A brief history of international trade thought: from pre-doctrinal contributions to the 21st century heterodox international economics

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Abstract: The present paper outlines the development of international trade thought, from the pre-doctrinal contributions of Greek philosophers and scholastic theologians, through the theories of the first schools of economic thought, and up to modern and contemporary trade theories. I follow filiations of ideas in a chronological order, and show how theoretical investigation into the causes and effects of international trade—and the rationale for government intervention—has evolved over the last two centuries.

Keywords: international trade, history of economic thought

Introduction

For centuries, international trade in goods and services, and the development of the international division of labor have constituted a focus point of study for economists and philosophers alike. Research in this field usually revolves around three main lines of inquiry (Wu 2007): (a) what are the causes of international trade? (b) what are the effects of international trade?, and given these two aspects, (c) is government intervention in international trade necessary or beneficial? Broadly speaking, the first two questions belong to economic theory, while the latter is concerned with economic and trade policy. Nevertheless, between the two areas there is no clear-cut separation.

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economic theory influences economic policy, and by the same token, political decisions and ideological trends leave an imprint on the conceptual foundations of economic theory (Irwin 2002). The present paper provides a short overview of how the answers to these three questions have evolved alongside the development of economic theory. We shall follow filiations of ideas in a chronological order, investigate the assumptions and methodological presuppositions of the main theories, as well as highlight occasionally the influence of politics on the progress of these ideas. To this end, the first section maps the pre-doctrinal contributions to trade theory, from the Ancient Greek writings to the Physiocrats. The second section follows the development of international trade theories in Britain and France over the 19th century, while section three analyzes its separation into multiple schools of thought throughout most of the 20th century. Section four then concludes with an investigation of the most important contributions to trade theory after 1990 and up to the present day.

Pre-doctrinal theoretical contributions

Up until the Middle Ages, philosophers and theoreticians did not undertake any systematic study of international trade, and early theories are rather fragmented, laced with ethical and political considerations. Within this pre-doctrinal period, four subsequent periods can be delineated: Ancient Greek thought, scholastic and Christian thought, mercantilism, and Physiocracy.

The most important ideas concerning international trade in Ancient Greek thought are found in the works of Plato, Xenophon, and Aristotle. They analyzed the effects of the division of labor and of voluntary exchange of goods, and considered them to be beneficial to both parties involved in the transaction. In 380 BC, in *The Republic*, Plato discussed the practical impossibility of self-sufficiency for a city state, and explained that the division of labor brings about a higher productivity and higher output than autarky, as well as allows individuals to specialize according to their natural aptitudes and available natural resources (Plato 1930). In 340 BC, Xenophon, in following Plato, also mentioned the benefits of the price arbitrage carried out by traders in search of profit, as well as the advantages of larger, international markets for the merchants of the Greek city states (Xenophon 1918). Notwithstanding these
considerations, the Greeks did not declare themselves in favor of international commercial relations. As one example, around 350 BC, Aristotle was already arguing in *Politics* for a certain degree of economic self-sufficiency— in fact, as high as possible. For Aristotle, this self-sufficiency was necessary to limit not only foreign commerce, but also any unwanted contact with foreigners (Aristotle 1932). Thus, he argued, part of the city rulers’ duty was to decide which exports and imports are absolutely necessary, and furthermore, to insure the fairness of these exchanges through some type of commercial treaties with other cities.

Aristotelian philosophical ideas constituted the foundation for the development of scholastic and Christian thought between the 13th and 15th centuries, and this intellectual legacy made it possible for economic science to be born first as a peripheral branch of ethics. However, this also meant that philosophers and theologians of this period were skeptical that international trade could be compatible with the principles of moral philosophy. They agreed that the peoples and regions of the world were not endowed by nature with all the things necessary for survival, and thus that foreign commerce was, at least to a certain degree, indispensable. However, they also considered that commerce in general, and especially commerce with foreigners, could have alarming moral consequences. As early as the 5th century, theologian St. Augustine echoed the opinion of Greek philosophers, according to which commercial activities foster avarice and fraud; however, unlike the Greeks, St. Augustine did not wish people to become autarchic from a cultural point of view (Irwin 1997). These prejudices continued to influence medieval scholastic thought, albeit gradually losing their importance. In *Summa Theologica* (written between 1265 and 1274), Thomas Aquinas accepted the idea that imports and exports are beneficial to society, but was careful to argue that foreigners might have a deleterious influence on local communities (Aquinas 1947). Material gain in itself never came to be considered virtuous or necessary, but in time, its connotations were no longer undoubtedly immoral. Finally, the natural law philosophy which followed the scholastic works of the 16th century was the first to systematically lay the foundations for commercial freedom. In 1608, Hugo Grotius proclaimed the benefits of the total freedom of international trade, freedom that no state had the right to oppose (Grotius 1916). In a similar fashion, in 1612, Francisco Suarez explained that free commercial exchanges are an unalienable right of every individual, and of every nation (Suarez 1934). As a
result, they argued, respecting this right not only did not bring any economic or cultural damage, but was in fact in the interest of the entire human society. Together with the emergence of the nation states, commercial relations became increasingly more important, for scholars and statesmen alike. Against this background, mercantilism sprang up as a profoundly nationalist movement, reaching the peak of its popularity in 16th and 17th century England through the writings of Thomas Mun (1664) and Gerard de Malynes (1622), as well as through the protectionist policies of Jean-Baptiste Colbert in France. Mercantilists believed that states were in a perpetual economic and political conflict with each other, and as a result, they portrayed international trade as a zero-sum game. Their main concern became increasing the welfare of one’s own nation, which could be obtained only by decreasing the welfare of other nations. The accumulation of precious metals such as gold and silver in a country’s treasury was the foremost means to achieve this goal. Governments were thus encouraged to come to the aid of national producers, as well as promote exports of manufactured goods and imports only of raw materials, via price controls, tariffs, and other trade barriers. These policies were supposed to encourage the inflow of gold while hampering the outflow, insuring a favorable balance of trade. Such policies remained popular for more than two centuries, but mercantilism began to lose its relevance once its consistent implementation led to the economic decline of these nations. Most importantly, however, mercantilist trade thought was exposed as a spurious doctrine by the harsh criticism of 19th century liberals.

These liberals— whose works make the subject of the next section— were preceded and to a degree even influenced by the Physiocrats, the first proper economic theoreticians in the history of economic thought (Schumpeter 1954). Their best-known representatives— François Quesnay and A.-R. J. Turgot— believed that the wealth of a nation depended almost exclusively on the development of the agricultural sector. Despite some remnant mercantilist ideas concerning the ideal of a favorable balance of trade, the Physiocrats argued mainly in favor of trade liberalization: in the second half of the 18th century, Turgot was writing and advocating for ‘all branches of commerce… to be free, equally free, and entirely free’ (Turgot 2011).
The development of international trade theory

The first theories of international trade originated from the liberal reaction to the mercantilist domination from the 16th to the 18th century, a reaction which approached the topic of international trade with considerable attention. From this point of view, the 19th century belonged to two main schools of thought: the British Classical School and the French Liberal School, whose well-known members were Adam Smith, David Ricardo, and John Stuart Mill, and Jean-Baptiste Say, Frédéric Bastiat and Paul Leroy-Beaulieu, respectively. In addition, the 19th century marked the emergence of economics as an autonomous science, as well as the debut of the first important differences in the theories of contemporary schools of thought.

Adam Smith is considered to be the founder of the British Classical School, and his best-known treatise, The Wealth of Nations (first published in 1776), is a comprehensive and thorough critique of mercantilist thought (Smith 1954). In his work, Smith highlighted the importance of the division of labor in increasing output, and considered international trade as a particular case of specialization, i.e. international specialization among nations. According to Smith, in a world of scarce resources and unlimited wants, every country is bound to specialize in the production of those goods that can be produced at a lower absolute cost, i.e. fewer hours of labor. These goods, in turn, will be exchanged for the goods for which other countries have an absolute advantage in production. Smith’s ideas were later developed and enriched by David Ricardo in 1817, who first described the principle of comparative advantage within the same labor theory of value; countries should specialize in producing those goods which require—in relative, not absolute terms—a lower cost, i.e. relatively less hours of labor (Ricardo 1821).

In 1844 and 1848, John Stuart Mill’s theory of international values rounded up the classical approach to foreign commerce, completing and perfecting his predecessors’ analysis (Maneschi 1998). First, according to Mill, the phenomena of cross-border exchange belonged to a different category of theoretical investigations, and to a different set of laws regarding value and cost than domestic economic exchange (Maneschi 2001), due to the fact that capital and labor could not move freely across countries. However, Mill also showed that the terms of trade between two countries
depend on the intensity of reciprocal demand for goods as a function of their barter exchange ratio, and thus, he pointed out that the share of each country in the total gains from trade could change with the intensity of demand, or with the level of protective trade barriers (Mill 1909). The criticism of unilateral free trade implied in the theory of international values, which Mill expanded from Robert Torrens (Fujimoto 2014), raised questions about trade policy: how could a nation acquire, through tariffs, a larger share of the total gains from trade? As a result, while for both Smith and Ricardo, cooperation among nations was considered a positive-sum game, and international exchange mutually beneficial for all countries, Mill’s theory of international values shifted the accent onto a fixed-sum game, in which the gains from trade could potentially be divided to favor one country more than another.

Last but not least, the classical trade theories put forth by the British economists marked the evolution of economic science— and of international trade theory— for centuries to come. According to Jacob Viner (1937), the classical theory of international trade attempted to solve exclusively macroeconomic problems, and deemed that a microeconomic approach was inadequate for this task. As a result, Ricardo set the foundation for aggregate general-equilibrium analysis, and diverted economic analysis toward the separation between the ‘real’ economy— of goods and services— and the ‘monetary’ economy, a separation also known as the classical dichotomy. Similarly, John Stuart Mill divided the theory of value into principles applicable to domestic trade, and those applicable to international trade, i.e. the theory of international values.

On the other shore of the English Channel, the influence of the French Liberal School on the development of economics in France began with the publication of Jean-Baptiste Say’s treatise on political economy in 1803, and extended over an entire century, roughly until the death of Gustave de Molinari in 1912 (Salerno 1978, p. 65). The British Classical School and the French Liberal School did not enjoy comparable popularities at the time— the former was significantly better-known— , nor during the 20th century. However, the two schools were united in their appreciation of the free market, and in their endeavors to extoll the virtues of free commerce and production. This compatibility between the ultimate goals of their science stemmed, most likely, from their common regard for the work of Adam Smith. [1]
Between the theoretical systems of the two schools, however, there existed numerous
differences which informed the particular outlook of their international trade theories.
As Jean-Baptiste Say wrote in his correspondence with David Ricardo, ‘while
searching the truth in good faith, and after we have dedicated entire years to deepen
the questions with which out science presents us, there are still numerous points on
which Mr. Malthus, you [Ricardo] and I cannot find ourselves entirely in agreement’
(Ricardo 2005, p. 31). First and foremost, David Ricardo and John Stuart Mill
proposed an objective theory of value, focusing on the supply-side conditions in
explaining the formation of market prices. This labor theory that the British Classical
School had championed and that underlined Smith and Ricardo’s trade theories had
originated with David Hume, who ‘gave Smith the doctrine that commodities are a
storehouse of labor because labor is the active agent that produces all commodities’
(Dooley 2005, 108). Smith then established labor as the philosophical foundation of
classical economics, where workers’ toil produces all commodities, and thus a nation’s
wealth is made up of its real riches, i.e. its consumer goods. In following Smith, David
Ricardo proposed an objective theory of value, focusing on the supply-side conditions:
he argued that the cost of labor—to which the accumulated profits during the
production process were added—is the main determinant of the formation of exchange
prices in the market.

By comparison, as Evert Schoorl writes, ‘Ricardo’s labor theory of value was part of a
paradigm that was altogether alien to Say’ (Schoorl 2012, p. 94). The French
economists explained the formation of prices for consumption goods and capital from
the demand for products, thus using an incipient subjective value theory and a theory
of imputation (Courcelle-Seneuil 1858; Leroy-Beaulieu 1914; Say 1971; Bastiat 2007).
Between the two schools existed, furthermore, several methodological differences,
which would later have an important bearing on the scope and method of their
theoretical investigation. The disciples of Jean-Baptiste Say strongly opposed the
method of Ricardian economics, which they characterized as argumentation resting on
unsound abstractions, using algebraic formulas unsuitable to the study of political
economy. Frédéric Bastiat defended the French tradition by noting that ‘our theory
consists in merely observing universal facts and is so little opposed to practice that it
is nothing else but practice explained’ (Bastiat 2007, p. 256). French economists also
claimed that the same economic principles underlie both domestic and international trade, and thus, that a theory of international values had no theoretical justification. Instead, they focused on a microeconomic analysis of international trade, explaining the role of entrepreneurial activity and its benefits for individuals and society in general.

The paradigm shift: the marginalist revolution

In 1871, the labor theory of value was replaced by the subjective theory of value, developed in the works of Carl Menger (2007) and Stanley Jevons (1888)—both treatises originally published that same year—, and Léon Walras (1926), whose treatise was originally published in 1874. Following this major turning point in economic science, and against the background of intensifying commercial relations among nations, the development of international trade theory as a special branch of the economic science has been spectacular.

For the first part of the 20th century, neoclassical theories have formalized, criticized, or elaborated upon the principle of comparative advantage, framing it within the new subjective paradigm. In 1895, in his article *Mathematical Theory of International Trade*, Vilfredo Pareto created the first mathematical model of Ricardo's comparative costs principle, for two countries and two goods. In this model, relative costs were expressed in terms of marginal utility, in the attempt to eliminate the labor theory of value from the principle of comparative advantage (Pareto 1985). In like manner, Gottfried Haberler formulated in 1935 the principle of comparative advantage in terms of opportunity costs rather than hours of labor. Pareto and Haberler's explanations opened the gate for mathematical models with multiple countries and multiple goods, and set the conceptual foundations for modern trade theory. Furthermore, these contributions managed to keep alive the principles of commercial freedom, which in the war-ridden Europe of the early 20th century had already begun to fade. Later in the century, the Swedish economist Bertil Ohlin, inspired by his professor Eli Heckscher (1919), developed the theory of factor endowments in his 1933 treatise, later revised in 1967. Unlike Pareto and Haberler, Ohlin wished to discard Ricardo's theory completely, and replace it with his own new explanation of international trade: given
two factors of production, labor and capital, Ohlin proposed that countries relatively more endowed in capital should produce and export capital-intensive goods, thus specializing in those sectors which use the factor of production the country is relatively more endowed with (Ohlin 1967). Albeit contradicted by some empirical studies of international trade flows (Leontief 1953), Ohlin’s contribution is still considered to be a correct and detailed theoretical explanation of the causes of comparative advantage, easily reconcilable with Ricardo’s principle (Maneschi 1998).

Even though the 20th century has been marked in an overwhelming proportion by the development of neoclassical economics on the basis of the works of 19th century British economists, the ideas of the French liberals have not been entirely forgotten. Ludwig von Mises shared many of the views of his French intellectual predecessors, and his work is largely an endeavor to discard the overarching classical dichotomy, and to reconcile real and monetary economic analysis. Mises began his analysis of the particular aspects of international economics from the fundamental and overarching economic phenomenon of the division of labor. Throughout his works, numerous references were made to the merits of the principle of comparative advantage and the economic benefits of international trade, first explained by Adam Smith and David Ricardo. However, Mises stressed the fact that the adherents of the classical school were mistaken in their belief that the law of comparative costs represented the starting point for a theory of value in international trade. In accord with 19th century French liberals, Mises argued that ‘with regard to the determination of value and of prices there is no difference between domestic and foreign trade. What makes people distinguish between the home market and markets abroad is only a difference in the data, i.e. varying institutional conditions restricting the mobility of factors of production and of products’ (Mises 1998 [1949], p. 163).

As a result, in Human Action, Mises set forth the Ricardian law of association, a general law of economic cooperation, of which country specialization is simply a particular case. This contribution not only showed once more that the benefits of the division of labor spring from differences in the productivity of resources, but highlighted also the importance of individual rational decisions to engage voluntarily in exchanges. In addition, Mises argued, relative costs are meaningful only as monetary costs, determined by the market process that brings about the structure of prices, thus
bringing together the basic principles of international trade theory and those of monetary theory. In this way, Mises reinstated entrepreneurs to their central role in the economy, highlighting the importance of the correct entrepreneurial allocation of economic resources nationally and internationally, as well as the role of monetary prices in this process.

Modern trade theories and the theoretical landscape after 1990

As we have seen above, classical trade thought was assimilated into neoclassical theory through mathematical models, whose purpose soon became that of predicting the pattern of international trade flows, as well as the impact of globalization and commerce on national welfare. Neoclassical trade theory focused on polishing and perfecting these models, on correcting some errors (like the perfect competition hypothesis) and on extending the analysis in order to incorporate more and more variables (technological development, scale economies, product life-cycle theories). At the same time, because the second half of the 20th century had its fair share of turning points in economic science, the theoretical corpus of international economics became increasingly heterogeneous.

Paul Samuelson (1948)—considered to be the founder of modern economics—first set the foundation for a synthesis between neoclassical economics and John Maynard Keynes’s theoretical system. These new principles were soon applied to international trade as well, giving rise to contributions such as the Balassa-Samuelson theorem (Balassa 1964) and the Stopler-Samuelson effect (Stopler and Samuelson 1941). The former referred to the purchasing power parity, which is influenced by the relative productivity of sectors that produce tradable and non-tradable goods. The Stopler-Samuelson effect focused on the relationship between the relative prices of finished goods and those of the factors of production. Both contributions opened the way for new trade policies, tailored to stimulate the productivity of certain economic sectors depending on their influence on the purchasing power of a currency, or on the terms of trade. A student of Samuelson, Paul Krugman, developed in the early 1980s the New Trade Theory, starting from the assumption that neither comparative advantage nor factor endowments are satisfactory explanations for international trade flows,
particularly unsuitable to account for intra-industry trade flows. Hence, Krugman (1979) shifted his attention to the role of scale economies; given consumers’ love of variety and the increased efficiency in production, countries specialize in producing a small number of brands of the same product rather than a group of different products. On these trade models with monopolistic competition, Brander and Spencer (1985) developed soon after the strategic trade policy theory, arguing that countries could increase welfare by transferring the profit of foreign firms onto national firms. The strategic use of export subsidies, research and development investments, as well as trade barriers—albeit bearing the risk of retaliation—could come to the rescue of national companies, helping them develop and conquer international markets.

Also in the early 1980s, the Neo-Ricardian School of Piero Sraffa (1960) and Ian Steedman (1979) emerged as a reaction to the great development of neoclassical trade theory. Much less influential than their opponents, Sraffa and Steedman focused on reshaping Ricardo’s theory by keeping the labor theory of value and rejecting the marginalist revolution. One purpose of their research was to show how international trade has negative consequences on the less developed nations of the world. Finally, over the past few decades, the Austrian school has brought back to light the contributions of Ludwig von Mises to international economics, further polishing the Ricardian law of association and criticizing new developments in mainstream trade theory. American economists such as Murray Rothbard (1995) and Joseph Salerno (1990) have also revived the French liberal tradition, and the contributions of Turgot, Say and Bastiat.

The 1980s and thereabouts represented one of the most troubled and agitated periods in economic science. Before this period, the economic science had coalesced—with some exceptions—around the mathematical formalism of neoclassical economics (Sen 2005). Over the last three decades, however, new approaches to economics—and more interestingly, combinations of old and new approaches—began to take shape in the otherwise monolithic theoretical landscape. As Davis (2006, p. 28) explains, the challenges posed to the economic orthodoxy from outside the mainstream can be grouped into two main strands: one that ‘has clearly bet on a big scientific revolution’ and one that ‘is rather intent on chipping away at the core on a gradualist schedule.’ Other scholars have very bluntly voiced a deep discontent with the ‘sociopathy’ of
Samuelsonian economics: Klamer, McCloskey and Ziliak (2007, p. 2) have argued that ‘there’s more than one way to skin an intellectual cat— and a fair and public hearing of the alternatives is crucial to the health of the economic conversation.’ The field of international economics was not isolated from these changes: for example, international trade and international finance in particular were soon after in dialogue with the theory of the firm, and other entrepreneurship theories. In fact, the post-1990 period witnessed not only theoretical extensions of previous international trade models, but a general overhaul— from inside and outside the mainstream— of the scope and outlook of trade theory and policy. But before delving into the particulars, it is worth pointing out that the debate has been reduced around one question: what are the welfare effects of international trade? On the causes of international economic phenomena, there exists a consensus— albeit a weak one— that countries trade as a result of productivity differences among industries and countries. On whether government intervention is necessary to ensure the proper development of international trade, the consensus has grown ever stronger— with only some exceptions— toward a positive answer.

Internalization, competitive advantage, and the New Economic Geography

Let us now first look at the theoretical developments that are meant to chip away at the present state of affairs, that is improve, add, polish, replace, and reconstruct elements of the existing theories. On the one hand, these developments amended and reshaped the mainline trade theories, looking into the theoretical boundaries between comparative advantage, economies of scale, and their relationship to the gravity model of international trade (Hummels and Levinsohn 1995; Deardorff 1998); in this context, scholars found new empirical support for the comparative advantage (Harrigan 1997) and factor endowments theories (Trefler and Zhu 2010). On the other hand, as Donald Davis explains, ‘the 1990s marked... a flourishing of empirical work, [which] has moved in the direction of understanding the types of hybrid theories required to fit the data’ (Davis 2000, p. 61). Furthermore, ‘since the mid-1990s, a large number of empirical studies have provided a wealth of information about the important role that firms play in mediating countries’ imports and exports’ (Bernard et al. 2007, p. 2). As a result, after a long period of neglect, national and multinational firms finally became
Perhaps the most extensive and comprehensive development of international trade analysis was provided by the New Economic Geography theories. Based on the analytical foundations laid out by Krugman and Venables (1990), these theories added monopolistic competition, costs of trade, external economies, and dynamic adjustment to the traditional analysis. The new developments were then analyzed with spatial models in order to explain the emergence of industrial clusters, labor mobility, and the overall pattern of trade specialization. Other branches of this subfield (regional, historical, critical, and behavioral) further focused on issues such as economic development, the evolution of specialization patterns over time, or even the cognitive processes underlying locational decision making and firm behavior (Schoenberger 2001).

Second in terms of overall relevance, Michael Porter’s model of the competitive advantage of nations (Porter 1990) claimed that the roots of productivity— the main source of sustained prosperity in the global economy— are to be found in the environment for competition, be it at a national, regional, or local level. Porter depicted this environment as a ‘diamond’, whose facets comprise microeconomic and macroeconomic elements such as information, incentives, institutions, or available infrastructure. The uniqueness of the theory resided in the broader understanding of the sources of productivity and their connection with competitiveness, in contrast with the narrower classical theories of comparative advantage. In this context, the role of governments in the international arena was also redefined: Porter wrote that ‘government’s proper role is as a catalyst and challenger; it is to encourage— or even push— companies to raise their aspirations and move to higher levels of competitive performance... It is an indirect, rather than a direct role’ (Porter 1990, p. 86). More recently, competitive advantage and the economic geography have also found some common ground, because, as Porter explained ‘industrial clusters cannot be understood independent of a broader theory of competition and competitive strategy in a global economy’ (Porter 2000, p. 16).
A third strand of theoretical developments came with the internalization theories, which sought to analyze business behavior and build a theory of the international firm on the foundation of transaction costs theory (Markusen 1995; Rugman and Collinson 2012). The foundational insight—that the structure of an international organization creates knowledge flows across national borders and within multinational enterprises—was soon after incorporated into an ‘eclectic’ approach, also known as the OLI (ownership, location, internalization) framework (Dunning 2000). This latter approach added three factors to the initial theory: ownership advantages (e.g., entrepreneurial skills), location advantages (e.g., local wages and taxation levels), as well as internalization advantages (i.e., the advantage of own production). The new framework also gave rise to some policy-relevant debates: if transnational enterprises transfer capital, technology, and managerial skills across borders, should governments support the growth of inward investment and foreign capital ownership as an alternative source of economic development?

Other amendments and extensions comprised the theory of international new ventures, foreign direct investment theories (Morgan and Katziekas 1997), or the more recent fragmentation theory (Jones and Kierzkowski 2001). The theory of international ventures argues that in the modern economy, international firms are no longer an outgrowth of mature domestic companies, but are rather conceived as global firms from the beginning. This phenomenon is otherwise incongruent with the traditional explanations of multinational enterprises, but scholars argue that it can nevertheless be investigated in a framework centered on four elements: ‘organizational formation through internalization of some transactions, strong reliance on alternative governance structures to access resources, establishment of foreign location advantages, and control over unique resources’ (Oviatt and McDougall 1994, p. 45). Investment theories also focused on the flows of capital investment among countries, as well as on the role of financial intermediaries in international trade. On the one hand, there is a general consensus among scholars that the inflows of capital enhance economic growth, even in the case of developing and transition countries (Neuhaus 2006). Nonetheless, other empirical investigations revealed ambiguous results when the analysis was made on different sectors rather than the economy as a whole (Alfaro 2003). Thus, some scholars became concerned about the ambiguous effects on global welfare of international trade agreements and domestic policies (Buthe and Milner 2008), as well
of financial intermediation and growing capital markets. For example, the literature agrees that financial intermediaries ‘facilitate large-scale, high-return projects [thus] economies with better-developed financial sectors have a comparative advantage in manufacturing industries’ (Beck 2002, p. 107). However, following the financial crisis of 2008-2009, and subsequent government bailouts of the financial sectors (as well as liquidity injections in trade finance markets) there arose new debates about the need for state intervention. Some scholars even devised different roles for states in the international economic milieu, viz. container, regulator, competitor, and collaborator, concluding that ‘the state... has remained a most significant force in shaping the world economy, despite the hyper-globalist rhetoric’ (Denken 2011, p. 171).

In conclusion, as Colander, Holt and Rosser (2007, p. 309) have argued, contemporary economic thinking in international economics ‘is moving away from a strict adherence to the holy trinity—rationality, selfishness and equilibrium— to a more eclectic position on purposeful behavior, enlightened self-interest and sustainability.’ In spite of this tendency, however, mainstream trade theory still remains faithful not only to mathematical formalism, but most importantly to its conclusion about the effects of trade, and its policy recommendations. For a large majority of trade scholars, international trade remains largely beneficial, and trade barriers should still be kept at their lowest possible levels. This unflinching stance has nonetheless opened contemporary theories to severe criticism from outside the mainstream, criticism which we shall investigate in the next subsection. These critiques come from both new and old schools of thought in economics, and their theoretical program wishes to change the outlook of the economic science through a scientific revolution rather than through gradual change. Such works are already turning into a new paradigm in its own right, an extensive and self-contained tradition in international economic thought.

**Heterodox international economics**

Heterodox economic theories and their proponents—labelled by some as ‘marginal revolutionaries’—have become important examples of successful crisscrossing between theoretical paradigms. As Dow (2006, 9) explained, much of the new work in these fields ‘is synthetic in nature, exploring the middle ground between schools of thought’.
and developing new ideas as a result of cross-fertilization’. First of all, heterodox economists manage to embrace mainstream and alternative approaches by recognizing the limits and shortcomings of each model in every paradigm (Tolentino 2001). Second, they attempt to overcome these limits by creating other models, comprehensive, universal, and multi-disciplinary in nature, which could replace reductionist orthodox models. Third, in addition to the pluralism of ideas and theories, heterodox economics embrace also epistemological and methodological pluralism, as well as a plurality of policies. Lawson (2006, p. 495) summarizes this eclectic system of views as ‘intrinsically dynamic or processual, interconnected and organic, structured, [which] exhibits emergence, includes value and meaning and is polyvalent’. However, as some scholars have observed, the pluralism that characterizes heterodoxy is in itself an unstable period of transition from one state of equilibrium to another, this time in the sphere, and in the ‘market’ of ideas (Colander 2007, p. 2). Others, however, have disputed this opinion. They argued that pragmatic, analytical eclecticism aims to ‘eliminate paradigms, landl to follow the road of problem-driven rather than paradigm-driven research... foregoing metatheoretical and methodological battles’ (Katzenstein and Sil 2008, 1). This pragmatic scholarship thus seeks to first identify what particular problems need to be solved, and then cater their policy recommendations to the distinctive features of specific events.

Out of these numerous strands of heterodox economic thought, several contain important and well developed contributions to international economics. On the one hand, institutional economics— which focuses on the evolution and role of institutions in shaping economic behavior— has analyzed the activity of international institutions in the multilateral trade system and the international monetary system (Knaack and Jager 2007), and even extended the narrow assumptions of Ricardian trade theory (Shiozawa 2007). Other scholars (Nunn 2007, Costinot 2009) have argued that ‘institutions are a source of comparative advantage in trade’, but also that the welfare consequences of institutional comparative advantage are often ambiguous (Levchenko 2011). Behavioral economics— which brings insights from psychology and cognitive science into economics— has also been applied to international exchanges. Behavioral economists were searching to bring to light and predict human decision making in global markets, and in this way to make trade models more realistic (Anderson and Stamoulis 2006). In addition, they have also endeavored to assess the impact of loss
aversion on trade policy, and thus explain why such a large share of protectionist policies is directed toward declining industries (Tovar 2009). One of the most extensive endeavors to extend heterodox economic thinking to international phenomena has been carried by Hendrik Van den Berg (Cojanu 2014). His project began from the insight that 'international economic integration occurs within the broader social and natural spheres, which surround the economic sphere observed by traditional economic analysis' (Van den Berg 2012, p. 6). This means that the analysis of international economic phenomena must be framed by a complexity analysis, even though that might undermine the traditional assumption of welfare-maximizing free trade. One important focal point of this theoretical program is the role of multinational corporations in international trade, analysis which connects the field of trade with that of international investment and finance, and which gives interesting parallels between the mercantilist theories of past centuries and the ‘colonialism’ developed between international corporations and governments (Van den Berg 2012).

On the other hand, Post-Keynesian economics have had numerous contributions to the study of international monetary relations over the 20th century (in particular to the theories of balance of payments and exchange rates), contributions which continued to develop after 1990 and 2000. For example, the elasticity approach to the balance of payments— and the Marshall-Lerner-Robinson conditions— were first developed in the 1950s and 1960s as an extension of Keynesian analysis to the international sphere. As a result, contemporary Post-Keynesian international economics include assumptions of wage and price rigidity, as well as mass unemployment. In like manner, their policy suggestions are based on the idea that the decrease in the price of exports following the devaluation of the monetary unit can rapidly boost the demand for exports, and thus increase welfare by capturing unemployed resources via inflation (Kavous 2009). Last but not least, some economists have refuted neoclassical international economics by going back to classical works, in an endeavor similar to that of Sraffa and Steedman earlier in the century. For example, Hidalgo and Hausmann (2009) developed a new view of economic growth and development, rooted in Adam Smith’s insights regarding wealth and the division of labor, but matured within the framework of economic complexity. Other economists actually returned to Sraffian economics, which some considered to be a superior framework for international economics— without the drawbacks of unrealistic neoclassical formalism (Pilkington 2014)— and which others...

In conclusion, heterodox critiques of orthodox theories stretch from the reductionist assumptions of costless adjustment and stable markets to those of perfect competition. They also introduce uncertainty, expectations, derivatives markets, emotions, financial instability, environmentalism, and immigration issues in their analysis, and even consider the relationship between income and happiness, or the impact of trade on inequality. However, like contemporary mainstream economics, their contributions are also underlined by the idea that government intervention in international economic relations is indispensable. In other words, unconventional schools of thought, much like the conventional ones, have gradually become united by a fundamental mistrust of free markets and globalization.

**Post-autistic international economics**

One particular branch of heterodoxy— that of post-autistic economics— can be distinguished from similar research programs as the harshest critic of comparative advantage, and the toughest program challenging the benefits of trade in general, and free trade in particular (Baker 2008, p. 24). The main criticism delivered by the scholars associated with this line of thought (Fletcher 2004, 2007; Goodacre 2007; Baker 2008) is that traditional trade models consistently overemphasize the gains from trade without explaining and presenting its negative effects, and are biased in thinking that the former outweigh the latter. More precisely, they argue that the superiority of post-autistic analysis and its benefits lie in the fact that ‘once one leaves the autistic fantasy world of free trade’s laissez-faire economics, one also leaves behind its tidy-but-false implications’ (Goodacre 2007, p. 2). These implications are in fact used in fact by many scholars to refute comparative advantage ‘on its own terms’ (Schumacher 2013), focusing on the shortcoming of hypotheses such as immobility of capital among countries and unfettered mobility among industries, as well as on the disregard for income distribution and inequalities caused by liberalization of trade flows.

For instance, post-autistic economics scholars argue that free trade cannot be equally advocated for all sectors of the economy, exception making in particular high-end
services sectors (such as healthcare), where national interest groups are well-organized and where salaries are most likely to be pushed down by an influx of foreign skilled labor (Baker 2008, p. 31). In a similar vein, Goodacre (2007, p. 2) argues for the need for inelegant, but true explanations of international trade, explanations that can inform a ‘catch-as-can policymaking closely dependent upon the economic experiences of the particular nation in question’. However, while these extensive critiques focus almost exclusively on the neoclassical mathematically formalized version of Ricardo’s principle—arguing that ‘this theory is crippled by the dubious assumptions upon which it depends’ (Fletcher 2010, p. 94)—they fail to cover other reformulations, which leave more room for contextualization—such as Mises’s law of association or even Ricardo’s own exposition of the principle. Thus, the exclusive focus on mainline mathematical formalism downplays the argument that the validity of comparative advantage can be proven by extending its assumptions or by introducing money prices into the analysis.

With regard to trade policy, post-autistic economics reframe the debate in terms of a single choice: between uniform, invariable tariffs—i.e. a type of protectionism that encourages home-production of all goods, without discrimination—or strategic trade policy—where tariffs and barriers are adapted to country of origin of the product in question, but that is much more complex to handle and consequently more costly. Nevertheless, the two choices both retain the more traditional assumption that the objective of trade policy is—and should be—‘national self-interest’ (Goodacre 2007, p. 2). In offering guidelines about strategic protectionism, therefore, post-autistic trade economics reverts to older mercantilist ideas: high-value (manufactured) goods constitute the most lucrative exports, while low value (unprocessed) goods are best imported, in order to keep commercial value added in the country. Yet it remains unclear whether all countries can successfully implement strategic protectionism, or whether international trade is in fact a zero-sum game where social inequality and unemployment can be reduced only in some economies. As Rothschild (2007, p. 46) argues, a coherent position on trade policy must be supplemented ‘by a recognition and consideration of the interrelationship of national trading policies, [since] narrowly defined national self-interest [is] bound to lead to clashes and could easily be self-defeating.’
Conclusion

The field of international trade, in its theoretical—as well as policy-relevant—aspects, suffered significant modifications over the course of the 20th and 21st centuries. New schools of thought, as well as new political and ideological trends (such as sustainability or equality) have all made an impact on the overall outlook of the economic science in general. The face of international economics in particular is changing. On the one hand, markets—the core focus of the study of international trade for centuries—are now reprehended, rejected, and sometimes even ridiculed. On the other hand, while methodological reflection can be successfully used in developing the search for truth, it also runs the risk of turning into internal bickering, and thus give rise to varied, numerous, but yet to be proven valuable theories. On all sides, as Necker (2014) explains, ‘cherry-picking of findings that conform to a desired hypothesis may be interpreted as the ‘quest for positive results’ but not exactly as the ‘quest for truth.’ On the other hand, the fact that the theoretical corpus is becoming rather fragmented and heterogeneous—and new contributions focus more on technical details, and less and less on the bigger picture—mainly affects the still ongoing debate on trade policy. For a long time now, free trade no longer means what it used to in the pre-1914 laissez-faire era, and a new mercantilism is on the rise: especially after the military conflicts of past decades, planned international trade is once more on all governments’ agendas. In this context, it becomes imperative, but much more difficult for economic theory to inform decision-makers of the consequences of changing the natural course of international cooperation.

Annex: A brief history of international trade thought

**Pre-doctrinal contributions**
- Ancient Greek thought
- Scholastic and Christian economic thought
- Mercantilism
- Physiocracy

**The development of international trade theory**

**The paradigm shift: the marginalist revolution**
- The British Classical School
  - Adam Smith (1776)
  - David Ricardo (1817)
  - John Stuart Mill (1848)
- The French Liberal School
  - Jean-Baptiste Say (1803)
  - Frederic Bastiat (1845)
  - Paul Leroy-Beaulieu (1881)
- Vilfredo Pareto (1894)
- Eli Heckscher (1919)
- Bertil Ohlin (1933)
- Gottfried Haberler (1935)
- Ludwig von Mises (1949)

**Modern trade theories**
- Neoclassical School
- Neo-Ricardian School
- Austrian School

**The theoretical landscape after 1990**
- Internalization, competitive advantage, and the New Economic Geography
- Heterodox international economics
- Post-autistic international economics
Endnotes

[1] During his stockbroker career, David Ricardo had become interested in political economy after having read Smith's treatise, while John Stuart Mill dedicated a large part of his early studies to the works of both Smith and Ricardo, ultimately completing their classical view on production and exchange. Similarly, Jean-Baptiste Say considered Smith to be his master, whom he 'adored' (Schoorl 2012, p. 152), and gave him considerable credit for having discovered the fundamental principle of market cooperation and foreign commerce: 'the celebrated Adam Smith was the first to point out the immense increase of production, and the superior perfection of products referable to this division of labour' (Say 1971, p. 94). Paul Leroy-Beaulieu was another great admirer of Adam Smith, recognizing that 'the division of labor is reasonably seen, after Adam Smith, as the foundation of political economy, or we could say of human society' (1914, p. 323).

[2] However, some scholars argued that the concept of competitive advantage is in fact too ubiquitous to prove valid or useful: ‘successful firms are successful because they have competitive advantage, which in turn cannot be defined in any other way than as a quality that brings about success’ (Klein 2001). Consequently, some management scholars have concluded that ‘the breadth and relevance of Porter's analysis have been achieved at the expense of precision and determinacy. Concepts are often ill defined, theoretical relationships poorly specified, and empirical data chosen selectively and interpreted subjectively’ (Grant 1991).

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