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PROFITABILITY OF SLAVE AND LONG DISTANCE TRADING IN CONTEXT: THE CASE OF EIGHTEENTH CENTURY FRANCE

Guillaume Daudin¹

This paper studies the characteristics of investment in the slave trade and other long distance trades in France during the eighteenth century. After justifying why the slave trade should be aggregated with other long distance trades for this study, the paper introduces French data. Information is available on a total of 238 ventures from seven French harbours from the 1710s to the 1780s. The paper then focuses on computing the internal rate of return of the portfolio of investment in 65 voyages owned by an investor from Nantes. Using the undiscounted benefit-cost ratio as a proxy, the paper shows that this was typical of French long distance trade investments. These investments compared favourably with domestic alternatives. They were more liquid, shorter and more profitable than private notarized credit without being more risky. They were less risky and had a shorter duration than government bonds, without being less liquid or less profitable. The paper concludes that investment in the slave trade and other long distance trade was preferable to domestic alternatives in France during the eighteenth century. This might be explained by the existence of barriers to entry.

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The largest trading power in Europe at the end of the 1780s was France. The total value of its long distance trade – trade with Africa, Asia, America and re-exports to the rest of Europe – was equal to 25 million pounds sterling. The total value of British long distance trade was only 20 million pounds sterling. The growth of French long distance trade from the 1710s had been faster than the growth of English trade². The main support to long distance trade, the plantation system, was larger and more efficient in the French colonies than in the British ones³. As such, French trade is an important case to study for anyone interested in the relations between Europe and the other continents during the eighteenth century.

However, most of the debate about the role of long distance trade in European economies has centred on England. It has for example long been claimed that the relations between England and the other continents played a great role ‘primitive accumulation’ of capital before the Industrial Revolution⁴. This vision has been soundly criticized on macroeconomic grounds⁵. On microeconomic grounds, the debate has focused on the profits of the most striking aspect of long distance trade: the slave trade. No less than three different methodologies have been used to estimate slave trade profits: theoretical results from competition theory, theoretical reconstruction of profits and examination of traders’ accounts⁶. The different estimates of annual profits based on the second method range between 7.1%⁷ and 30%⁸. Estimates of annual profits based on the third method range between 8%⁹ and 10%¹⁰.

A companion paper discusses the difficulties of measuring profits for the slave trade and other long distance trades¹¹. Four recommendations are worth repeating here. The first one is

² Arnould, *De la balance du commerce*, table 1 and 2, Davis, 'English Foreign Trade (1700-1774)' for early 18th c. English trade, Davis, *Industrial revolution*, pp. 94-5, 102 and 110, for late eighteenth c. British trade.

³ Eltis, 'The Slave Economies of the Caribbean : Structure, Performance, Evolution and Significance'.

⁴ Marx, *Le Capital*, First book, section 7, chapter 24; Williams, *Capitalism and Slavery*; Amin, *Accumulation* Frank, *World accumulation*; Wallerstein, *World system II*; Wallerstein, *World system III*. This list is not complete. Cf. Crouzet, ed. *Capital formation*, p. 8 for Williams’s predecessors.

⁵ O’Brien, 'The Contribution of the Periphery'; Eltis and Engerman, 'The Importance of Slavery'.

⁶ The seminal papers on these three methods are respectively Thomas and Bean, 'Fishers of men'; Anstey, 'Volume and profitability' and Parkinson, 'A Slaver's Accounts'. A summary of the debate can be found in Morgan, *Slavery*, 36-48 and Daudin, 'Comment calculer les profits de la traite ?'.

⁷ Behrendt, 'British Slave Trade', pp. 108, 283-5.

⁸ Darity, 'Number game', p. 702.

⁹ Richardson, 'Accounts of William Davenport', pp. 301-8.

¹⁰ Inikori, 'Market structures', p. 768.

¹¹ Daudin, 'Comment calculer les profits de la traite ?'.

to remember that profits are private returns to capital. They do not include the benefits and costs associated with the whole society or the state¹²; they should exclude the remuneration of work, knowledge and contacts that is associated with outfitter's revenues. The second one is that the examinations of actual accounts seems to be the safest way to reach a conclusion on profits. The third one is the treatment of time. The undiscounted benefit cost-ratio, the present value and the internal rate of return should not be confused. The second section of this paper comes back on this problem. Finally, it is important to compare the profitability of the slave trade and other long distance trades with alternative investments.

Following these recommendations, this paper extends the microeconomic debate on investment in long distance trade in three directions. First, it introduces French data to the debate. Second, it examines data on all the branches of intercontinental trade, not only the slave trade. Third, it provides a study of all the characteristics of investment in long distance trade, rather than focusing exclusively on profit and risk.

In the first section, the paper underlines the differences between the French and English system of long distance trade, justifies the aggregation of the slave trade with other long distance trade and presents the available evidence. In the second section, the paper examines the internal rate of return of the investment of a single investor, Bertrand de Cœuvre. Using the undiscounted benefit-cost ratio as a proxy, the study of other investments confirms that Bertrand de Cœuvre's results were typical. In the third section, the paper compares profits and other characteristics of slave and long distance trade investments to other available French investments. The fourth section concludes that investments in long distance trade were preferable to alternative domestic investments.

I

The organisation of the French slave trade differed from the English one. Without getting into all the technicalities and diversity of trade operations, a typical French slave trade voyage would proceed in the following manner. First, an outfitter would gather capital from investors under a quasi-equity arrangement by selling ship shares. The outfitter would typically provide

¹² E.g. subsidies – like the 40 *livres* (1.6£) per ton the state gave to the French slave traders from 1784 onward (Tarrade, *Commerce colonial*), p. 552 – should be considered as benefits, not costs.

only a small fraction of the total outfit cost and be remunerated through a commission. That does not seem to have been the case in England where ‘They [ships’s husbands, pursers or agents] certainly received no special privileges or commission’¹³. Then, the ship would go to Africa, sell its goods and buy slaves and then go to the West Indies to sell slaves. In contrast to the typical post-1750s English slave trade voyage, the proceeds of the slave sale would be transformed directly into colonial goods. The same traders controlled the French slave trade and the French colonial goods trade¹⁴. Finally, these colonial goods were brought back to France and sold there. This last ‘leg’ of the voyage took place gradually in time for two reasons. First because slave cargoes were more valuable than colonial goods cargoes. A single slave cargo required four to six direct trade operations with the West Indies to remit its income in colonial goods¹⁵. Second because planters were often given credit and paid for the slaves they bought over a long period of time¹⁶.

The slave trade was not a specialist’s activity. Slave trade ships, in contrast to what was happening in England, were used both for the slave trade and direct trade with the West Indies. In Bordeaux, the slave trade represented less than 10% of the activity of the individual outfitters who were involved in it¹⁷. In Saint-Malo, outfitters mixed the slave trade and other trades. The largest slave trader, Meslé de Grandclos, initiated 35 slave trade voyages and 30 direct West Indies trade voyages among a total of 166 voyages¹⁸. Most international French traders were did not specialize in a single trade¹⁹. Investors did not specialise either. *E.g.* the Espivent de La Villeboisnet family of Nantes invested in 90 voyages from 1764 to 1791: 11 privateering voyages, 28 slave trade voyages, 23 direct West Indies voyages, 18 fishing voyages and 10 miscellaneous voyages, including 2 to the Indian Ocean²⁰.

¹³ Richardson, 'Accounts of William Davenport', p. 68.

¹⁴ Planters in the British West Indies consigned colonial goods to outport merchant who were not slave merchants. These outport merchants carried colonial goods to England on their own ships. As a result, most English slave ships came back to England in ballast with bills of exchange from the planters asking the outport merchant to pay the slave traders: Sheridan, 'British Slave Trade', p. 254. That was not the case for most of Dutch slave ships: Postma, *The Dutch in the Atlantic Slave Trade*, pp. 171-2.

¹⁵ Tarrade, *Commerce colonial*, pp. 113-5; Saugera, *Bordeaux, port négrier*, pp. 237-8.

¹⁶ *E.g.* Meyer, *Armement nantais*, pp. 227-30; Roman, *Saint Malo*, pp. 190-2.

¹⁷ Saugera, *Bordeaux, port négrier*, p. 230.

¹⁸ Roman, *Saint Malo*, pp. 57-67.

¹⁹ Lespagnol, *Messieurs de Saint-Malo*, p. 127; Butel, *Négociants bordelais*, pp. 9-10.

²⁰ Pétré-Grenouilleau, *L'argent de la traite*, p. 72.

As a result, outfitters and investors in the French slave trade were involved in a range of other long-distance trade activities. All these activities were competing for the same assets: ships; sailors; trading, outfitting and supply goods; commercial know-how and commercial networks. If the same investors were using the same assets for different investments – without any one being a mandatory complement to any other at the investor level²¹ – these investments must have been as profitable. If one of them had been clearly more profitable than the others, it would have attracted all the assets.

At least in the case of France, it is possible to study the profits of all long distance trades together. The slave trade, the West Indies trade and other should have had comparable profitability. The actual profit sources confirm this (*cf.* Table 2). As a consequence, this paper analyses all the 238 observations of the slave trade and long distance trade profits that have been published²². Table 1 presents the data²³.

²¹ On the macro level, these investments were complementary. On the micro level, however, specialisation would have been possible: the mix of activities varied at the port and investor level.

²² Other primary sources might exist. Considering the long interest for the slave trade and other long distance trades, it is probable that an important part of the relevant primary sources have already been found by historians better at looking for them than I am. Having done my own cost-benefit computations, I have made the choice to try and cast a new light on the published evidence rather than hunt for more primary sources.

²³ In some cases from Bordeaux and La Rochelle the author has not stated explicitly if the costs and the returns were those of the outfitter or those of the investors. The main difference would be the inclusion or not of commissions. However, accounts were in priority made for submission to investors to report of the success or not of specific ventures. The outfitter's specific remuneration was included in the costs in all the accounts we could examine. As such, we are going to assume that it was the case for all the sources we examine.

Table 1: Sources on long distance trade profits²⁴

Points of departure	Time frame	Number of observations	Notes	Source
Saint-Malo	1717-1735	9	South Sea voyages	Lespagnol, <i>Messieurs de Saint-Malo</i> , p. 490
East Indies	1721-1744	11	Country trade ventures	Manning, <i>Fortunes à faire</i> , p. 75
La Rochelle	1722	7	Investments made by Depont des Granges	Clark, <i>La Rochelle</i> , p. 146
Bordeaux	1724-1738	25	Voyages outfitted by Pellet and Gradis	Butel <i>Négociants bordelais</i> , pp. 261-263
Rouen	1730-1755	41	Dugard trade with Canada and the West Indies	Miquelon, <i>Dugard of Rouen</i> , pp. 202-3
Nantes	1733-1796	62	Investments made by François Bertrand de Cœuvre and his father	Meyer, <i>Armement nantais</i> , pp. 265 and 368-9
Bayonne	1756	4	Privateering	Vignes, <i>L'armement en course</i> , pp. 93-7 and 125-31
Saint-Malo	1763-1778	9	47 voyages made by Chateaubriand's father	Roman, <i>Saint-Malo</i> , pp. 67 and 197-203
Saint-Malo	1763-1773	1	10 years of investments in the salve trade by Meslé de Grandcols	Roman, <i>Saint-Malo</i> , pp. 195-197
Nantes	1769	1	A voyage with van Alsten as a captain	Rinchon, <i>Van Alstein</i> , pp. 285-91
Nantes	1776-1791	37	Voyages outfitted by Chaurand	Rinchon, <i>Armements négriers</i> , pp. 81, 112 and 126-7
Marseille	1780s	3	Various outfitters	Dermigny <i>Cargaisons indiennes</i> , p. 146 and passim.
Marseille	1781-1791	17	Voyages outfitted by Solier	Dermigny <i>Cargaisons indiennes</i> , p. 146 and passim.
Nantes	1784-1790	3	Investments made by Dobrée	Stein, <i>Profitability</i> , pp. 786-7
Bordeaux	Various	8	Various outfitters	Butel, <i>Négociants bordelais</i> , pp. 263-277 and Morineau, <i>Balance du commerce extérieur</i> , pp. 5-14.

II

Most of the sources identified above give enough information to compute the undiscounted benefit-cost ratio, computed as the ratio between the initial investment and net returns minus one. This ratio is often called the ‘rate of profit’ or ‘profit rate’ in past studies on the profitability of the slave trade. We will use the latter expression, between inverted commas, as a convenient shorthand. It does not take into account the timing of returns. Obviously, an investment of 100 *livres* that yields 125 *livres* in one year is a much more successful venture than if the same return is achieved only after five years, despite having the same ‘profit rate’ of 25%. As we have noticed in the preceding section, the returns of trading ventures were spread out over time. For example, less than half of the Bertrand de Cœuvre’s investments yielded their full returns in less than 10 years²⁵. The ‘profit rate’ that many studies report is inappropriate for comparing returns from capital invested in trade with returns elsewhere in the economy. To take the chronology of returns into account, we must compute the internal

²⁴ A tabulation of these data is available upon request to the author. The data are discussed in deep in the fifth chapter of Daudin, ‘Rôle du commerce’.

²⁵ Meyer, *Armement nantais*, p. 219.

rate of return of these ventures; *i.e.* the discount rate which equalizes to zero the present value of all outlays and returns during the life of an investment. The internal rate of return of the first hypothetical venture presented at the beginning of this paragraph is 25%; the internal rate of return of the second venture is only 4.6%.

The difficulty is that most of the data do not provide us with an exact chronology of return. As a consequence, it is not possible to compute internal rates of return. Fortunately, part of the data relating to Bertrand de Cœuvre are an exception. We will start from the firm ground of this source and then try to extrapolate the results to the other sources.

Bertrand de Cœuvre, both father and son, were part of one of the most important trading and outfitting families in Nantes during the 18th century²⁶. Although they had stopped being outfitters themselves well before 1770²⁷, they kept investing in long distance trade expeditions. The estate accounts of Bertrand de Cœuvre fils have been fully transcribed and published by Meyer in a book recently re-printed²⁸. These accounts were established between 1794 and 1798. They summarize older, lost, accounts covering both investments and returns from 1733 to 1796. The first main document is a summary report of all the investments made by Bertrand de Cœuvre and his father. It provides information on the full costs and returns of 69 investments. The second main document is a detailed report of investments made by Bertrand de Cœuvre himself. This document provides the chronology of outlays and returns for 29 investments²⁹. This was probably built from accounts between the different outfitters and Bertrand de Cœuvre. We will focus on this latter document.

This source gives us information on the investment in 29 individual ships or groups of ships. These 29 investments correspond to 65 voyages: 39 slave trade voyages, 23 direct West Indies trade voyages, and three miscellaneous voyages – one to China, one to India and one to ‘Amérique’ (probably the U.S.A). These 29 investments are the core of our analysis of the profitability of investments in the slave trade and other long distance trades. This source is not

²⁶ Ibid., pp. 265 and 368-9.

²⁷ Ibid., p. 93.

²⁸ Ibid.. The data are to be found pp. 384-439. The discussion of the data by Meyer is pp. 215-224. A copy of the data is available upon request. The tools Meyer used to analyse these data can be improved on by using modern investment evaluation instruments.

²⁹ We do not have complete inflows schedules for an extra 19 investments. We have excluded them from the analysis, except for Graph 3 which is only concerned with outflows.

perfect for two reasons. First, although we know exactly on what day various outfitters paid money to Bertrand de Cœuvre, information on Bertrand de Cœuvre's outlays is sketchier. Only the year of the voyage is indicated alongside the costs associated with the preparation of each voyage³⁰. Because the daily details are available only for returns, we have taken into account both costs and returns at the yearly level. Second, each payment is associated with a ship or a group of ships, and not with an individual voyage. Since the returns of individual voyages were spread out over many years, it is not possible to separate individual voyages of the same ship or group of ships. With this *caveat*, it is possible to compute that the internal rate of return of Bertrand de Cœuvre's portfolio was 6%³¹.

We can now try to extrapolate the typical internal rate of return in the rest of the data. If the chronological profiles of two investments are similar, the equality of their 'profit rates' entails the equality of their internal rates of return. Hence, although it is not possible to compute the internal rates of return of the other investments, it is possible to use the comparison of their 'profit rate' to Bertrand de Cœuvre's 'profit rate' as a proxy for the comparison of their internal rate of return to Bertrand de Cœuvre's internal rate of return if the chronology of returns is comparable in Bertrand de Cœuvre's portfolio and in the rest of the available data. Actually, it is probable that Bertrand de Cœuvre experienced longer repayment periods for the same 'profit rate' than was common in the rest of the data. That is because the slave trade and late century investments are over-represented in Bertrand de Cœuvre's voyages. 90% of Bertrand de Cœuvre's voyages started after the Seven Years war – but that was the case of only 50% of the profit observations in the data – and 60% of Bertrand de Cœuvre's voyages were slave trade voyages – against less than 40% of the profit observations in the data. As buying slaves was the main reason why plantation owners in the West Indies had to go into

³⁰ An additional cost is given as well, associated to a particular voyage, but without any date. These expenditures are listed as '*Quote-part des dépenses depuis la mise-hors*'. I will assume that this cost was incurred between the outfitting and the departure of the ship. Some outflows lack a date. Here are the choices we have made to give them one. Last investment on the *St.-Charles* (dossier n°5): 1777 (as this is given elsewhere as the last date of outfitting). Second investment on the *St.-Hilaire* (dossier n°14): 1766 (as there is one investment in 1765 and one in 1767) ; Last investment on the *Le Quartier Morin* (dossier n°37): 1778 (as this is given elsewhere as the last date of outfitting).

³¹ The internal rate of return of Bertrand de Cœuvre's portfolio of 19 slave trade investments was 7.2% and the internal rate of return of his portfolio of 7 West Indies direct trade investments was 5.3%. The rate of return of his three miscellaneous investments was -2.9%. However, the number of observations is too small to make much of these differences.

debt, the slave trade was more prone than other trades to long repayment period. As the financial position of plantation owners declined continuously toward during the eighteenth century³², their debts were more and more difficult to recover for French traders. As a consequence, returns from investments took longer to be repatriated latter in the century than earlier. Because of this double over-representation, if we find that the ‘profit rate’ in the rest of the data is equal to Bertrand de Cœuvre’s typical ‘profit rate’, we can safely conclude that the internal return in the rest of the data is at least equal to and probably higher than Bertrand de Cœuvre’s internal rate of return.

The ‘profit rate’ of Bertrand de Cœuvre’s portfolio of 29 investments is 23%. The mean, non-weighted ‘profit rate’ in the other 209 observations in the data is 31% (standard deviation: 0.98). However, some very high profit observations might play too large a role in determining the mean ‘profit rate’. If every rate higher than 200% is replaced by 200% (9 observations), the mean ‘profit rate’ falls to 23% (standard deviation: 0.53). Bertrand de Cœuvre ‘profit rate’ was indeed typical of the whole sector. This suggests that the typical internal rate of return in the slave trade and other long distance trade was at least 6%.

Before accepting this conclusion, we must examine four difficulties with the computation of the mean ‘profit rates’ in the other 209 observations.

The first difficulty is the wide range of ‘profit rates’ that entails large statistical confidence intervals. The large standard deviation frustrates the research for a statistically significant conclusion. It is not even possible to show that the mean ‘profit rate’ in long distance trade was different from zero in a statistically significant way. Long distance had a large private risk. The same problem exists in estimates of mean internal rates of returns for the 21st century when individual investments yield widely different payoff (it has been called the ‘mean blur’ problem)³³. There are not many remedies to it, except obtaining even larger amount of data. Our estimation already takes into account data an order of magnitude more abundant that has been the case in the literature on French trade till now. Moving one order of

³² To the extent that traders had to take a greater part in the West Indies economy, not always with happy consequences: Thésée, *Liaisons d'habitations*.

³³ Luenberger, *Investment Science*, pp. 214-5. It applies to the computation of returns of equities on a specific market.

magnitude beyond that would be very difficult. Statistical doubt shall remain. It is however comforting to notice that our result is robust to using a different method of aggregation³⁴.

A second difficulty is the potential selection bias in our data. Success might have attracted more curiosity than failure and secondary sources might give an undue place to successful ventures. We have only used private account sources, and hence the curiosity of the eighteenth century public should not affect us. Considering the paucity of the data, it is doubtful that twentieth century researchers were particularly picky; they probably did not select the sources they studied. Their curiosity should not affect us either. The selection bias, then, can only come from what data have actually survived in the archives. When a bankruptcy occurred, account books were taken away from traders' whims to be put into official archives. They had more chances of surviving there than in private archives. In the same way, when something went wrong, investors became less trusting toward the outfitter and demanded to be given more details on what was happening. As a consequence, the evidence on investments that went wrong was repeated in many letters and dispatched to different places. It had more chances of surviving. The selection bias should lead to an underestimation of the usual 'profit rate' rather than an overestimation.

A third difficulty is that the usual 'profit rates' might have varied between locations and types of activities. The data we use comes from numerous French ports and numerous different activities. Table 2 tries to assess if there was a systematic difference in 'profit rates'.

³⁴ Daudin, 'Rôle du commerce', chpt. V, section 3, especially table 70, attains a comparable results by aggregating by sources instead of observations.

Table 2: ‘profit rate’ and number of observations by type of activity and points of departure (209 observations)³⁵

Activity	Points of departure								Mean ‘profit rate’ and total number of observations
	Nantes	Rouen	Bordeaux	Marseille	Saint-Malo	East Indies	La Rochelle	Bayonne	
Direct West Indies trade	45%	3%	21%	-10%	30%				25%
	36	18	2	9	1				66
Probably either direct West Indies trade or salve trade	20%		25%				91%		30%
	33		30				7		70
Slave trade	5%				22%				15%
	5				7				12
East Indies trade				9%		27%			18%
				10		11			21
Canada or USA trade		10%		-17%					8%
		15		1					16
Spanish Empire trade					22%				22%
					9				9
Canada or USA and West Indies trade		2%							2%
		8							8
Miscellaneous			15%		3%			28%	19%
			1		2			4	7
Mean ‘profit rate’	29%	5%	25%	-1%	20%	27%	91%	28%	23%
Number of observations	64	41	33	20	19	11	7	4	209

If one excludes Rouen, Marseille and La Rochelle, ‘profit rates’ were comparable across different geographical regions. The difficulty with Rouen, Marseilles and La Rochelle comes from the fact that we observe expeditions from entrepreneur’s books, not investors’ ones. Hence, specific port and activity ‘profit rate’ reveal something about the success and failure of a particular entrepreneur rather than about the general investment opportunities that existed in that port and that activity. The bad results of Rouen are based on a single source, the Dugard company. This company was so unsuccessful it had to be liquidated amidst bickering between its outfitter and its investors. The same company explains the bad results of investments linked with Canada. In Marseilles, Solier and Cie are the only firm we have information on. They were newcomers in the trade, Swiss protestants attracted there by the high profits that were to be made in the 1780s. They were not successful. Finally, the good results of La

³⁵ All rate of profits are truncated at 200%. This table excludes Bertrand de Cœuvre’s investments for which we have computed the internal rate of return because of the difficulty of interpreting them if they are not weighted by the size of investment. Cf. Table 3. Introducing them would increase significantly slave trade mean profit and reduce slightly direct West Indies and miscellaneous profits.

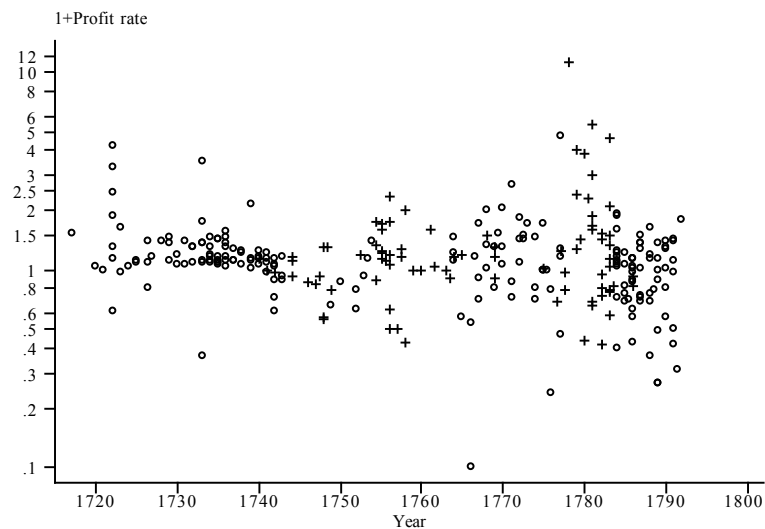
Rochelle come from operations made in 1722, before the definite stabilization of the *livre tournois*; it is possible that part of these profits were simply due to monetary movements.

This relative uniformity in ‘profit rates’ is explained by the fact that all the harbours were faced with comparable international and institutional situations. Furthermore, we have already underlined that as the same investors put their money in a large range of trade activities by choice, profits must have been constant in that range.

The fourth difficulty is the possible evolution of the mean ‘profit rate’ throughout the period. Graph 1 shows that there is nothing to indicate that there was any trend in the evolution of the ‘profit rates’. This is reinforced by the computation of time trends. If the data is not truncated, there is positive time trend. If it is truncated at 250%, 200% or 150%, there is a negative time trend. Neither one nor the other is statistically significant.

Graph 1: Evolution of profits through time (209 observations) (log scale)³⁶

The vertical axis is the $1 + \text{‘profit rate’}$
 Crosses are ‘war’ observations, circles are ‘peace’ observations



To the best of our current knowledge, our computation of the mean ‘profit rate’ is sound. If the mean profit rate was at least equal to Bertrand de Cœuvre’s profit rate and if the chronology of returns was typically more advantageous than what Bertrand de Cœuvre

³⁶ Observations are associated with a time frame and the point is at the middle of the time frame. If that time frame includes a year of maritime war, the observation is considered a ‘war’ one. This graph excludes Bertrand de Cœuvre’s investments for which we have computed the internal rate of return because of the difficulty of interpreting them if they are not weighted by the size of investment. Cf. Table 3.

experienced. Until more data are brought into the debate, we can conclude that typical internal rate of return of long distance trade was either equal or higher to the internal rate of return of Bertrand de Cœuvre's portfolio, *i.e.* 6%³⁷.

III

In this section, we compare investment in the slave trade and other long distance trades with alternative investments in terms of internal rate of return, liquidity, maturity and risk.

We will focus on the comparison with French private and public long-term debt, and we will make only passing comparison with British and Dutch public debt, short-term commercial paper and land investment. This focus does not imply that we believe that the returns of all investments were not linked to one another; we are simply trying to compare like with like. The creation of short-term commercial paper was a by-product of commercial activity. Only active capitalists, entrepreneurs, would have the regular opportunity to invest capital in commercial paper. Land was both a conspicuous consumption good and an investment good. As such, it offered sources of utility that long distance trade investment did not offer. The study of British and Dutch public debt would be more justified; but – unlike the Dutch – French investors did not contribute to the financing of foreign country's debt. That suggests that it was less attractive than French public debt.

We first look at the internal rate of return on investment in long distance trade. In the absolute, 6% does not seem like a large number: it is lower than the numbers presented in the debate on British slave trade profits – but none of them are really comparable internal rates of return. Yet, as we have seen, it is a conservative estimate. It can only be interpreted in comparison with alternative investments.

- The maximum legal rate of interest, had been fixed at 5% in 1665. It was the same in England. In France, it did not change until the Revolution³⁸.

³⁷ This is a nominal internal rate of return. We do not know enough about the evolution of the whole range of prices in France during the 18th century to compute a meaningful real rate of return. However, it is also mainly a silver internal rate of return, as the silver value of the *livre tournois* was stable from 1726 to the 1790s. I have assumed that the post-1792 accounts we have were in metallic *livre tournois*, and I have not taken into account the devaluation of the *assignats*.

³⁸ Postel-Vinay, *La terre et l'argent*, p. 86.

- Because of legal problems linked to the notion of usury, there were only two investment instruments in the traditional notarized credit: *obligations* and *rentes*. *Obligations* were zero-coupon bonds. Only the date and the capital to be repaid were ever specified in the contract; it is not possible to compute their internal rates of return. For that reason, we cannot use them in this study. *Rentes* were perpetual bonds paying a constant interest. Their internal rate of return was equal to their interest rate. The capital and the interest paid were specified in the contract. In Paris, ‘around 1750, the legal rate [5%] had imposed itself to a great extent’³⁹. In rural markets, the interest rate charged also converged toward 5%⁴⁰.

- Short-term commercial interest rates varied much more. Yet, the mean price of short-term loans between Paris and London was 4.99% per year between 1740 and 1790⁴¹.

- As French government debt was not consolidated⁴², it is difficult to determine its internal rate of return for investors. Different assets had different interest rates depending on the extend of their risk of default . The most secure French debt obligations were the *Rentes sur l’Hôtel de Ville de Paris*, and, after 1770, the October Loans. Their internal rate of return, computed by comparing their market value and their promised stream of future payment, varied between 4.8% and 6.5% between 1746 and 1792⁴³ – except during the budgetary crisis period between 1769 and 1774. Starting in 1737, the state offered life annuities at a rate of 10% per year⁴⁴. That rate went up to 12% during the Seven Years War (1757-1763), and after Terray’s partial bankruptcy in 1770, varied between 6 and 8%. When these annuities were on children’s lives, investors would typically exceed the yields of the October Loan by two to three percentage points⁴⁵. This reflected higher chances of bankruptcy on these bonds.

- Comparison of land prices and rents suggest that land investment had an internal rate of return varying between 3.5% and 4.5% in England and France, including a presumed .5% capital gain per year⁴⁶.

³⁹ Ibid., pp. 91-98, especially p. 92.

⁴⁰ Rosenthal, 'Credit Markets', pp. 133-4.

⁴¹ Luckett, 'Credit and commercial society', quoted by Postel-Vinay, *La terre et l'argent*, p. 90.

⁴² Velde and Weir, 'Financial market'

⁴³ Ibid., p. 14.

⁴⁴ Riley, *Seven Years War*, p. 176.

⁴⁵ Velde and Weir, 'Financial market', p. 34.

⁴⁶ Cf. Ibid., p. 19. They quote debates during the nationalization of church goods and different regional studies: Frêche, *Toulouse*, pp. 568-73; Poitrineau, *La Vie rurale en Basse-Auvergne au XVIIIe siècle*, pp. 513-514; Saint-Jacob, *Paysans de la Bourgogne*, p. 293. Cf. also Clark, 'Debt, deficits and crowding out', p. 415-7.

- Foreign internal rates of return give a perspective these numbers. In England, the interest rate on mortgages was around 4.5%⁴⁷. In 1788, debt service was 7.5% of the French state debt, but only 3.8% of the British state debt⁴⁸. British debt paid between 3 and 3.5%, the debt of Dutch public corporations paid between 2.5% and 3%⁴⁹.

To sum up, the internal rate of return of long distance trade was comparable to that of the most secured French state bonds. It was between 33 % and 70 % higher than the internal rate of return of a land portfolio, and 20% higher than the internal rate of return of private *rentes*. It was also higher than the most secure foreign public and private bonds.

Internal rate of return is only one aspect of the attractiveness of an investment. Liquidity, maturity and risk have also to be taken into account. Modern tools of investment assessment, even though not used by eighteenth century investors⁵⁰ allow us to debate objectively notions that investors understood and took into account: liquidity, maturity and risk. We will focus on comparing investment in long distance trade with investment in French state bonds or French private *rentes*.

Liquidity measures how easy it was for investors to change the utilisation of their capital. In finance, it is a quantitative measure that seeks to approximate the slope of demand and supply curve of an asset. This is not possible to estimate in our case, as we do not have enough information on the quantities bought and sold on the market. We can only examine a necessary condition for liquidity: was it legally and practically possible to trade different investments?

Ship shares could be sold and bought without legal difficulties, sometimes even at auctions. Only ship shares could be sold, not the future stream of income from past investment on the ship. Meyer and Carrière suggest all the same that this flexibility both delayed (by a process of ‘crowding out’) and prepared the development of modern-style

⁴⁷ Velde and Weir, 'Financial market', p. 19.

⁴⁸ Crouzet, *La grande inflation*, pp. 58-76.

⁴⁹ Net of tax. Thanks to Jan Luiten van Zanden for bringing this fact to my attention. Cf. Riley, *International government finance*, p. 72.

⁵⁰ Although it would be wrong to undervalue the sophistication of eighteenth-century investors: cf. Velde and Weir, 'Financial market', p. 11.

negotiable share firms⁵¹. The liquidity of ship shares is also confirmed by the study of the number of voyages per Bertrand de Cœuvre’s investment in Table 3.

Table 3: Number of voyages per Bertrand de Cœuvre’s investment (29 investments)

Number of voyages per investment	1	2	3	4	5	6	7
Number of investments	14	7	1	4	1	1	1
Number of voyages	14	14	3	16	5	6	7
Average ‘profit rate’ ⁵²	-7.7%	11.8%	42.3%	11.4%	42.1%	50.6%	53.6%

This table suggest that Bertrand de Cœuvre was able to sell ship shares between voyages. The average life of a ship was higher than one voyage; if Bertrand did not sell ship shares, it would be difficult to understand why nearly one half of his ship investments were on for a single voyage. Furthermore Bertrand de Cœuvre’s sale of ship shares was not random or indiscriminate. There was an inverse correlation between the ‘profit rate’ of an investment and the number of voyages it included. Bertrand de Cœuvre apparently assumed that the profit of one voyage gave information on both the quality of the ship and the skills of the outfitter and the captain, thus predicting the profits of subsequent voyages. He kept investments that he thought were going to be profitable in his portfolio, weeding out the others⁵³. Furthermore, even when he kept investing in a ship, the extent on his share changed between voyages in five cases. That suggests the existence of some liquidity for long distance trade investment.

The liquidity of private debt liquidity was lower. Even if – in some regions – it was formally possible to sell notarized long-term instruments of credits formal costs and transaction costs were very high on these markets. The buyer of a *rente* had to be convinced that the debtor was trustful and required explanation of the particular clauses of each contract. Private information was difficult to transfer. As a result, there was no active secondary market of long-term private credit.

⁵¹ Meyer, *Armement nantais*, pp. 103-4, 113-4 and Carrière, *Négociants marseillais*, pp. 537-539.

⁵² Average undiscounted benefit-cost ratio per investment: 7%; average undiscounted benefit-cost ratio per voyage: 19%; average undiscounted benefit-cost ratio per investment, weighted by the cost of the investment: 23%.

⁵³ The buyers were probably the outfitters themselves, who had the choice either to use their own capital to finance their future venture, to find other investors, or to sell the ship itself.

State bonds were more liquid. In Paris, a *bourse* had been created after the Law's bankruptcy. It developed as a resale market for some state-issued assets after the late 1740s⁵⁴ and for a limited number of firms' stocks – e.g. *Compagnie des Indes* or *Caisse d'Escompte*. However, exchanging through this market had a cost, especially for provincial or foreign investors who had to deal through Parisians agents⁵⁵. Furthermore, Hoffman *et al.* have estimated that 80% of the state debt did not have an active resale market⁵⁶. This fact alone does not mean that an active resale market could not have emerged if it was needed. But, for example, the *rentes sur l'Hôtel de Ville de Paris* were treated as real estate and hence rather illiquid. Life annuities formed the bulk of state's debt and were not tradable once the 'lives' they were attached to were specified.

The incomplete information we have suggest that there were no more obstacles to the exchange of trade investment than to the exchange of state debt. Trade investment was certainly more liquid than private debt.

Maturity is another important aspect of an asset. To some extent, investing in short term investment can mitigate liquidity problems. It is less critical to be able to sell an asset if its maturity is only 3 years than if it is 15 years. Similarly, short rotation of capital make it possible to act quickly on new information.

The average maturity of *obligations* was 4.2 years in 1780s Paris⁵⁷. *Rentes*, at least in Paris, had no *ex-ante* maturity, as it was never possible for the lender to ask for repayment. The borrowers decided alone when (and if) the capital should be reimbursed. Their mean *ex-post* maturity in Paris was 12.7 years in 1718 and 15 years in 1789⁵⁸. On rural markets, 20% of *rentes* lasted more than 50 years and their median maturity was higher than 17 years⁵⁹. Fontaine has studied the evolution a country gentleman's portfolio from 1728 to 1748. Only 4 of the 35 *rentes* that were reimbursed by peasants were paid in less than 10 years, whereas 16

⁵⁴ Cf. Velde and Weir, 'Financial market', p. 13-14, Hoffman, Postel-Vinay and Rosenthal, *Priceless markets*, p. 111.

⁵⁵ Antonetti, *Une maison de banque*, pp. 162-174, Potter and Rosenthal, 'Clienteles and Intermediaries' Potter, 'Good offices'

⁵⁶ Hoffman, Postel-Vinay and Rosenthal, *Priceless markets*, p. 100.

⁵⁷ *Ibid.*, p. 213. However, as we do not know their internal rates of return, we cannot fully compare *obligations* with the other investments.

⁵⁸ *Ibid.*, p. 39.

⁵⁹ Rosenthal, 'Credit Markets', p. 153.

were repaid between 52 to 78 years after the lending. Other categories of borrower were not more rapid at repaying the money they had borrowed⁶⁰.

The record of investment in long distance trade seems to be mixed. The long ‘tails’ (*queues*) – payments received years after the initial investment – were a striking feature of the returns to investments in long distance trade. There were caused by the difficulties of remitting credit in the West Indies. The mean maturity of Bertrand de Coeuvre’s ship investments was between 17 and 18 years⁶¹. However, most of the income was actually collected in two or three years. Obviously a measure of maturity as simple as the length of the income stream is not enough to make a judgment on investment in long distance trade.

The Macaulay duration⁶² of an investment is a generalised measure of maturity. It depends both on the chronology of returns and the internal rate of return of the investment. The median Macaulay duration of Bertrand de Coeuvre’s investment in long distance trade was 5.2 years. That is equal to the Macaulay duration of a hypothetical 6 year 6% rente, a 5.2 year obligation – whatever its internal rate of return. A 15 year rente would have to pay 23% to have a duration of 5.2 years. Hence, investment in long distance trade had a much shorter duration than the domestic alternatives.

The high internal rate of return of long distance trade investment cannot be explained as a compensation for lower liquidity or longer maturity. The obvious candidate is extra risk. In examining this hypothesis, it is important to remember that there are two types of risks. ‘Private’ risk is associated with each individual investment and uncorrelated with outcome of other investments whereas ‘market’ risk is associated with the whole sector. If private risk is high and market risk is low – high variance but low covariance – it is possible to protect against risk by diversifying. As a result, the standard investment theory predicts that the risk

⁶⁰ Where that gentleman lived, in Dauphiné, it was possible to buy bonds giving both a repayment date and an interest rate. But the repayment dates were not enforced. Cf. Fontaine, 'Antonio and Shylock', pp. 43-45.

⁶¹ Meyer, *Armement nantais*, p. 219.

⁶² Cf. Luenberger, *Investment Science*, pp. 57-62. Duration is defined as:

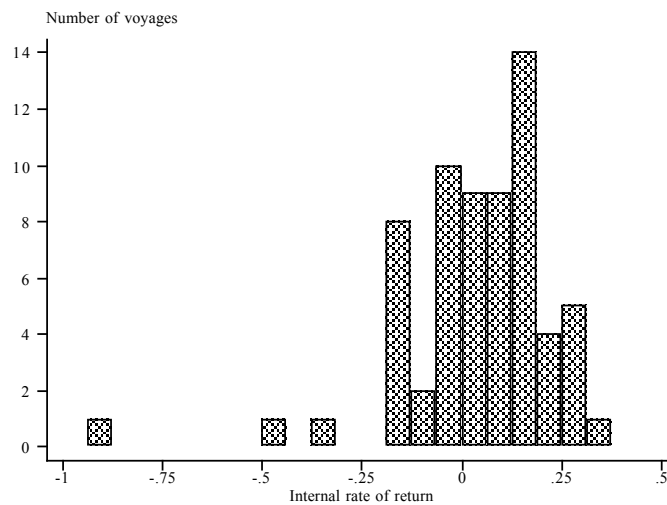
$$\text{Duration} = \frac{\sum_t (\text{Present value of cash inflows in year } t) \cdot t}{\text{Present value of all cash outflows}}$$

The ‘present value’ of cash flows is simply their value discounted by an interest rate r . Hence, the computation of a duration implies using a reference interest rate. This is difficult to find in eighteenth century France. However, one can use the internal rate of return of an investment to measure its duration; in this case the duration is called a Macaulay duration.

premium associated with an investment is linked to its covariance with other similar investments⁶³. In a sector where diversification is possible, the idea that variance of outcome of different individual investments is a good measure of the existing risk in the market is wrong.

Because of navigational and commercial hazards, long distance trade has often been viewed as a lottery-like business. Even if navigational hazards could be insured against, commercial uncertainty in Africa, the West Indies and Europe could not. As a result, the profitability of individual voyages varied widely. The very high standard deviation of the ‘profit rates’ in our data in the preceding section and in Graph 1 and the distribution of the internal rates of return in the Bertrand de Cœuvre’s portfolio, as illustrated in Graph 2 confirm this.

Graph 2: Dispersion of internal rates of return in Bertrand de Cœuvre’s investments⁶⁴

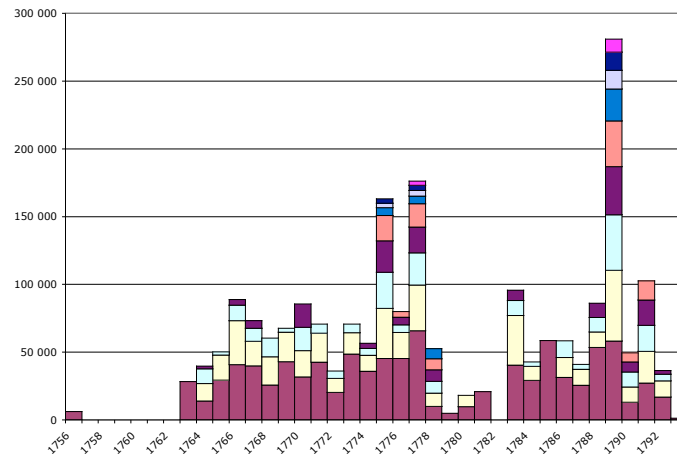


The practice of dividing investment into shares testifies to the diversification efforts of investors. Bertrand de Cœuvre’s strategy of diversification , as it is shown in Graph 3, confirms this effort.

⁶³ The CAPM (Capital Price Asset Market) model is an illustration of that. Cf. Ibid., pp. 205-6.

⁶⁴ Each voyage is associated to the internal rate of return of the entire investment; that under-estimates the dispersion of the voyages internal rates of return.

Graph 3: Size and diversification of Bertrand de Cœuvre's investments⁶⁵



Note: The length of each bar is the amount invested in that year. In a specific year, each different coloured section corresponds to a different investment.

Diversification was only possible for a wealthy investor, as investment in long distance trade was lumpy. The ‘minimal’ investment in any long distance trade venture was rather high, as small investments did not justify the fixed transaction costs, *e.g.* the administrative costs of providing evidence about the accounts⁶⁶. Bertrand de Cœuvre’s smallest initial investment in a venture was worth 1400 livres – more than five years of a soldier’s pay⁶⁷ – and his mean initial investment in a venture was worth nearly 21,000 livres⁶⁸. Yet, Bertrand de Cœuvre could invest in a mean of 4.2 voyages per non-war year. By doing so, he reduced his risk of losing part of the capital he invested each year to less than 20%. Diversification was also conducted over time. To reduce the risk of losing part of the capital to less than 10%, Bertrand de Cœuvre needed to diversify into 8 different investments; that represented two subsequent years of investments. To reduce this risk to less than 5%, he needed to diversify into 12 different investments; that represented three years of investments⁶⁹. The result of this

⁶⁵ This graph includes all the investments for which the schedule of capital outlay is available, even when the schedule of returns is not: 48 investments and 113 voyages.

⁶⁶ Meyer, *Armement nantais*, pp. 113-4. A debt arrangement would have entailed less transaction costs than the usual equity-like arrangement, but the outfitters were mainly looking for investors ready to share part of the risk.

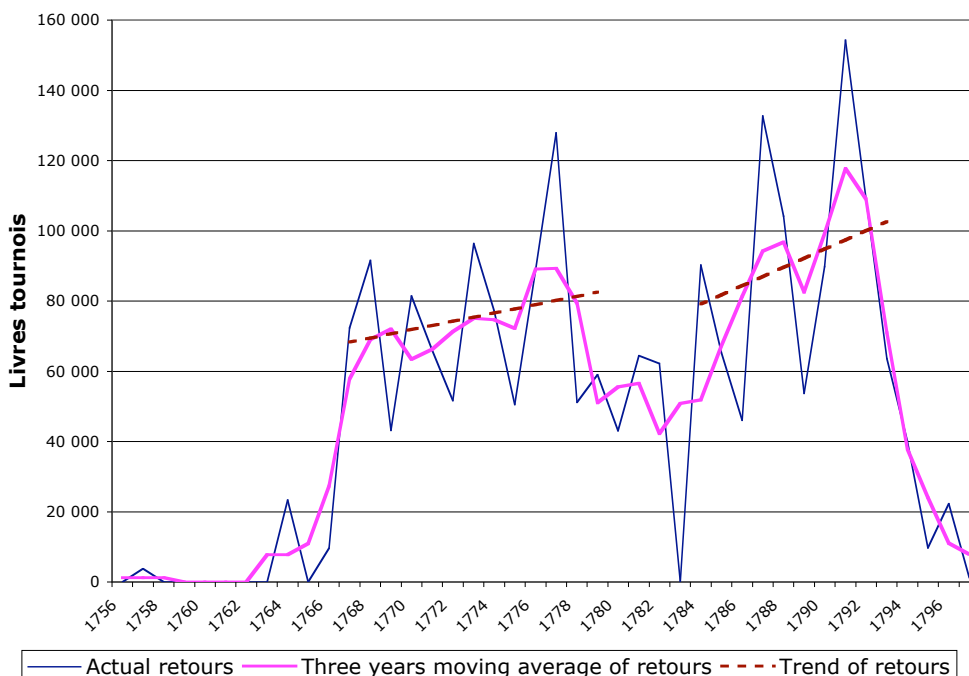
⁶⁷ 250 livres per year. Lavoisier uses this number to evaluate the annual consumption of an adult male: Lavoisier and Perrot, *Richesse territoriale*, p. 122.

⁶⁸ His median initial investment was worth 17,000 livres.

⁶⁹ These results come from an application of a Monte-Carlo method to the 209 observations of ‘profit rates’ in long distance trade (excluding Bertrand de Cœuvre’s own investment because we do not observe individual voyages’ profits). *E.g.* to compute the repartition of annual returns if annual investment is diversified into 8 different voyages, we have studied the statistics linked to a built-to-purpose database of 1,000 means of 8 different randomly picked observations from the total 209 observations available. This gives an approximation of

is shown in Graph 4. His annual positive cash flows (or *retours*), compared with their yearly trend from 1763 to 1778 and from 1784 to 1793, were much more regular than would be expected from the examination of the dispersion of the internal rate of return of individual investments.

Graph 4: Comparison of Bertrand de Cœuvre’s *retours* with their trend



Bertrand de Cœuvre was diversifying a large part of his private risk away. This diversification was possible for every investor as long as they were rich enough.

In contrast to private risk, market risk could not be diversified away. In the case of the long distance trade sector, the events having effects on the profitability of the whole sector were mainly linked to wars. It is common wisdom that the economic costs of wars were probably higher than their economic benefits, especially for consumers and producers of colonial goods: Yet it is easy to overestimate their negative effects on trade investors. Riley, examining the effects of the Seven Years war, concludes: ‘Even in trade, the loss leader in war, old regime conflicts had comparatively mild short-term effects’⁷⁰. Carrière, in his book on Marseilles traders, devotes a full chapter to explaining how war had an ambiguous effect

the result that would be given by an explicit computation based on the estimation of the stochastic law of voyages’ profits. This assumes the absence of correlation between returns.

⁷⁰ Riley, *Seven Years War*, p. 131.

on the prosperity of traders⁷¹. To explore this issue, it is useful to distinguish between the effects of wars on existing investment and their effects on potential new investments.

What was the effect of war on existing capital? Some ships⁷² were captured, but that was largely covered by insurances. Ships were left in ports. But ships represented a small share of capital. Commercial credit extended to the West Indies to help the sale of slaves or European products was much more important. The real effect of wars was that it was more difficult for planters to repay their debts as trade was interrupted. That could be mitigated when wars were forecasted, as it was possible to try to recover as much capital as possible during the pre-war boom in activity and to use short maturity investments to avoid getting too much capital immobilized in the first place. Even when that was not possible, neutral trade⁷³, and even trade with the British (especially when the French Leewards Islands were occupied during the Seven Years War⁷⁴) gave planters some credit that could be sent back to France using the international finance network⁷⁵. Finally, wars were such a burden on *Ancien Régime* state finances that no one expected them to last too long⁷⁶. When peace returned, the planters' debts could be repaid, probably even in the hypothetical case where France lost the political control of the plantation colonies. War made traders' assets in the West Indies more difficult to recover; it did not destroy them.

Wars reduced the opportunities for new 'peace-type' investments. The British Navy dominated the seas and made French trade hazardous. Trade activity in general, and the slave trade activity in particular, declined dramatically⁷⁷. Insurance was more difficult as premiums increased and rationing set in⁷⁸. However, post-war periods were the occasion for speculative booms as traders tried to benefit from shortages in newly re-opened markets⁷⁹. Pre-war booms also occurred when planters and traders accumulated stocks as a precaution measure. The decline in trade during the Seven Years War was fully compensated by the increase in trade

⁷¹ Carrière, *Négociants marseillais*, pp. 465-566.

⁷² Even the 1755 peacetime Boscawen raid of French trade – probably the worst thing to even happen to it before the Revolution – did not destroy the whole fleet: Villiers, *Marine royale, corsaires et trafic*, p. 447.

⁷³ For the situation during the War of American Independence, cf. Tarrade, *Commerce colonial*, p. 467.

⁷⁴ Pluchon, *Histoire de la colonisation française*, p. 238 ; Villiers, *Marine royale, corsaires et trafic*, p. 481.

⁷⁵ Villiers, *Marine royale, corsaires et trafic*, p. 477.

⁷⁶ That was to change after the French Revolution

⁷⁷ Villiers, 'les Foäche et la guerre de Sept-Ans', pp. 178-9.

⁷⁸ Carrière, *Négociants marseillais*, pp. 537-539.

⁷⁹ Pétré-Grenouilleau, *Les négociants maritimes français, XVIIe-XXe siècle*, p. 117.

before and after the war⁸⁰. These speculative booms compensated to some extent the decline of trade during the war itself.

Furthermore, war created new profit opportunities: privateering, the use of neutral ships, convoy trade... Wars were times of heightened speculations and increased opportunities⁸¹. The wars of Louis XIV were used by French traders to establish their first long distance trade positions⁸². During the War of Austrian Succession and War of American Independence, the French Navy was not completely outclassed by the British Navy. Privateering was profitable and French convoys systems were efficient. In addition, pseudo-neutral trade – *i.e.* with French money – was possible⁸³. Even during the Seven Years War, certainly the one that had the worst effect on French trade, some activities were still carried on. Trade on neutral ships was made difficult by the modification of neutrality rules by the British, but it did not disappear especially as Spain kept its neutrality up to 1761. Privateering might have absorbed as much as 15% or 20% of French peace trading investment in the Channel and the Atlantic – providing positive profits to Dunkerque and Bayonne, if not to the other harbours. Trade in salted beef between France and Ireland was still being conducted through the Dutch island of Saint-Eustache in 1758. Voyages mixing trading and privateering brought some profits to outfitters⁸⁴.

The available data on long distance trade corroborates these theoretical arguments on the modest effect of war. More specifically, two pieces of evidence that show that there was no systematic negative relationship between wars and profits. The first one is the fact that there is no systematic relationship between the mean internal rate of return of Bertrand's investments and wars, as Graph 5 shows. The second piece of evidence is the fact that the study of the other 209 observations of 'profit' (cf. graph 1) leads to the surprising conclusion that mean 'war' profits (as defined in the footnote of graph 1) were higher than mean 'peace' profits

⁸⁰ Riley, *Seven Years War*, pp. 116-121.

⁸¹ Pétré-Grenouilleau, *Les négoce maritimes français, XVIIe-XXe siècle*, p. 117. An example of a profitable war expedition, thanks to state finance: Villiers, *Marine royale, corsaires et trafic*, p. 676.

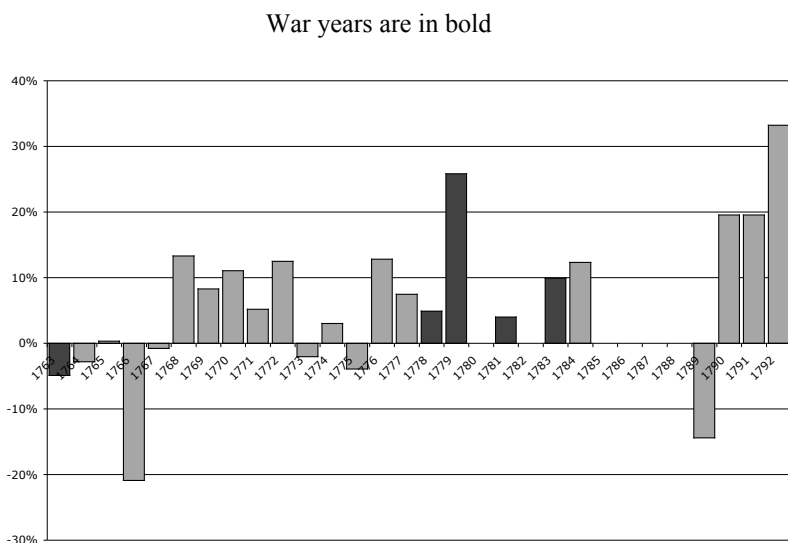
⁸² Villiers, *Marine royale, corsaires et trafic*, p. 196 ; *cf.* also Lespagnol, *Messieurs de Saint-Malo*, p. 230 on the positive effects of Louis XIV's wars on Saint-Malo.

⁸³ Villiers, *Marine royale, corsaires et trafic*, p. 436 ; Villiers, *Le commerce colonial et la guerre d'indépendance* ; Villiers, *Marine royale, corsaires et trafic*, pp. 667-686.

⁸⁴ Villiers, 'les Foäche et la guerre de Sept-Ans' and Villiers, *Marine royale, corsaires et trafic*, pp. 466-8; 463 and 476; 375; 431; 473.

even if the data available are truncated at 150%⁸⁵. The effect of war on the business cycle was of the same order of magnitude as the effect of domestic crisis. In Bordeaux, the mean annual number of failures from 1715 to 1792 was 14.7. It was 21 during the Seven Years War and 29 during the War of Independence. This is still slightly less than between 1715 and 1718 – 30 failures per year⁸⁶.

Graph 5: Annual Bertrand de Cœuvre’s investment mean internal rate of return⁸⁷



War changed the way trade investments were conducted, but it did not shut down all opportunities for profitable operations. Furthermore, thanks to the short duration and high liquidity of long distance trade investments, it was possible to remove one’s capital to domestic ventures during wars. As such, war did not massively undermine the profits of long distance trade investments. It represented only a limited market risk on long distance trade investments.

The crisis that followed 1789 in France and the West Indies was much more thorough than during the 18th century wars. The plantation system was deeply shaken by: constitutional disagreements between France and its colonies; revolt of free coloured people before 1791; slave revolt after 1791 and the theoretical abolition of slavery in 1794⁸⁸; state of civil war in

⁸⁵ The difference is statistically significant if the data is not truncated, but not if it is truncated at 150%.

⁸⁶ Butel, *Négociants bordelais*, pp. 110-5.

⁸⁷ The data are the 29 Bertrand de Cœuvre’s investments for which we know the internal rate of return. Because we cannot distinguish between the returns of different voyages with the same ship, this associates the return of an investment with the year of the initial investment. This is not exactly what one would like to show.

⁸⁸ Pluchon, *Histoire de la colonisation française*, pp. 771-1002.

the West Indies. In France after 1792 the institutional framework was not favourable to trade. International traders were suspected of collaborating with the foreign powers and conservative forces. The *assignats* crisis disorganised regular economic activity. Finally, as British dominance of the sea was much more thorough than during the Seven Years War, war with England meant that long distance trade was virtually completely interrupted for a whole generation. The French West Indies planters became virtually bankrupt and that precluded most recovery of funds from long distance trade investment. The blockade of French trade created a twenty year period in which it was difficult for traders to replace traditional long distance markets with new ones. Since many of the disruptive events were West Indies based, it was more difficult for French traders to react to them than it had been to react to the mainly European events of the *Ancien Régime* wars. The limited wars that occurred before the French Revolution did not really undermine the profitability of French long distance trade activities and investments. The demise of the French plantation and long distance trade system that actually occurred after 1792 did really undermine the profitability of French long distance trade activities and investments.

The private risk associated with long distance trade ventures was not unusual; *rentes* had a similar risk. Private notarized credit was local, secured by collateral and grounded in the private *notaires'* information. However, *notaires* were not providing any formal guarantee and could be wrong; collateral was often illusory – it was impossible for example to know if it had already been mortgaged. Even if it was not, the actual recovery of collateral could only be accomplished through a costly legal action⁸⁹. Moreover, this legal action was often unsuccessful. In particular, collateral provided by peasant borrowers was often illusory⁹⁰. Traditional private credit hence had high private risks⁹¹. But, as in the case of long distance trade investment, diversification was possible to some extent – not totally though, as most lending was done through local networks and hence one could not get rid of local risk. The market risk was mainly limited to the risk of a generalized bankruptcy. That happened

⁸⁹ Hoffman, Postel-Vinay and Rosenthal, *Priceless markets*, p.19

⁹⁰ Fontaine, 'Antonio and Shylock', p. 44. She notices that this is confirmed by Boheler, *Paysannerie de la plaine d'Alsace*, pp. 1180-1.

⁹¹ For more on the issue of imperfect information and collateral problems: Postel-Vinay, *La terre et l'argent* pp. 103-127; Hoffman, Postel-Vinay and Rosenthal, 'Information and Economic History', pp. 79-80; Hoffman, Postel-Vinay and Rosenthal, *Priceless markets*, pp. 62-68.

through monetary crises twice in the eighteenth century, once in the late 1710s⁹² and once in the 1790s⁹³. During both periods, debtors would repay creditors in highly depreciated currency. There was a drop of 40% in the stock of notarised debt in Paris from 1718 to 1720. Nearly all pre-Revolution debts had been repaid by 1797⁹⁴ – a large part of *rentes* being repaid in spring and summer 1795, when the value of the currency was less than 20% of what it had been before the Revolution⁹⁵. Market risk on *rentes* was comparable to what it was on long distance trade investment.

In contrast, there was no private risk in French state debt. Some assets were more risky than others⁹⁶, but their risks were strictly correlated. If the less risky state debt were struck by a bankruptcy it meant that the more risky had been struck as well. However, the market risk was quite large. The state went bankrupt both during the late 1710s – during the Law affair – and during the Revolution. It also went through two partial bankruptcies in 1759 and 1770. Comparison of French, British and Dutch state debt makes it clear that the rate of interest on French state debt included a risk premium. Even if the risk of crisis – under the guise of partial bankruptcies and wars – were as probable to happen for French state debt and long distance trade investment, the effect of state bankruptcy on French state debt investment was much more severe than the effect of war on long distance trade investment. Loss of capital was a real possibility when lending to the French state. Before the demise of the French colonial system, it was very much less likely when investing in long distance trade. The market risk associated with the French state debt was larger than the market risk associated with long distance trade investments.

As a result, a diversified long distance trade portfolio was less risky than a government bond portfolio. The risk associated with a diversified long distance trade portfolio was similar to the risk associated with a private lending portfolio.

Table 4 sums up our assessment of the comparative of different investments available to passive investors in eighteenth century France:

⁹² Faure, *La banqueroute de Law*.

⁹³ Crouzet, *La grande inflation*.

⁹⁴ Hoffman, Postel-Vinay and Rosenthal, *Priceless markets*, pp. 308-312.

⁹⁵ *Ibid.*, p. 188-192.

⁹⁶ Velde and Weir, 'Financial market', p. 19.

Table 4: Relative characteristics of different investments in eighteenth c. France

	Long-distance trade	State debt	Private debt (<i>rentes</i>)
I.R.R. ⁹⁷	6%	4.8%-6.5%	5%
Liquidity	Medium	Medium	Low
Maturity	Short	Long	Long
Risk	Conditional on wealth, diversifiable private risk Low market risk	No private risk High market risk	Diversifiable private risk Low market risk

For every characteristic, long distance trade investment was equivalent or better than domestic alternatives. Hence, without providing investors with ‘fabulous’ returns, long-distance trade investment was more attractive than domestic alternatives. It was more liquid, shorter and more profitable than private notarized credit without being more risky. It was less risky and had a shorter duration than government bonds, without being less liquid or less profitable.

IV

Taking into account returns, liquidity, maturity and risk, investment in the slave trade and other long distance trade was indeed preferable to domestic alternatives investments in France during the 18th century. How was that possible? The most natural hypothesis is that investment in long distance trade was restricted. We can tentatively identify two barriers to entry⁹⁸. The first barrier was wealth. Because of high private risk, the only way to make investment in long distance trade worthwhile was to invest in a large number of different ventures. The second barrier was linked to networks. Trade entrepreneurs did not accept everyone’s capital. Most passive investors were either former trade entrepreneurs, or part of the family and friends of trade entrepreneurs. There does not seem the have been a demand for external capital. In Nantes, ‘The study of ship shares leads us to believe that capital circulated in a close circuit’⁹⁹. In Marseilles, the town used mainly its own capital to finance

⁹⁷ As an additional perspective to these numbers, let us remind that the remuneration on British debt was between 3 and 3.5%; the remuneration on Dutch debt was between 2.5% and 3%; rent and capital income from land were between 3.5% and 4% and the interest rate of short term commercial credit was around 5% between Paris and London.

⁹⁸ I have not found example of widespread social opprobrium against slave trade in the trading towns: it does not seem to have been a barrier of entry. Certainly, the traders had not qualms in defending the morality of slave trade in front of the *Assemblée Nationale* in 1789. E.g. Roman, *Saint-Malo*, pp. 230-2.

⁹⁹ ‘*l’examen des parts de navires nous conduit à admettre une circulation des capitaux en vase clos*’, Meyer *Armement nantais*, p. 213.

its trade. Most of what seems to be external capital was actually former trading capital coming back to the sector¹⁰⁰. In La Rochelle, a relatively small port, only 20% of the capital invested in international trade came from other places at the end of the 1780s, and much of that came from Nantes and Bordeaux¹⁰¹. In Bordeaux, traders 'were keen to deal within a circle of close friends, preferably parents, and were reluctant to deal with speculators from different towns'¹⁰². The entry ticket for would-be investors seems to have been to become traders, or get a trader in their close circle¹⁰³. Studying the exact workings of the exclusion and integration mechanisms would help us understand how a line of investment could stay more profitable than the alternatives over such a long period.

Bibliography

- Amin, S., *Accumulation on a World Scale* (New-York, 1974).
- Anstey, Roger, 'The Volume and Profitability of British Slave Trade, 1761-1807', in S. L. Engerman & E. D. Genovese (eds.), *Race and Slavery in the Western Hemisphere: Quantitative Studies* (Princeton, 1975), pp. 3-31.
- Antonetti, G., *Une maison de banque à Paris au XVIIIe siècle, Greffulhe - Montz et Cie (1789-1792)* (Paris, 1963).
- Arnould, Ambroise Marie, *De la balance du commerce et des relations commerciales extérieures de la France dans toutes les parties du globe particulièrement à la fin du règne de Louis XIV et au moment de la révolution* (Paris, 1791).
- Behrendt, S. D., 'The British Slave Trade, 1785-1807: Volume, Profitability and Mortality' (unpub. PhD thesis, University of Wisconsin, 1993)
- Boheler, J.-M., *Une société rurale en milieu rhénan : la paysannerie de la plaine d'Alsace (1648-1789)* (Strasbourg, 1995).
- Butel, Paul, *Les négociants bordelais, l'Europe et les îles au XVIIIe siècle* (Paris, 1974).
- Carrière, Charles, 'Le commerce des Indes, ses profits - dans Comptes Rendus : Ports et Trafics'. *Annales E.S.C.*, 16 (1961), pp. 1035-38.
- Carrière, Charles, *Négociants marseillais au XVIIIe siècle* (Marseille, 1973).
- Clark, Gregory, 'Debt, deficits and crowding out: England, 1727-1840'. *European Review of Economic History*, 5 (2001), pp. 403-436.
- Clark, John G., *La Rochelle and the Atlantic Economy During the 18th century* (Baltimore, 1981).
- Crouzet, François, ed. *Capital Formation in the Industrial Revolution* (London, 1972).
- Crouzet, François, *La grande inflation : la monnaie en France de Louis XVI à Napoléon* (Paris, 1993).
- Darity, William Jr., 'The Number Game and the Profitability of the British Trade in Slaves'. *Journal of Economic History*, XLV (1985), pp. 693-703.

¹⁰⁰ Carrière *Négociants marseillais*, p. 944.

¹⁰¹ Clark *La Rochelle*, pp. 221-4.

¹⁰² 'tiennent à demeurer dans un cercle d'amis sûrs, de préférence des parents, et répugnant à se tourner vers les spéculateurs des autres villes' Butel *Négociants bordelais*, p. 205.

¹⁰³ Solier is an example of how a Swiss protestant group tried to get into trade in Marseille: Dermigny, *Cargaisons indiennes*, pp. 171-81, Carrière, 'Commerce des Indes' and Carrière, *Négociants marseillais*, p. 939.

Daudin, Guillaume, 'Le rôle du commerce dans la croissance : une réflexion à partir de la France du XVIIIe siècle' (unpub. doctorat thesis, Université Paris-I, 2001) (To be published in 2003 by the Presses de l'Université de Paris-Sorbonne)

Daudin, Guillaume, 'Comment calculer les profits de la traite ?' *Outre-Mer : Revue d'Histoire* (2002), pp. 43-62.

Davis, Ralph, 'English Foreign Trade (1700-1774)', in W. E. Minchinton (ed.) *The Growth of English Overseas Trade in the Seventeenth and Eighteenth Centuries* (London, 1969), pp. 99-118.

Davis, Ralph, *The Industrial Revolution and British Overseas Trade* (1979).

Dermigny, Louis, *Cargaisons indiennes. Solier & Cie. 1781-1793* (Paris, 1960).

Eltis, David, 'The Slave Economies of the Caribbean : Structure, Performance, Evolution and Significance', in F. Knight (ed.) *The UNESCO General History of the Caribbean* (London, 1997), pp. 104-137.

Eltis, David, & Engerman, Stanley L., 'The Importance of Slavery and the Slave Trade in Industrializing Britain'. *Journal of Economic History*, 60 (2000), pp. 123-144.

Faure, Edgar, *La banqueroute de Law* (Paris, 1977).

Fontaine, Laurence, 'Antonio and Shylock : credit and trust in France, c. 1680-c. 1780'. *Economic History Review*, 54 (2001), pp. 39-57.

Frank, Andre Gunder, *World Accumulation, 1492-1789* (New-York and London, 1978).

Frêche, Georges, *Toulouse et la région Midi-Pyrénées au siècle des Lumières (vers 1670-1789)* (Paris, 1974).

Hoffman, Philip T., Postel-Vinay, Gilles, & Rosenthal, Jean-Laurent, 'Information and Economic History : How the Credit Market in Old Regime Paris Forces Us to Rethink the Transition to Capitalism'. *American Historical Review*, 104 (1999), pp. 69-94.

Hoffman, Philip T., Postel-Vinay, Gilles, & Rosenthal, Jean-Laurent, *Priceless Markets : Political Economy of Credit in Paris, 1660-1870* (2000).

Inikori, Joseph E., 'Market Structures and the Profits of the British African Trade in the Late Eighteenth Century'. *Journal of Economic History*, 41 (1981), pp. 745-776.

Lavoisier, & Perrot, Jean-Claude, *De la Richesse territoriale du royaume de France* (Paris, 1791 (1988)).

Lespagnol, André, *Messieurs de Saint-Malo : Une élite négociante au temps de Louis XIV* (Rennes, 1997).

Lockett, T. M., 'Credit and Commercial Society in France, 1740-1789' (unpub. PhD thesis, Princeton University, 1992)

Luenberger, David G., *Investment Science* (New York, Oxford, 1998).

Manning, Catherine, *Fortunes à faire : The French in Asian Trade, 1719-1748* (Aldershot, 1996).

Marx, Karl, *Le Capital : Critique de l'économie politique*. (Paris, 1867 (1993)).

Meyer, Jean, *L'armement nantais dans la deuxième moitié du XVIIIe siècle* (Paris, 1969).

Miquelon, Dale, *Dugard of Rouen. French Trade to Canada and the West Indies, 1729-1770* (Montreal, London, 1978).

Morgan, Kenneth, *Slavery, Atlantic Trade and the British Economy* (Cambridge, 2000).

Morineau, Michel, 'Quelques recherches relatives à la balance du commerce extérieur français au XVIIIe siècle : où cette fois un égale deux', in P. Léon (ed.) *Aires et structures du commerce français au XVIIIe siècle* (Lyon, 1973), pp. 1-45.

O'Brien, Patrick, 'European Economic Development : The Contribution of the Periphery'. *Economic History Review* (1982).

Parkinson, B. B., 'A Slaver's Accounts'. *Accounting Research* (1951), pp. 144-150.

Pétre-Grenouilleau, Olivier, *L'argent de la traite : milieu négrier, capitalisme et développement: un modèle* (Paris, 1996).

Pétre-Grenouilleau, Olivier, *Les négoces maritimes français, XVIIe-XXe siècle* (Paris, 1997).

Pluchon, Pierre, *Histoire de la colonisation française : le premier empire colonial, des origines à la Restauration* (Paris, 1991).

Poitrineau, A., *La Vie rurale en Basse-Auvergne au XVIIIe siècle* (Paris, 1965).

- Postel-Vinay, Gilles, *La terre et l'argent : L'agriculture et le crédit en France du XVIIIe au début du XXe siècle* (Paris, 1997).
- Postma, Johannes Menne, *The Dutch in the Atlantic Slave Trade, 1600-1815* (Cambridge, 1990).
- Potter, Mark, 'Good Offices : Intermediation by Corporate Bodies in Early Modern French Public Finance'. *Journal of Economic History*, 60 (2000), pp. 599-626.
- Potter, Mark, & Rosenthal, Jean-Laurent, 'The Burgundian Estates' Bond Market : Clienteles and Intermediaries, 1660-1790', in L. Fontaine, G. Postel-Vinay, J.-L. Rosenthal, & P. Servais (eds.), *Des personnes aux institutions: Réseaux et cultures du crédit du XVIe au XXe siècle en Europe*. (Louvain-la-Neuve, 1997), pp. 173-195.
- Richardson, David, 'Profits in the Liverpool Slave Trade: The Accounts of William Davenport, 1757-1784', in R. Anstey & P. E. H. Hair (eds.), *Liverpool, the African Slave Trade, and Abolition* (Liverpool, 1976).
- Riley, James C., *International government finance and the Amsterdam capital market, 1740-1815* (Cambridge, 1980).
- Riley, James C., *The Seven Years War and the Old Regime in France : The economic and financial toll* (Princeton, N. J., 1986).
- Rinchon, Dieudonné, *Les armements négriers au XVIIIe siècle d'après la correspondance et la comptabilité des armateurs et capitaines nantais* (Bruxelles, 1956).
- Rinchon, Dieudonné, *Pierre-Ignace-Liévin Van Alstein, capitaine négrier : Gand 1733 - Nantes 1793* (Dakar, 1964).
- Roman, A., *Saint-Malo au temps des négriers* (Paris, 2001).
- Rosenthal, Jean-Laurent, 'Credit Markets and Economic Change in Southeastern France 1630-1788'. *Explorations in Economic History*, 30 (1993), pp. 129-157.
- Saint-Jacob, P. de, *Les Paysans de la Bourgogne du Nord au dernier siècle de l'Ancien Régime* (Paris, 1960).
- Saugera, *Bordeaux, port négrier : chronologie, économie, sociologie, XVIIe-XVIIIe* (Biarritz, Paris, 1995).
- Sheridan, R.B., 'The Commercial and Financial Organization of the British Slave Trade, 1750-1807'. *Economic History Review*, 11 (1958), pp. 249-263.
- Stein, Robert Louis, 'The profitability of the Nantes Slaves Trade, 1783-1792'. *Journal of Economic History*, 35 (1975), pp. 779-793.
- Tarrade, Jean, *Le commerce colonial de la France à la fin de l'Ancien Régime : l'évolution du régime de l'exclusif de 1763 à 1782* (Paris, 1972).
- Thésée, F., *Négociants bordelais et colons de Saint Domingue : Liaisons d'habitations. La Maison Henry Romberg, Bapst et Cie, 1783-1793* (Paris, 1972).
- Thomas, R., & Bean, R., 'The Fishers of Men : The Profits of the Slave Trade'. *Journal of Economic History*, 34 (1974), pp. 885-914.
- Velde, François R., & Weir, David R., 'The Financial Market and Government Debt Policy in France, 1746-1793'. *Journal of Economic History*, 52 (1992), pp. 1-39.
- Vignes, Pierre, *L'armement en course à Bayonne de 1744 à 1783* (Bordeaux, 1942).
- Villiers, P., *Marine royale, corsaires et trafic dans l'Atlantique de Louis XIV à Louis XVI* (1991).
- Villiers, Patrick, *Le commerce colonial atlantique et la guerre d'indépendance des Etats-Unis d'Amérique (1778-1783). Essai d'étude quantitative* (New-York, 1977).
- Villiers, Patrick, 'Les bases internationales de l'armement maritime : les Foäche et la guerre de Sept-Ans', in F. Crouzet (ed.) *Le négoce international* (Paris, 1989), pp. 169-179.
- Wallerstein, Immanuel, *The modern World system II : Mercantilism and the Consolidation of the European World Economy 1600-1750* (New-York, 1980).
- Wallerstein, Immanuel, *The modern World system III : The Second Era of Great Expansion of the Capitalist World-Economy, 1730s-1840s* (San Diego, 1989).
- Williams, Eric Wilson, *Capitalism and Slavery* (New-York, 1944 (1966)).