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PAYING TRANSACTION COSTS

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Abstract:

This paper tries to understand the adoption of different organisational forms by trade intermediaries. It does that by exploring their options in a coherent economic framework emphasizing the importance of paying transaction costs. It is based both on my knowledge of 18th century French traders and some insights from more contemporaneous situations. In the first part, the paper analyses the static activity of traders and the tools at their disposal. In the second part, it studies the alternative they had to dynamically improve their situation.

Keywords: Transaction costs, Domestic trade, 18th-century France.

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Why do trading groups choose some specific forms of organisation? An important contribution of economic analysis is that, beside culture, chance, path-dependency, etc., reduction of transaction costs can be an important explanatory factor. However, it must be kept in mind that there are two ways of dealing with transaction costs for trade intermediaries. The first way is to reduce them through the improvement of institutions and organisations, including everything that defines the rules of the economic game. Trade intermediaries have uneven power on the way the state intervenes in the economy, the judiciary system, the way individuals are protected – or not – in their interactions, the quality of the economic regulations, the format of contracts… but at least they can create informal social groups, push private ways of dealing with disputes, etc… The second way is to acquire more "means of transaction" – to coin an expression based on the existing "means of production" – to pay the existing transaction costs. One cannot understand the motivations for institutional evolution if its alternative, accumulation of transaction costs, is not taken into account. That requires an understanding of the nature of the means of transaction.

This situation is parallel to the two ways of dealing with production costs: find a way to economize on means of production – technical progress – or accumulate means of production – accumulate secondary means of production[1], or different forms of capital. The adoption of different techniques depends, beside their technical merits, on the source, size and nature of production costs. High interest rates, that increase the price of capital, will favour capital-saving techniques whereas low interest rates will favour labour-saving ones. Small relative reductions in production costs will not justify the switching costs of moving to another techniques. If the production costs reduced by a new technique are not borne by the producers – like pollution – the technique might not be adopted.

To understand the adoption of different organisational forms by trade intermediaries, this paper explores their options by giving a coherent economic framework emphasizing the importance of paying transaction costs. It is based both on my knowledge of 18th century French traders and some insights from more contemporaneous situations. In the first part, the paper analyses the static activity of traders and the tools at their disposal. In the second part, it studies the alternative they had to dynamically improve their situation.

[1] Secondary means of production can be accumulated through ordinary economic means while the "primary" means of production are given in the model, like land or labour.

1. The activity of traders

Most of the research on transaction costs has consisted in static comparative exercises weighting one form of organisation against another and trying to explain why some organisations exist beside the market, which is the ultimate "naïve" optimum[2]. For Williamson, even if « *[Transaction costs] are difficult to quantify* », « *The difficulty is mitigated by the fact that transaction costs are always assessed in a comparative way, in which one way of contracting is compared with another. Accordingly, it is the difference between rather than the absolute magnitude of transaction costs that matters.* »[3]. Elsewhere, he affirms that: « *Transaction cost economics, always and everywhere, is an exercise in comparative institutional analysis* »[4]. In the history, transaction costs economics has been used to study two linked subjects: either how institutional differences could be used to explain differences in economic success or how institutional dynamics can explain the genesis of more or less optimal institutions[5]. These subjects are important for the understanding of economic history, especially when the size of transaction costs prevent the establishment of a market or when it is impossible for individual to credibly commit to a cooperative equilibrium.

The approach of this paper is different. It takes the notion of transaction costs literally, as something that can be paid, and interests itself in the way trade intermediaries paid transaction costs. This is a prerequisite to understanding what where there motivations for institutional change, as it was not their first concern: most of the time they were trying to do their best in a given institutional environment. What did they try to do? What were their tools?

1.1. What did traders do?

Trade intermediaries made a living by organizing exchanges between members of the economy. As they were in an ideal situation to benefit from economic rent and as they live without producing material goods, they were often accused of being parasites. In 18th century France, members of the administration and the public were suspicious about their activities[6].

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[2] This literature does not need an introduction here. It started as a study of why there were firms at all (Coase (1937), Williamson (1971)). For some example of its use in the case of early-modern intercontinental trade, Carlos (1992) and Jones and Ville (1996).
[3] Williamson (1985), p. 22. See as well Williamson (1996a).
[4] Williamson (1996b), p. 9.
[5] North (1981) or the use of Grout (1984) by Bean and Crafts (1995), p. 28 and passim.
[6] Kaplan (1984 (1988)), p. 17 and passim.

Their activities – even when they were authorized – were excluded from the national income accounting of socialist countries. Anyone believing transaction costs are important should recognize they had a legitimate economic activity that is worth trying to analyze.

1.1.1. Logistic costs

Not all the traders' activity represented paying transaction costs. Exchanges required a physical transformation of goods. Trade intermediaries dealt with packaging, quality sorting and bundling, which are obvious physical transformation. Furthermore, even if this is less intuitive, the transformation of the place and time at which a good was available was as transformation as well. For a Parisian consumer, a piece of cloth in Paris and another one in Rouen were very different things. One could be consumed immediately, the other one had to be fetched or transported. If that is true through space, it is also true through time. Keeping inventories had a cost. One might want pepper next month, and not having to worry about storage and conservation. Even if it stayed physically the same, it was not the same economic object on day D and one day D+30.

All these transformation costs are referred to as logistic costs in the non-historical economics literature[7]. They can be straightforwardly analysed in the same way as production costs.

1.1.2. Managerial transaction costs

Once the payment of logistic costs is removed from the cost of exchanges, everything else can be considered as transaction costs. They form a very sizeable part of economic costs in contemporaneous economies[8]. However, not all these costs were borne by trade intermediaries. They were used mainly as an externalisation of, to use Coase's terminology (his 1937 paper does not use the expression "transaction costs"), "marketing costs"[9], or the costs of using price mechanism in an arm's length exchange.

Managerial transaction costs are the cost of organising exchanges in firms[10]. Trade intermediaries sometimes worked in firms, having clerks or subordinates. As such, they had to

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[7] Daudin (2003). They form around 10 % of the GDP of the United States.
[8] Daudin (2005b), Wallis and North (1988), Dollery and Leong (1998), Hazledine (2001). Wallis and North (1986).
[9] Coase (1937), p. 390-392. Furubotn and Richter (2000), p. 44-45, uses the expression "marketing transaction costs"
[10] Furubotn and Richter (2000), p. 46-47. Coases uses the term "cost of organizing".

deal with these kinds of transaction costs. However, it probably was a small part of their activity, as the size of their staffs was very limited. In one of the main trading house in Marseilles, the *Maison Le Roux* in 1749, there were at least five clerks (*commis*), plus the shop clerks. In the *Albouy* firm, there were only three clerks. In the Swiss firm *Blanchenay*, there were four wage earners in 1758. The only firm for which we know the exact wage bill was *Perron Hasslaver*, also in Marseilles: it had five employees in addition to the two associates in 1787. Its wage bill was 4,800 *livres*[11]. One would like to compare these numbers with the total amount of sales. This is only possible for the *Solier et C*^{ie} firm. This small firm had no clerk that we know of. However the subordinate associate, a country cousin named Antoine-Jean Solier, received wages of 600-800 *livres*[12]. It was small compared to what clerks usually received in Marseilles: there wages often varied between 1,200 and 1,600 *livres*, and even sometimes as high as 2 400 *livres*. Only very subordinate employees were paid 600 *livres*[13]. Anyway, even if one supposes Antoine-Jean Solier real cost for the firm was around 1,250 to 2,500 *livres*, this sum would represent a small part of the total sales of the company: these amounted to 910,000 *livres* in commissions and profits for twelve years. All this confirms that trade intermediaries did not rely on labour-intensive firms. As such, managerial transaction costs were not central to their activity.

A possible objection would consider the importance of brokers[14]. These were sometimes placed in a quasi-subordination or association with their principals: in that case dealing with them would be paying managerial transaction costs. They were used for many types of activity, among them insurance and overseeing the movement of goods or organising it. In these cases, their activity was easy to monitor, and the cost of this monitoring can indeed be assimilated to management transaction costs. It was also the case when brokers were imposed by market regulations: the trade intermediary was at hand. But, quite often, brokers had to sell and buy in geographical locations that were far from the principal. For example in the first Pellet firm founded in 1719, Pierre went to the Martinique to play the role of broker for the firm[15]. Wheat and flour merchants from the Grève in Paris had an important network of

[11] Carrière (1973), p. 727.
[12] Dermigny (1960), p. 54.
[13] Carrière (1973), p. 727-729.
[14] For a formal study of these types of contracts, see Cavignac (1967), p. 87-92. This is a very usual theme in French “harbour books”.
[15] Cavignac (1967), p. 9.

brokers in the countryside[16]. In theses situations, the principal could only give vague instructions, as he ignored the real state of the market the possible difficulties. Furthermore, the broker was rarely in a legal or economic subordinate situation: she could be an independent trader, even if this was sometimes formally forbidden, or be in relations with a group of principals, as was the case for the countryside agents of Parisian wheat traders. Sometimes, only the most important traders in a town could access to the role of broker: that suggests that they were free agents who used broker activity to make money out of their existing relation network or expertise without being involved in a hierarchical relationship. The importance of brokers does not invalidate the idea that trade intermediaries' activity was centred around arm-length relationships.

1.1.3. Marketing transaction costs

It is logical, then, to focus on the problem of marketing transaction costs and neglect managerial transaction costs. Paying marketing transaction costs was the most important part of the traders' activity. Only by understanding how, and with what means, they did it can we understand why they choose some institutional organisations over others.

However, analysis – division in many elements of the activity of traders is a bit artificial. Even if it is clear that they were doing operations of different nature, they only received a single payment for the group of operations. It is not possible to identify *a priori* the price of each type of marketing transaction costs. The identity of the operators in the firms is not a good guide to the analysis either. Peddlers, who work alone, were conducting the same activities as a *négociant*, but also had to accomplish tasks that were reserved in a *comptoir* to clerks.

To find a logical analysis of different marketing transaction cost paying activities, one can come back to the description of marketing costs in Coase's article. Some are *ex ante* costs: finding information on the market in general and finding a particular exchange partner. Some are "instantaneous" costs: determining the goods to be exchanged, bargaining their price and the precise contract. Some are *ex post* costs: the mutual monitoring of exchange partners to insure the spirit and letter of a contract is respected by preventing late payment or

[16] {Kaplan, 1984 (1988) #2844, p. 122-184.

delivery and preventing deceit on the quality of goods[17]. This typology is not perfect, but it will be the guide of this paper.

1.1.3.1. Looking for information: an important task for sellers

Chronologically, the first difficulty of a transaction is to find an exchange partner. This is the famous double coincidence of wants that make barter so difficult. It is often treated by economists with search models[18] which show, for example, that the improvement of the search process, in which trade intermediaries can play an important role, leads to an increase of welfare. However, these models present most of the time simple symmetric barter situations where there is no distinction between buyers and sellers. This cannot be applied to an economy using money, like France in the 18th century. In this case, whether the seller sells a particular good, and it might be difficult for him to find someone who wants this good, he would be satisfied by the cession of an ubiquitous abstract symbol of value – money – by the buyer. The seller did not have an universally demanded product to offer: it was more difficult for him or her to find someone willing to accept his specific piece of cloth than for the buyer to find someone interested in money. That is why finding information can be considered mainly a seller's problem.

The introduction of credit instruments as means of payment changes the situation slightly. A buyer might be looking for a way to use a bill of exchange on a particular place to make his purchase. However, it is possible for the buyer to transform itself in a seller of credit instrument – and hence face search costs for a client – and using the money such obtained to buy the desired good. As such, the use of credit instrument can be seen as a double exchange, in which both parties play the role of buyer and seller.

This information problem about the demand for a specific good could be partly solved by the establishment of regular trading relationships: these insured the existence of a public willing to pay for a good. In a country like France where the marketing networks mostly pre-existed to the activity of each intermediary, this difficulty was transformed into the necessity of collecting information on pre-existing market links. The complicated system of identification and hierarchy of goods made that more difficult. For example, the notion of quality did not refer simply to the physical qualities of the usage value of a good, but also to

[17] {Casson, 1987 #3186} and Furubotn and Richter (2000), p. 44-45.
[18] Diamond (1982)

its integration in a system of *a priori* social hierarchies[19]. This system had to be mastered by trade intermediaries. They had to know how to identify a particular good, where it could be obtained, who could buy it, what it should be named, etc.

Even for regular transactions, traders had to adapt to the modifications of the environment, even if each of them was limited: taste modification, fashion changes, evolution of customers' ability to pay... These modifications could spring from mutations happening in different markets. These modifications could lead to the necessity of finding a new outlet for some types of goods. All the knowledge on the state of the market was all the more difficult to accumulate than Ancien Régime economies were fundamentally uncertain[20]. It was obviously difficult to predict the quality of the harvest in a particular region, as it depended mainly on the climate's whims. Yet, the evolution of this quality, especially the difficulties that might be linked to the grain harvest, had a major effect on the evolutions of the economic short term movements and had to be anticipated. Information could only be transmitted with many difficulties and delays and many decisions had to be taken without having all the useful information.

1.1.3.2. Monitoring: an important difficulty for buyers

If it was difficult for a seller to gather information on the market for his goods, it was difficult for the buyer to be sure of what he had bought exactly because contracts could only be incomplete on the numerous quality dimensions of each good. Seller and the buyer have a different knowledge of the good to be exchanged. Most of the time, the present owner had much more information than the prospective one. The situation was not symmetrical, which justifies why this can be presented mainly as a buyer's difficulty.

Once again, the non-monetary means of payment made the problem more complex. One could object to this asymmetry that the means of payment offered by the seller had a quality that had to be assessed as well. Yet, this was much easier. Most of the time, most sellers would only accept metallic payment: that made the fraud possibilities smaller. When the quality of the payment mean was really a problem, one moved out from the standard market exchange paradigm to a kind of barter between a physical good and a risky financial asset. In

[19] Grenier (1996), p. 63-70 .
[20] Again, see Grenier (1996).

the worst cases, it was easier to defend oneself against unpaid bills of exchange than against a good that did not have the expected qualities.

In contrast with the means of payment, the quality of the goods that was bought depended on numerous variables, not all that could fall under the legal responsibility of the seller. Demonstrating that one was victim of breach of trust, or even manifest deceit was much more difficult for the buyer of a good than for the seller. How could one prove for example than a piece of cloth's wear and tear was due to its poor quality rather than poor usage? Monitoring the proper behaviour and the fidelity to contracts was a buyer's issue: *caveat emptor*.

1.1.3.3. Bargaining

The buyer and the seller had to find a exact deal on exchange's conditions. What was to be exchanged? At what price? Under which conditions? The sharing of the exchange surplus was at stake. Even if the market could provide some indications, each good's specificities – which was an important factor, even for the so-called "homogenous" goods, like wheat[21] – gave its individuality to each transaction. Cooperative game theory can help us understand this process[22].

1.2. What tools did they use?

The understanding of the different tasks trade intermediaries had to accomplish helps to understand what were the tools – or means of exchange – they could use if they were acting in a given institutional context.

The use of means of transaction pays marketing transaction costs. Labour is obviously a means of transaction, probably very important in the case of peddlers[23], less so in other cases. Yet, it was a primary mean of transaction, as it could not be accumulated. This paper will try to isolate secondary means of transaction: these are more interesting, as trade intermediary can directly influence the available quantities. Hence, they can be treated as the main alternative to institution building.

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[21] See Kaplan (1984 (1988)), chapter 2 or Meuvret (1977).
[22] See De Marchi and Morgan (1994) for an history of economic thought on this subject. Leonard (1994) is particularly illuminating. See as well Roth (1985) for a collection of articles and Moulin (1995) for a textbook.
[23] Fontaine (1993).

1.2.1. Financial and monetary capital

Logistics activities are the ones that can the most easily be assimilated to productive activities. They consisted in the physical transformation of goods through packaging, bundling, sorting, movement or inventories. All this required labour, land and capital. Labour and land are classical enough means of production. The capital being used is more interesting. Logitistics used fixed capital: buildings to stock inventories and welcome the exchange partners, means of transportation – horses and carts –, etc. This type of capital is taken into account by most economic models: it has to be produced itself in the usual way, thanks to primary production means like labour and land and secondary production, i.e. other capital.

Logistic activities also required circulating capital. The formal difference between circulating and fixed capital refers to the physical survival of not of capital at the end of the production process. Fixed capital was not very important in 18th century economies, even in the textile industry. Research on this subject is more advanced in England than in France. In the West Riding woollen industry, fixed capital was less important than the circulating capital[24]. Furthermore, buildings were the main form of fixed capital, as it was shown by the study of Chapman based on fire insurances between 1710 and 1750[25]. Nearer from the world of trade intermediaries, Cailly has studied the assets of linen industry *verlegers* in Perche (Normandy)[26]. The mean value of their fixed capital, excluding buildings, was only thirty *livres*, or approximately a month wage for a weaver; the price of two pieces of cloth of fifty *aunes* each[27]. The value of circulating capital, even if one excludes inventories and commercial paper, was six times as large[28]. Bills of exchanges and inventory took up the main share of total capital, and fixed capital represented only 2.5% of the small capital stock of these intermediaries (mean capital: 1,310 *livres*). Furthermore, the elasticity of the value of fixed capital to the wealth of the *verlegers* was very small. The richest had 1.5 times more fixed capital than the mean… and 30 times as much circulating capital[29]. However, all this excludes however buildings, which had a more important mean value (2,231 livres). Yet, none of these verlegers were qualified as *marchands*, but all as *fabriquants*: full trade intermediaries were probably even more fixed-capital light. In the Maine, wool inventories,

[24] Hudson (1986), p. 48-52. See also Richardson (1989) for a critical view on this literature.
[25] Chapman (1973).
[26] Cailly (1993), vol 1, p. 206.
[27] I am not sure of the value of the aune in Perche, but the Parisian one was 1.1884 meters.
[28] Cailly (1993), p. 203. These numbers are based on probate inventories.

not looms, were a large part of the assets of *maîtres fabricants*[30]. In the Cambrésis in 1770, an used loom had a smaller price than one month of weaving: less than 15 *livres*[31]. That was also the case in the *crées* manufacture in Léon.[32] If this was the situation in industry, it is easy to infer that "purer" trade intermediaries did not depend very much on fixed capital. Of course, one would like to know more, for example, about the price of transportation means but I do not know of any source on the subject.

Part of circulating capital was physical. It was the case of the merchandise that was bought and sold during exchanges: it can be treated as a form of intermediary consumption. It "disappears" during the exchange, to be transferred in another place or made available at another time to someone else. To acquire circulating capital, one had to buy it – sometimes on credit – from producers or other intermediaries. That implied using either metallic money or credit in the form of commercial paper – account credit, bank money, banknotes, bills of exchange, bills of credit... None of these were available for free: they required the immobilisation of some part of one's credit or wealth, i.e. one's financial and monetary capital. This immobilisation was all the more important as the exchange process, from transport to asset recovery, was slow. In that context, liquid wealth was the most important physical assets of traders[33]. Credit and monetary advances allowed them the control the economic activity in the same way as the control of means of production allows this control in industrialised economies. They were an important source of profit because they were central in the workings of *Ancien Régime* economies.

Presenting "money" as a capital raises issues in a macro-economic framework because of the problem of price flexibility and the classical notion of the money as a veil on real economic activity[34]. But in a micro-economic context, this problem does not exist. Even if it could be argued that money was not a "rare asset" for society as a whole, as it depended on conventions about the storage of value, etc… it was a rare asset for trade intermediaries. One could not emit too much money in commercial paper lest it should not be accepted anymore

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[29] Cailly (1993), vol 2, p. 53.
[30] Dornic (1955), p. 206-208.
[31] Vardi (1993), p. 131.
[32] Tanguy (1969), p. 52.
[33] Grenier (1996), p. 84-91, Chapman (1973).
[34] The problem is treated in Daudin (2005a), p. 170-176.

for lack of credit[35]. Hence, at some point, the real wealth was a limit to credit. Credit was central to trade intermediaries' activity: money worked as a form of capital.

1.2.2. Human capital

Another mean of transaction was the level of formal knowledge and know-how that each trader had on the workings of the markets, and which was at the basis of dealing with the uncertain and the unknown. This mean of transaction is simply a variation on human capital. It included technical skills that had to be mastered by trade intermediaries in a period where formal and mathematical occupation was not the norm. Obviously, many traders did not master the intricacies of double entry bookkeeping. Some – mostly in domestic trade, probably – were not even able to write or read. Yet, all had to have some knowledge on the manipulation of commercial papers, financial arrangements, etc…

The term "human capital" should not be taken as suggesting that this form of capital was the only one to be attached to individuals. It was also the case of other types of capital. The term "human capital" is useful because the ordinary usage of this expression refers to knowledge and education.

There is no easy benchmark to evaluate the size of knowledge that was mastered by each individual. Some knowledge was good or market-specific. The knowledge of goods quality was obviously not the same for textile merchants and grain intermediaries. Some knowledge was not good or market specific: knowing how buyers will change their behaviour to react to price or income changes, or knowing the effect of an exogenous event – be it a bad harvest or a war – on the economy as a whole, were talents that could be used to analyse different markets. This was also the case of technical skills. On the whole, human capital was probably a mix of non-specific knowledge and some dimensions of specific one.

1.2.3. Social capital

In 18th century France, as in many other pre-industrial situation, especially when international trade was concerned, the legal system could not be trusted to protect contracts[36]. In that situation, there were two ways to go about monitoring, or what I have termed as "buyers' problems". The first one was to exercise direct surveillance. Human capital was useful for that. A good knowledge of specific goods could help spot deceit or fraud. Yet, to

[35] Roover (1953), Carrière, Courdurié, Gutsatz, and Squarzoni (1976).

some extent, human capital would often come of use too late in these kinds of situations. Once one has received an unfaithful shipment, the realization will not help to recover most of the costs. Furthermore, it was difficult to determine which defects were caused by the bad faith of the seller and which were caused by bad luck. As it is usual in principal-agent models, it was not easy to evaluate the real responsibilities of each partner and hence to put in place a sanction system to ensure good behaviour. Specialized knowledge might hence not be the main tool in the hand of trade intermediaries. This is confirmed by the fact that many of them, especially in international trade, were non-specialists, which meant either that they had encyclopaedic knowledge – which is doubtful – or that they did not rely primarily on their knowledge to solve monitoring issues.

An alternative way to insure a seller's good faith was to watch over him. Obviously, in most cases exchange cases that was either not possible or too costly. It was a managerial transaction cost rather than with marketing transaction cost: as such, it was not central to the activities of trade intermediaries.

Finally, and centrally, cooperation could be insured by the existence of trust links that could depend entirely on the economic sphere or not. Trust does not flow from a perfect knowledge about agents: it comes from an estimation of the probability of opportunistic behaviour from other agents, which one could also call reputation, depending from the point of view. One can treat this trust as a mean of transaction, and call "social capital" [37]. This idea is not new: some economists have build up models were reputation is an asset that can be accumulated, preserved or milked[38]. However, it is clear that the last word is not written on this question, which is debated among economists and social scientists in general[39]. In opposition to the usual Putman's view social capital is a personal asset in this paper, not a national or community one[40].

The most common situation that allowed to build up trust was the existence of unrelated social obligations. In this case, the cost of opportunistic behaviour was high, as punishment is facilitated by the existence of social links[41]. The existence of ethnically homogenous networks

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[36] For an example of the intervention of the legal system in trade matters, see Rothschild (1998).
[37] At least one author as affirmed that « trust was a concept too many » because everything in it depended on information and enforcement. See Guinnane (2005).
[38] For a review, see Wilson (1985).
[39] See the symposium in *The Economic Journal*: Durlauf (2002b), Durlauf (2002a), Bowles and Gintis (2002), Glaeser, Laibson, and Sacerdote (2002) and Durlauf and Fafchamps (2004).
[40] Putnam (2000).
[41] See Granovetter (1985) Greif (1996), Greif (2000) or Greif (2006).

made punishing economically and socially bad behaviour easier[42]. But these solutions depend on pre-existing social institutions. Even for isolated traders, as was more often the case in 18th century France, families were available and could play this role: many firms organised themselves along family lines. There are numerous examples. The Pellet brothers started their career with a family firm, with one of the brothers going to in the West Indies to work as an agent for the firm[43]. It might be reasonable to suspect that the behaviours of the different members of a single family were correlated. Even if that was not the case, the belief in familial collective responsibility was widespread. For example, the bad behaviour of one of Lacoube's nephew put him in a very difficult situation and had a disastrous effect on his trade activities[44]. That encouraged the setting up of stern auto-disciplinary procedures.

Yet, social capital did not rely exclusively on pre-existing relationships. It is clear that the issue of free riding made it impossible for the society as a whole to decide from one day to the next that everybody must trust everybody. This situation is akin to a prisoners' dilemma. It can be solved because the efforts and money invested by each agent in the construction of trust relationship is a sunken cost that is difficult to use for other activities than for trade, if except maybe research of power and other social satisfactions. They could not be transmitted easily either. Hence, these expenditures can be treated as a commitment under the form of a bond. The more important they are, the more the commitment is strong or credible as punishment would entail a larger loss. Social capital is a kind of bond. This bond is all the stronger if it is invested in a specific relationship, which allows even limited groups to punish more easily. However, at least in 18th century France, there were as well signs of belonging to a national merchant group.

Social capital can be defined what makes information gathering on oneself and enforcement against oneself easier. Two partners used to exchanging both collect information on one another and know that they both benefit from the relation, and that a share of each investment is specific to the relationship they have put in place. It is easy in that case for one or the other to punish the other one by interrupting the relationship: in that case, he causes the loss of each one's sunken costs, but also of the future gains that the relation could generate. Game theory tells us that the key to a cooperative relation is the fear of the punishment

[42] Greif (1994).
[43] Cavignac (1967).
[44] Cornette (1986).

mechanisms that are available to the other partners. The repeated relations thus facilitate cooperation through the ease of information gathering and credible threats[45].

Because social capital is defined as a bond, it is difficult to be explicit about his precise nature without presenting how it could be accumulated: the paper does that in the following section.

It is interesting to notice that social capital had some characteristics of a public good. Every partner in a trade relationship had an interest in the establishment of trust. True, monitoring was especially crucial for the buyer, as it was easy for the seller to judge of the quality of the money she received. Yet the lack of trust could reduce the buyer's willingness to pay, for example because the buyer has to use resources to find information on the seller. That is bad for the seller. The lack of trust might make exchange impossible, which is even worse[46]. For these reasons, even if the difficulty is fundamentally the buyer's one, the seller has an interest in committing in being truthful in a credible way. If he does, the surplus to be shared between himself and the buyer will be larger: then comes the question of the actual division… To sum up, it might be the case that, paradoxically, it is the seller that expands resources to increase trust even if the issue is not directly his.

1.2.4. What about bargaining?

It is certain that the bargaining process used up resources. E. g., the time spent for bargaining can be considered as labour, but also involved keeping inventories which necessitated physical and financial capital as it involved keeping inventories. The result of bargaining will depend on knowledge, social links and the availability of capital, as it allowed not to suffer from delays and use them to one's advantage. The results of the negotiation depended on the knowledge and social links between both partners. It does not seem useful to introduce a specific mean of transaction for bargaining.

2. Dynamic choices

This debate about the tools that trade intermediaries were using is a bit abstract. The paper now introduces the corner stone of the difference between transaction capital and other

[45] Some researchers even present the existence of "cooperative agents" and "punishing agents", beside the problem hence of credible threats, as the key to economic progress: Ostrom (2000) and Henrich, Boyd, Bowles, Camerer, Fehr, Gintis, and McElreath (2001).

forms of means of transaction: the fact that it can be accumulated. Saving would obviously allow each trader to increase his stock of financial and monetary capital. But a process akin to saving allowed the same thing for human and social capital. The study of these saving behaviours helps explaining their alternatives: organisational or institutional building.

2.1. Accumulating means of transaction

This paper had divided exchange activities in four different tasks: transforming goods, gathering information on the market and adapt to it, monitor the good behaviour of the other exchange partners, and negotiating. Furthermore, the paper has presented five means of exchange: labour, physical capital, monetary and financial capital, human capital and social capital. Human capital and social capital are the forms of capital adapted to the second and third exchange task: they are more efficient at dealing with information and trust than using usual forms of capital and primary factors of transaction. Four of the means of exchange can be accumulated: physical capital, monetary and financial capital, social capital and human capital. As such, they are roundabout ways of exchange[47]: instead of being used directly in exchanges, they can be used to generate intermediate goods that will help paying exchange costs in the future. The paper now studies this mechanism.

2.1.1. Accumulating human capital

Human capital was a secondary mean of transaction: it could be accumulated by trade intermediaries through a form of "savings". However, it was not possible to buy it "off the shelf". Human capital consisted of know-how, feelings, tacit knowledge and personal adaptation habits. This was difficult to transfer to other people, even in a trader's family. It was not impossible however. Trader could favour the formation of human capital by their children by using social capital to convince their trade partner to host them and teach them the ropes of the trade. It was also possible to send one's child in a remote office of one's firm for him to learn trade by doing it. The errors he would make, the time spend overseeing him and advising him, represented an expenditure in work and financial and monetary capital[48]. That represented less a direct transmission of human capital than help in reconstructing it. Initial

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[46] The best known example of this situation is the case of the sellers of high quality used cars in a "lemon market": Akerlof (1970).

[47] Coming from Böhm Bawerk, the notion of roundabout means of production is central to the early definition of human capital: Mincer (1958) and Becker (1964).

[48] See Thomson (1982), p. 302 and Carrière (1973), t. II, p. 758-760.

formation also played a role. Teenagers were often sent in internship at the office of another member of the family or of a good trade relation. This had the positive side effect of building up social capital of the sender (as putting one's child in someone else's hand is a way of committing to good behaviour) as well as giving a formation to the child. However, this method could obviously not be relied on to accumulate human capital in the long run for obvious reasons. A related method was to travel to the markets were the information was and to interact with potential buyers. That was expensive in terms of time – or labour – and in terms of monetary and financial capital[49].

To gather information, the most obvious, if uncertain, method was to rely on public information as it could be found in the press or in the trading textbooks[50]. Trade manuals were only a pale reflection of what the activity of trade intermediaries' activity really was: a large part of their knowledge was implicit. Furthermore they quickly became out of date. Textbooks and the press suffered from the fact that the value of information depended crucially on its timeliness and exclusiveness.

Another method, less efficient than travelling, consisted in developing a network of correspondents. Letters sent from Cadix by French traders often comported a kind of *post-scriptum* giving the exchange rate between Cadix of the trade centres in France, Italy and the Netherlands[51]. Exchanging letters cost time and money. Sending letters was surprisingly expensive: it represented 17% of the costs excluding trade (and including wages and inventory costs) for Roux in the second half of the 18th century[52]. This method relied also on the quality of the existing relationships between oneself and other trade intermediaries, and notably on the trust that the information will be *bona fide* and reciprocated. Hence, in that way social capital could be transferred into human capital.

Actually, the most common way of getting information on markets, their evolutions and the proper way to deal with them was experience or learning by doing. Success or failure of an intermediary's trade endeavours provided him with information on how the market was working. It is even probable that this was more intense after failures than successes, as

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49 To have an illustration of these costs, one can refer to the continual complaints of the *inspecteurs de manufacture* about the cost of their inspections: Minard (1998), p. 103-106. On the cost of moving around, see also Arbellot and Lepetit (1987).
50 Savary des Bruslons (1723-1730), Hook and Jeannin (1989).
51 See Gutsatz and Squarzoni (1976) and Dermigny (1960).
52 Carrière (1973), t. II, p. 791-792. For more details on the post system during the second half of the 18th century, see Arbellot and Lepetit (1987), p. 38-45.

failures indicated the trader had missed something important whereas successes only confirmed what he already knew. Whatever the results, it was possible for the trader to adjust his marginal behaviour to adapt to the reactions or glitches he was experiencing. In every case, the opportunity costs of the monetary and financial capital that had not been won or that had been lost was equivalent to an investment in human capital.

2.1.2. Accumulating social capital

In the preceding section, the paper discussed the fact that social capital could come either from pre-existing social links or the creation of bonds between exchange partners. There cannot be much accumulation of pre-existing social links.

Once again, it was not possible to "buy" social capital directly, as the stocks were not easily transferable. However, that might have been easier than in the case of human capital, as one could offer oneself as a guarantee to someone else's behaviour. That was mostly one done in pre-existing social relationships, for example in families, but not always. And even inside a family, the death of a trusted trader did not entail the unconditional transfer of his trust to his children, especially as it was probable that the children's trade partners were not the same as the father's.

Most of the accumulation of social capital hence had to be accomplished by the trader himself. By visiting, interacting and more generally weaving non-economic links with potential partners, a trader could signal that he was trustworthy in a way commensurate with the amount of sunken costs he invested in a relation. Simultaneously, he accumulated some private information that allowed him to monitor behaviour. By integrating a social community, the trader killed two birds with one stone: he committed to good behaviour by accepting restrictions and monitoring from the community and he could himself use the community's power to influence other member's behaviour. Similarly, by displaying his wealth, buying land or *offices*, the trade intermediary displayed his respectability, his power, and the trust that should be given to him both by his potential trade partners and by the outside organisation that could help him to remedy or to prevent opportunistic behaviour from other partners. By extending credit – and even refusing to be paid in cash in some occasions, the seller credibly committed to a long-term relationship by providing the buyer with a convenient way to punish him. This particular behaviour is an usual feature of the exchange

networks that are studied by anthropologists. In the Philippines, it is called *pratik*[53]. During our period, Fontaine signals that: « Thus even the merchants' portfolios of debit did not escape the complexity of their social roles and the contradictions these forced upon them : on the one hand, they had to meet their obligations as members of immediate and wider family groups, of networks of 'friends', and as providers of work ; and on the other, they had to invest in the various centres of power to succeed in their strategies for upward mobility and market conquest. »[54]

Extending credit required either monetary and financial capital or access to the credit market. But access to the credit market itself required *crédit* or social capital.

2.1.3. Long term accumulation

Depreciation is the countervailing force to accumulation. It was as strong in human and social capital as the speed of the evolution of trade networks. The analogy between this and technical progress is clear. The stock of knowledge can depreciate quickly because of destructive creation, as new techniques push older ones into obsolescence. However, in this case, the depreciation is endogenous to the accumulation process. In the case of social and human capital, it is exogenous: it is not new capital that makes the old one useless, but the fact that the economic environment is changing. On the whole, it was probable that the depreciation rate of social and human capital was high.

Physical capital did depreciate quickly as well, as the durability of materials was much smaller than it is now[55]. It was however much less important than financial and monetary capital. This capital depreciated at the speed of inflation – which was slow from 1650 to 1790. Physical tear and wear of coins could also be taken into account, but it was very slow[56].

For these reasons, one can affirm that human and social capital – in the changing world of economic exchanges – could only be short and medium term savings. In the long run, they disappeared relatively quickly compared to monetary and financial capital. If one takes the long run view, they can be considered as intermediary consumption in exchange: created to insure them, but not surviving. In the long run, the key sign of capital accumulation would be the monetary and financial capital. In that case, human and social capital are still important

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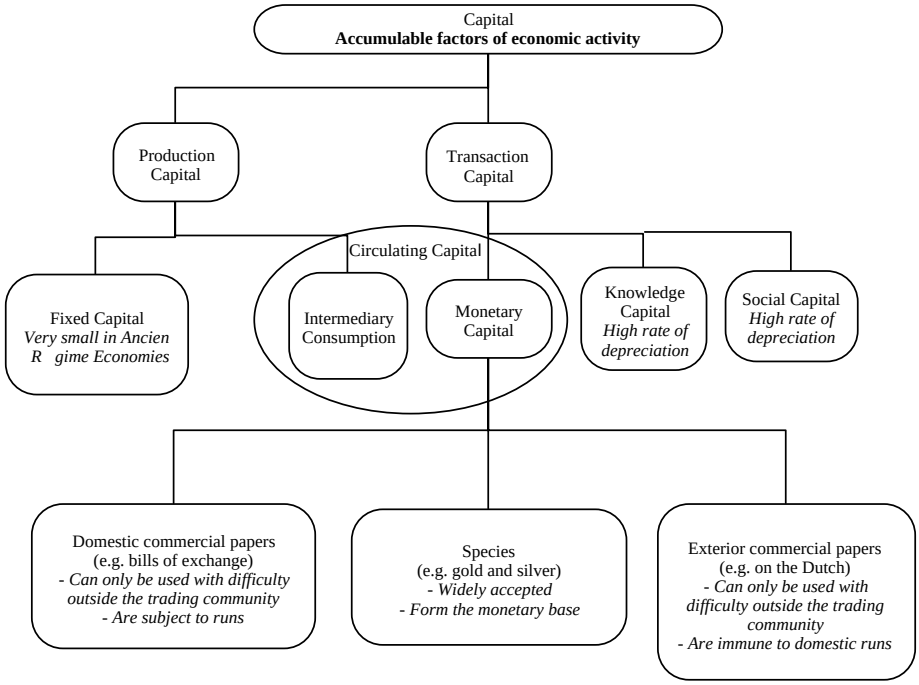
[53] See Kaplan (1984 (1988)), p. 120-121, especially his references.
[54] Fontaine (2001), p. 48. See as well: Brewer and Fontaine (1997).
[55] See Kuznets (1974).
[56] For the silver coins, slightly more than 2% every two years. See Craig (1953), p. xvi, 26-27.

because they are one of the roundabout way in which financial capital had an influence on the production of exchanges beside its direct role.

Graph: Different types of capital



2.2. The other option: institution building

Institutions and organisation building was the other option for the long-term creation of exchange, and that was institution building. Furubotn and Richter call institutional building and maintaining costs "political transaction costs"[57]. Of course, one should not have too much of a teleological view of institutional building: it depended on a host of political, social, cultural and economic factors. However, they can at least partly be considered as an alternative to capital accumulation.

2.2.1. What is the difference?

Between the accumulation of means of transaction and the modification of institutions, the difference is not as easy to make as one might think at first glance. Accumulating social capital can be so intense that it creates new kind of relationships. This modification can be assimilated to an institutional change. Let us explore this paradox.

2.2.1.1. The difference between a qualitative phenomenon and a quantitative one?

The first possible distinction between paying transaction costs and institutional change is the idea that one cannot "accumulate" institutions whereas one can accumulate means of transaction. Each institution replaces another through a process akin to creative destruction: hence an institutional change has to be qualitative. For example, the simplification of property rights by the revolutionary government replaced the co-existence of *propriété éminente* and *propriété utile* in the Ancien Régime[58]. On the other hand, the accumulation of means of transaction is a quantitative phenomenon.

However, it is not certain this distinction is enough. Take, for example, the development of markets and faire in Ancien Régime France[59]. One would intuitively classify it as an institutional change, as it was made possible only through a legal evolution that was not fully controlled by trade intermediaries and that had not exclusively economic motives. However, the authorisation to open markets in new geographical areas and increase the number of days they were active per week lead to a quantitative increase. Furthermore, the extension of the fair and market networks, by putting in place new institutions to monitor and control the good behaviour of economic actors, made an accumulation of the number of good types that could be exchanged possible.

This example shows that some institutional change can be considered as quantitative. It was possible to accumulate institutions in the same way as it was possible to accumulate means of transaction.

2.2.1.2. Lower transaction costs

Another distinction lies in the fact that the aim of institutional change was lowering transaction costs, whereas the accumulation of means of transaction should not change them. But actually, the accumulation of means of transaction also had an indirect effect on the transaction costs. Because of decreasing returns, capital accumulation in an economy lowers the marginal productivity of capital. This decrease has an effect on the market for capital: it decreases its price. Hence, it decreases production costs, defined as the opportunity costs of the means of production. Accumulation of means of transaction also decreases transaction

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[57] Furubotn and Richter (2000), p. 47-49.
[58] Béaur (2000), p. 17-21.
[59] Margairaz (1988).

costs through the change in the opportunity costs of the accumulated resources. Obviously, this effect will depend crucially on the way the market for the means of transaction actually works.

One might be tempted to sidestep this objection by looking only at the direct effect of the accumulation of means of transaction, excluding general equilibrium types of effects. If this is the way to go, one would have to measure transaction costs before and after the action that is being studied. If transaction costs have decreased, the action is of the institutional change category. If transaction costs have not changed, the action is of the accumulation of means of transaction category. The difficulty is that, without a way to physically measure the quantities of means of transaction that are used in the economy – in the same way as it is not possible to physically measure the quantities of capital that are used in the economy –, costs can only be computed by finding the opportunity cost of the resources that are used. This opportunity costs cannot be computed without taking into account the effect on price of the accumulation of means of transaction. Hence, the suggestion comes down to a self-referring argument. To identify the accumulation means of transaction, it suggests comparing the evolution of transaction costs before and after. To compute the evolution of transaction costs, they have to be measured, and specifically they have to be distinguished from political transaction costs. As the only way to measure transaction costs is to use the opportunity costs of the means of transaction, measuring transaction costs implies that one must know the price of the accumulation of means of transaction. Hence, to distinguish between the accumulation of means of transaction and institutional change, this method requires the accumulation of means of transaction to be identified. The snake is biting its own tail.

Another version of this argument would be that institutional building increases the efficiency of the economy, and hence reduces total transaction costs in the society – not just marketing transaction costs. But obviously this is not certain. Setting up a law facilitating some kind of transactions has a cost. This cost is expected to be lower than the benefit of this law for society as a whole, but it is not certain it is the case: the law might not be efficient, or have no application. Hence it is possible that the total cost – social and private – of political transaction costs and marketing transaction costs stay constant or increase after the law is passed. Yet, it should be classified as institutional change.

2.2.1.3. Through the use of resources

Maybe the distinction can be made thought the different nature of the resources used to accumulate means of transaction and the resources used to pay political transaction costs. This is not practical either because the resources required by institution building are similar to the ones required by the accumulation of means of transaction – especially social capital. For example, putting in place a new law on private contracts requires bargaining between different coalitions. This bargaining requires labour, social capital, etc. Yet it is clearly directed at institutional change, not accumulation of means of transaction. The distinction might be very blurry. Let us take for example the case of resources used by a small group of trade intermediaries to establish between themselves a regular correspondence sharing news. The resources can either be considered as devoted to the setting up of an informal institution, either be considered as accumulating social and human capital – by insuring information gathering and trust building – that can be used to pay transaction costs in the future exchanges between these trade intermediaries. It can hence be seen either as paying transaction costs or reducing them. The same question can be asked about the setting up of an arbitrage organisation between merchants: there are other examples where the doubt is possible.

Furthermore, the difference between private and social costs is not enough to distinguish accumulating means of transaction and institutional change. As we have seen, the accumulation of social capital, which has private costs, can lead to institutional change. Creating corporation or union has mainly private costs: yet, it still should be considered as institutional building. Furthermore, the fact that trust relationships get closer in a specific group may entail public costs if the group de facto excludes new comers from trade[60].

Lastly, and has we have already alluded to we presented social capital, even if it is clear that institutional change results in a public good, this criterion is not enough to distinguish it from the accumulation of means of transaction. These also have externalities: a social network is a public good that allows some to be free riders.

2.2.1.4. An arbitrary distinction

This paper is confronted to an aporia. Even if the distinction between institutional change and the accumulation of means of transaction seems intuitive enough, it is not easy to find a single simple criterion for the distinction.

Actually, keeping in mind the analogy between transaction costs and production costs, this should not surprise us. As the English protagonists of the Cambridge controversy hold, it is not possible to determine the stock of capital – a sum of heterogeneous physical goods – without knowing its price in the form of interest rate. And, if the interest rate depend simply on the marginal productivity of capital, it is not possible to determine it without knowing the stock of capital beforehand. They were right, but most economists have decided that this paradox was not very important[61]. The controversy was mainly theoretical, and its empirical consequences have not been worked out, as capital is simply estimated with the arguably deeply flawed perpetual inventory method. It is not actually possible to distinguish technical progress and capital production without having defined what should be considered as production, and hence defined technical progress as a residual. This is obvious from the way TFP is computed in growth accounting exercises. It is also the case in economic growth theories. In endogenous growth theory, especially, the notion of accumulation is not enough as technical progress might be expressed in the model by a widening of the range of means of production than can be produced.[62]

If there were an *a priori* definition of what are means of production and how they should be measured, the problem would be much simpler to solve. *In fine*, the only way to escape this aporia is to distinguish arbitrarily what should be classified in political transaction costs or not, depending on the what one want to study.

2.2.2. Trade off

This paper is interested in using an analysis of the activity of trade intermediaries in explaining their different institutional "choices". So what economic factors could encourage the setting up of strong forms of trade organisations?

– Obviously, if marketing transaction costs are not high, trade organisations do not need to be set up. For example, if logistic costs are more important than marketing transaction costs, individual capital accumulation might be enough to tackle the difficulties of trade and organisations will not be set up. But that is not the only effect.

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[60] Greif (1994).

[61] See for example chapter 14 of Kurz and Salvadori (1995), Hausman (1981), Ahmad (1991), Cohen and Harcourt (2003). Lucas wrote: "The fiction of "counting machines" is helpful in certain abstract contexts but is not at all operational or useful in actual economies – even primitives ones. If this was the issue in the famous "two Cambridges" controversy, then it has long been resolved in favor of the English side of the Atlantic" (Lucas (2002), p. 56 – taken from Lucas (1988)).

– There is a trade-off between accumulating private financial and monetary capital and setting up trade organisation. Hence, if private wealth accumulation is difficult (because, e.g. of risks of expropriation, monetary uncertainty…), changing institutions or setting up strong organisations will be more advantageous.

– There might be increasing returns to financial and monetary capital (bribery fixed costs, for example). Hence the disintegration of the trade community in number of small actors might encourage trade organisations as a substitute.

– If monitoring is very important to trade activity, e.g. if monitoring through formal institutions is difficult, it will encourage the accumulation of social capital. This accumulation may well generate the creation of trade organisations. Hence trade in heterogenous goods will encourage the setting up of trade organisations.

– If collecting information is very important to trade activity, relative to the monitoring issues, e.g. because of uncertainty about markets and supply, it will encourage human capital accumulation rather than social capital accumulation and will relatively depress the need and opportunities to create trade organisations. Hence trade in homogenous goods will relatively depress the setting up of trade organisations.

All these are a number of leads that need to be further explored in future version of this work.

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[62] See the sixth chapter in Barro (1996 (1995)).

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