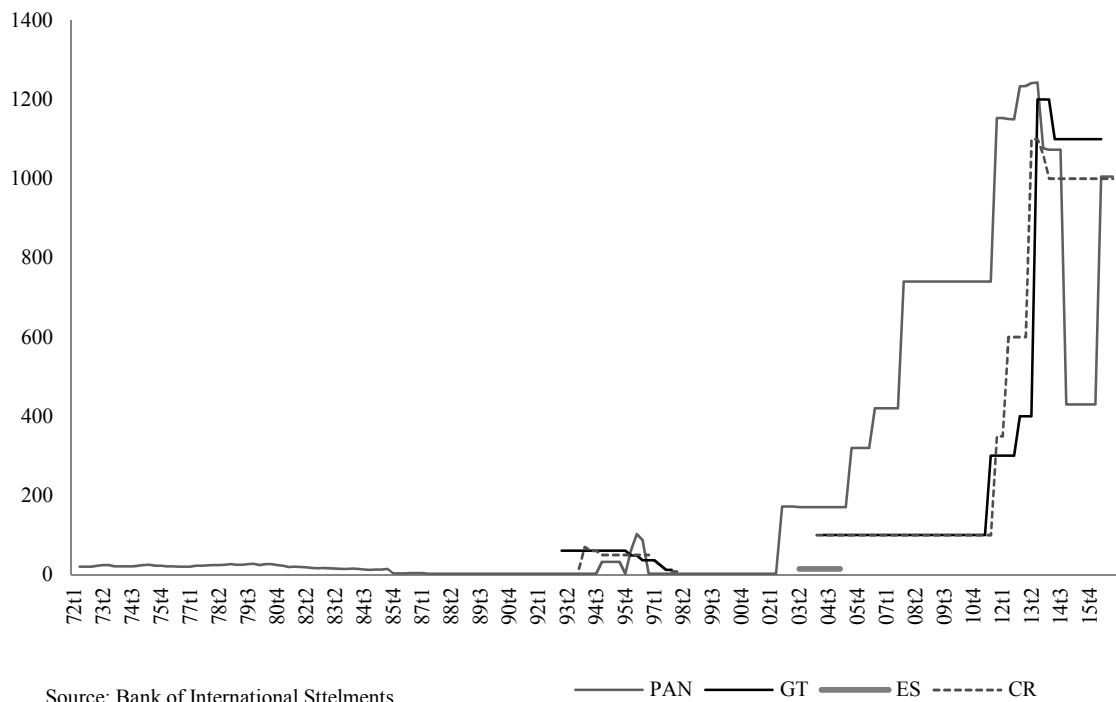
Third, when compared to the general government and financial corporations, the importance of IDS issuance by the non-financial corporations in Central America is small. Yet, their continuous increase during the last two decades in half the countries shows that the bond market has started to be used as a new form of funding by this sector also.

The non-financial corporations of Costa Rica, Guatemala, and Panama had already issued debt with foreign bonds during the 1990s. At the beginning of 2000s, the non-



financial corporations of the same countries, and also to some extent in El Salvador,<sup>286</sup> increased their bond issuance. Moreover, Panama, Costa Rica and Guatemala also had a significant amount of IDS outstanding at the end of 2010 (Figure 3.12), which coincides with the time when the second phase of global liquidity took place.

Figure 3.12 Non-financial Corporations IDS Outstanding 1972Q1-2016Q4 (mill US\$)



As of the first quarter of 2016, non-financial corporations' IDS represents 13% of total IDS in Costa Rica (more than a 83% increase with respect to 2003). Guatemala is the second country with the highest proportion (more than 30% since 2014) of non-financial corporations' IDS outstanding with respect to total IDS (more than a 70% increase with respect to 2004). In contrast to those cases, Panama has roughly 2% of its total debt outstanding coming from non-financial corporations as of the first quarter of 2016 (more than a 75% decrease with respect to 2011). According to the same data, non-financial corporations foreign bond issuance in the remaining countries does not represent a major component of their foreign debt, which shows that even though foreign bond issuance has become a source of funding for that sector, it is not as relevant as it is for bigger emerging economies.

To sum up, it is possible to see that the use of foreign bonds has strengthened as a source of funding for economies in Central America since 2010. It was shown as well that the participation of non-financial corporations in Central America in the bond market

286. Between the second quarter of 2013 and the first of 2015 it was only close to 0.3% of the total.

is small when compared to the situation observed in bigger emerging economies. Finally, it was seen that the evolution of the external debt via the bond market is not uniform in the region. As seen above, even though modest, Guatemala, Costa Rica, and Panama had a noticeable increase of non-financial corporations' IDS (as well as in the case of the other sectors) after both 2000 and 2010. El Salvador's bond issues, in contrast, have been mainly via the general government. Nicaragua is different from those cases. Its participation in the bond market is so far negligible. Overall, by indirectly providing a new, low cost, source of funding in the foreign bond market, QE impacted the financial structure of countries in Central America by facilitating the increase in the use of IDS.

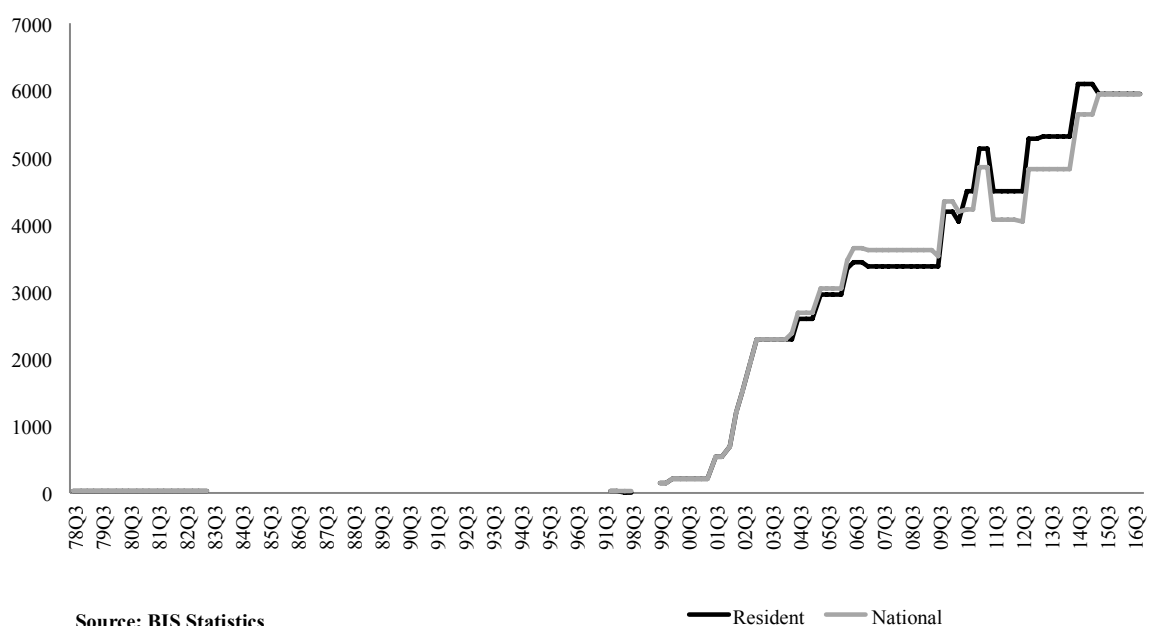
### **3.5. Implications of the Increase in the use of Foreign Bonds as a Source of Funding**

Having identified an increase in the use of foreign bonds as a source of funding for countries in Central America and the sectors that are the main issuers of that type of debt in each country, I consider here its possible implications. In order to do this, I classify IDS by both the nationality and residence of issuer (BIS 2012 and 2014). Total IDS outstanding for a country is higher when the debt issued by subsidiaries with a parent firm abroad is considered as part of the total. The IDS outstanding for the host country may become lower when the nationality-residence classification is used since part of the total debt may belong only to the country where the parent firm is located. Alternatively, with this classification, it may also become evident that the total debt does belong to the country due, for instance, the borrowing by the general government. This classification, then, is important to consider possible implications of the increase in the use of foreign bonds since it allows clarifying these countries' actual obligations and how they have changed since the onset of QE.

First of all, it is important to note that another general pattern identified for bigger emerging economies around the world (Shin 2013) -- that the debt issued by nationality is higher than by residence during the second phase of global liquidity -- is not representative of countries in Central America. This signals that this region does not have as many parent firms with subsidiaries abroad as bigger emerging economies (e.g., Brazil or China, see Shin 2013).

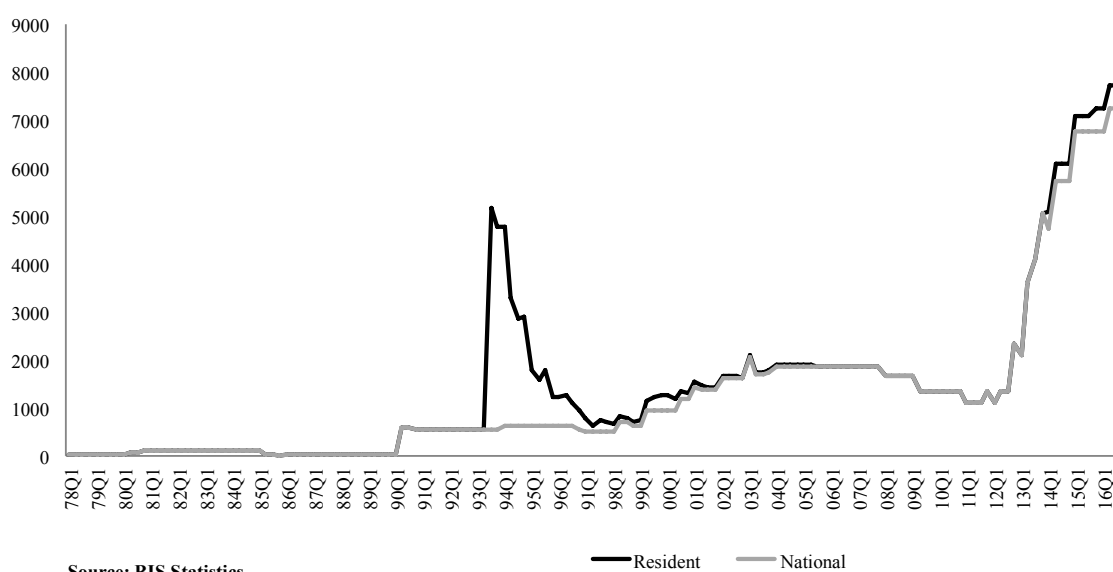
The figures below illustrate the situation. They show total IDS in countries in Central America classified by both nationality and residence of issuer. There are two different sets of countries.<sup>287</sup> First, in the cases of El Salvador and Costa Rica (Figures 3.13 and 3.14 respectively), IDS issued abroad by residents are only slightly higher than those by nationality during almost the whole period. A small gap between the two measures appeared the last quarter of 2010 until 2014 in El Salvador and after the first quarter of 2014 in the case of Costa Rica. This is related to the general government being the main issuer of IDS in these countries. In the case of Costa Rica, as seen in section three, it also reflects the debt issues by financial and non-financial corporations. Given the overlap between the debt by residence and nationality, Costa Rica's private and public sectors remain the main obligors of the country's foreign bond debt while in the case of El Salvador it reflects the public sector as the main obligor.

Figure 3.13 El Salvador IDS Outstanding (All borrowers) by Residence and nationality of Issuer (mill US\$)



287. Above it was also mentioned that one of the least developed financial systems is the one in Nicaragua and Honduras. During all the period considered, and from the data compiled by the BIS, Nicaragua only had issued 5 million USD of debt during the 1974 and 2001. For Honduras, no data is available from the BIS. Given both situations, no further implications are considered in the case of these countries.

Figure 3.14 Costa Rica IDS Outstanding (All borrowers) by Residence and nationality of Issuer (mill US\$)



Source: BIS Statistics

— Resident — National

The situation of these countries calls for attention on possible negative implications on their financial fragility, particularly in the case of El Salvador.

First, as seen before, bond issuance has been increasing, as it had never been observed in the past, particularly after 2010. In the case of El Salvador, IDS by nationality was slightly larger than by residence before the 2008 crisis. The higher levels of debt by residence after that year are not surprising considering that such debt includes that of the general government. This reflects El Salvador's high public indebtedness. Other financial corporations increased their foreign issues after 2000 and mainly after 2010, but it is the long-term, fixed interest rate, debt issued in dollars by the general government that dominates the foreign debt of this country. This suggests that financial vulnerabilities associated with the increase of bond issuance in the foreign market during the QE era may not appear in the non-financial corporate sector, but via the general government at least in the case of El Salvador. As of 2017, for instance, this country was not able to face repayments of its external debt.<sup>288</sup>

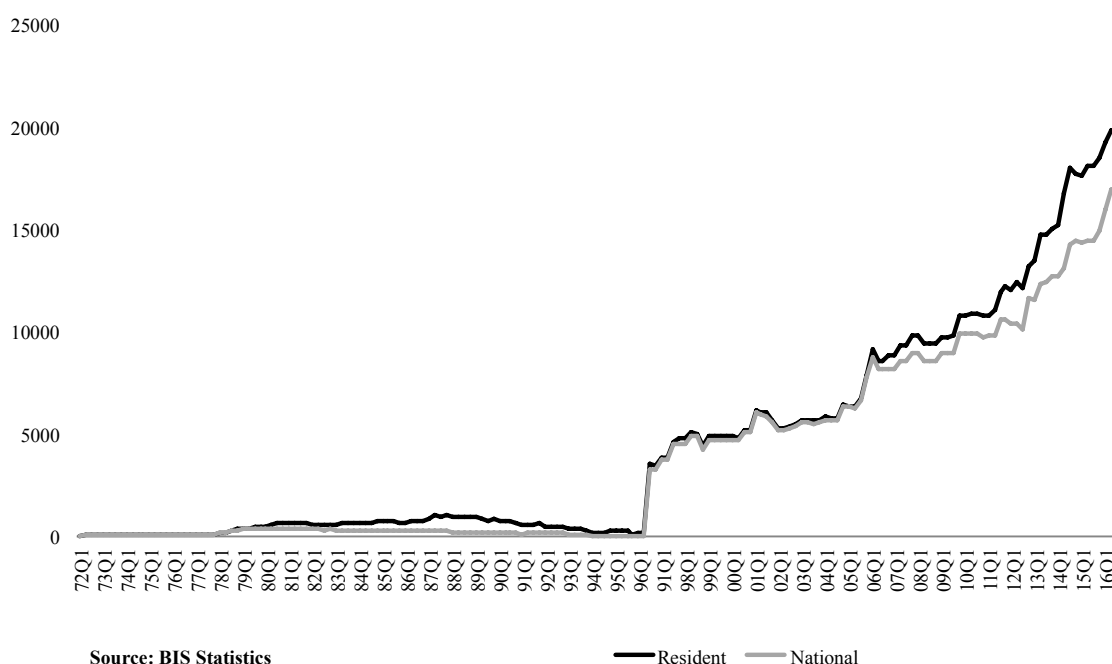
As seen above, Costa Rica's general government also increased its IDS issues, but unlike El Salvador, Costa Rica's financial and non-financial corporations have played a more important role in the increase of foreign debt via the bond market. As seen in the figure above, this country's debt by residence became only slightly higher than when classified by nationality in the last decade. Thus, even though part of the obligation of the repayment of this debt falls on foreign residents, an important part falls into Costa Rican

288. El Salvador's sovereign debt has been downgraded to CCC after defaulting in April of 2017. It is important to note that political polarization was identified as major cause of vulnerability. Fitch Ratings (2017).

nationals. As a country, then, Costa Rica is responsible for almost all the debt outstanding in the three sectors mentioned above, which may affect the financial fragility of the country if its ability to cover those repayments were to deteriorate. This is of particular importance considering that the countries in Central America, even though differently, tend to be highly affected by external and regional shocks (Rodlauer and Schipke 2005<sup>289</sup>), and that their capacity to absorb shocks is limited.<sup>290</sup>

The second set of countries is comprised by Guatemala and Panama. These countries' debt issued by residence became higher than that by nationality during the period that coincides with the second phase of global liquidity and, in contrast to the cases above, the gap between the two measures widened (see the two figures below).

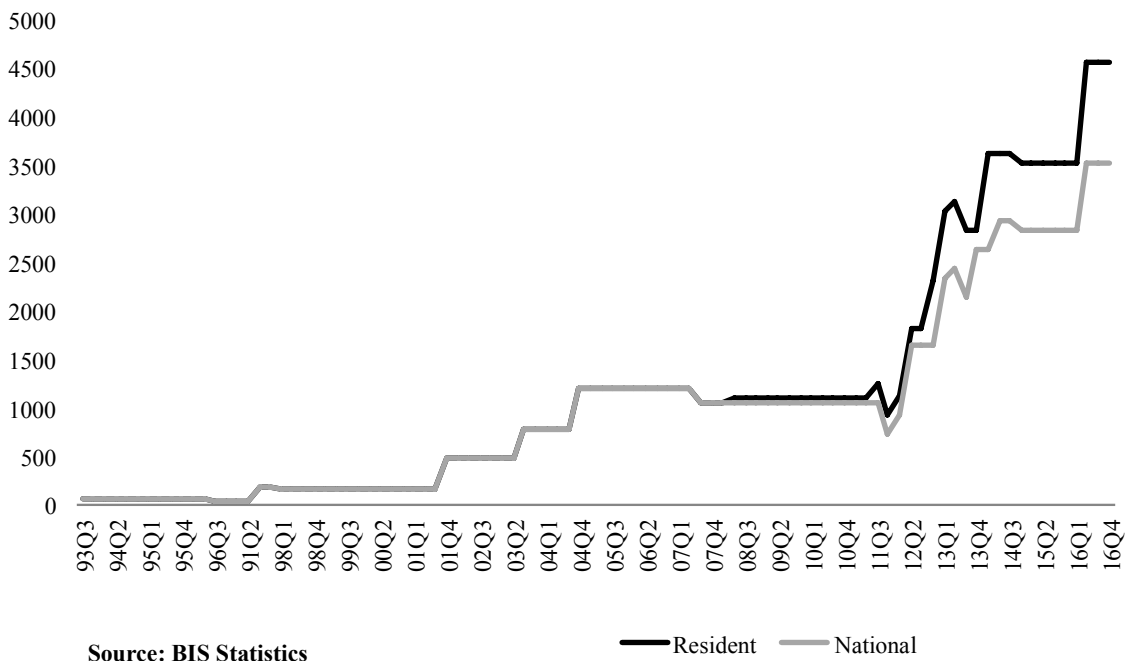
Figure 3.15 Panama IDS Outstanding (All borrowers) by Residence and nationality of Issuer (mill US\$)



289. According to the authors, GDP volatility in Costa Rica and Honduras is explained mainly by external shocks while in Guatemala and El Salvador by regional ones. In Nicaragua, both external and regional shocks have been equally important.

290. Morales and Schipke 2005 (in Rodlauer and Schipke 2005). Besides external policies these countries are frequently affected by natural disasters, for instance.

Figure 3.16 Guatemala IDS Outstanding (All borrowers) by Residence and nationality of Issuer (mill US\$)



This suggests that these countries host subsidiaries (with parent firms abroad) that have been issuing foreign debt in recent years. It is possible that the parent companies, as ultimate obligors, may provide support to their subsidiaries, the immediate borrowers, in the event they are unable to meet their financial commitments (BIS 2014), which suggests that there may be less financial fragility in these cases if parent firms are disinclined to allow subsidiaries to default. However, that would depend on each case, on the parent firm's behavior and the host country's policies.

According to this analysis, the financial fragility of the economies of Central America is not as compromised as that of the bigger emerging economies that have parent firms with subsidiaries abroad, which have issued enormous amounts of foreign debt in the bond market. Yet, it is important to consider that the countries in Central America (including Guatemala and Panama) are still responsible for most of their total debt given the obligations of their general governments. As seen before, this sector's debt issuance has the biggest weight in the total debt issued in the bond market by countries in Central America. Thus, warnings about financial fragility arising from a situation of low cost debt brought with QE and global liquidity also apply to the countries of Central America.

This is of particular importance considering that the majority of countries in Central America have had low rates of economic growth in the last decade, are well

known for their lack of a robust fiscal system -- as well as for their use of most public revenue for the payment of current expenditure (see ECLAC 2016) – and have a limited capacity to absorb external and internal shocks as just mentioned. All of this signals that these countries still lack the ability to generate sufficient resources to meet their expenses, including the repayment of foreign debt.

### **3.6. Conclusion**

Countries may wish to access new sources of funding, particularly when they are dependent on capital inflows and are structurally in a position of borrowing from abroad as I showed for the countries in Central America. Historically, these countries have been dependent on bank lending and external debt as their primary options for obtaining financial resources. QE and the global liquidity triggered by it appeared to have involuntarily created new opportunities for external funding for these countries via the low cost debt in the foreign bond market.

Even though this situation may be perceived as positive in terms of the availability of new options for funding, it is important to note that it does not respond to a policy of co-ordination between countries. Instead, it is an unintended outcome of the domestic monetary policies of developed countries, whose use of QE policies, impacted global liquidity. As discussed above, even though not necessarily in all cases, this could negatively impact Central American countries' financial fragility, particularly considering these countries' limited ability to generate sufficient resources to meet their obligations.

In the chapter, we saw that countries in Central America (like other developing countries) have taken advantage of the cheaper sources of funding that became available with the global liquidity created by QE. As mentioned, we saw that there is an important increase in the levels of international debt securities issued by these countries and that the proportion of that debt with respect to GDP has also increased particularly after the 2008 crisis. There is evidence that the foreign bond market has become an important source of funding for the countries in the region and that this coincides with the second phase of global liquidity that emerged with the implementation of QE policies. This suggests a change in the composition and the pattern of indebtedness in these countries in response

to (and as an unintended consequence of) un-coordinated monetary policy in the form of QE.

In addition, we saw that the increase in the use of this source of funding comes from financial and non-financial sector. Even though sovereign debt prevails as the main component of the foreign bond debt (in all countries, and mainly in El Salvador and Panama), the debt of financial corporations continues to increase and that of non-financial corporations, which was negligible for most countries a decade ago, has continued increasing as a share of the total foreign bond debt, particularly in the case of Guatemala, Panama, and Costa Rica. We also saw that in spite of that increase, and in contrast to the case of some bigger emerging economies around the world, the role of non-financial corporations' foreign bond issuance is not so important in the case of Central America.

Besides the use of a new source of funding, the increase of IDS by different sectors signals additional implications in terms of the financial fragility of some of these economies. For instance, countries with high and increasing sovereign debt that have shown difficulties to face the repayment of their financial obligations are of particular interest.

Additionally, we also saw that when debt is classified by nationality and residence, another pattern identified for bigger emerging economies, in which the debt issued by nationality (particularly that of non-financial private corporations) became higher than that by residence, is not found in the countries of Central America. The latter countries do not have debt obligations similar to those of bigger emerging countries since, unlike them, countries in Central America are mainly hosts of other countries' subsidiaries. Still, this is not to undermine that even though modest, an increasing bond issuance by non-financial corporations for at least half of the economies in Central America has taken place and that these countries are still responsible for most of their total debt.

The financial fragility of the Central American economies, then, is still affected if we consider their high levels of foreign indebtedness in the bond market via, mainly, the general government and their limited ability to generate their own resources as seen above.



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