Experts on intangibles

Introduction

This paper deals with the assessment of intangibles realized by market experts. Being not physical in nature, intangible assets don't have the obvious physical value of tangible assets such as vehicles, equipment... This is why intangibles' assessment is a regular issue for financial research: it raises questions about value's reliability and about assessment expertise (Power, 1992). Indeed, the notion of intangibles is even more complex that it entails a huge diversity of assets such as intellectual capital, research and development costs, non-financial information or trademarks. This heterogeneity renders evaluation particularly difficult to justify and generates a multiplicity of both practical and theoretical concerns.

The aim of this research is to study a singular, specific, unique asset: the race horse. Race horses are sold during auctions. Of course, race horses are tangible assets because of their physical nature. Yet, their value is mainly linked to not-tangible characteristics such as beauty, genealogy, sporting skills. In this paper, we analyze horses' assessment made by actors belonging to the horse racing socio-professional community. The French horse market has been evolving a lot for several decades. Auctions have increased and now represent the main place to sell and buy horses. Especially, one category of buyer has emerged and is now considered as a real market expert: the profession of broker, middleman between the auction ring and future buyers. Initially merchants, brokers have acquired the expert status thanks to the emergence of outsiders and their need for councils. This context leads us to study expertise on the horse market. Whereas experts are legitimized by the socio professional community, expertise is not objectively demonstrated. Indeed and contrary to financial brokers, there is no official ranking or evaluation of horse brokers' performances. We are then interested in understanding on what criteria the "expert status" is based. Our research question is about the legitimacy of expertise: Is the expert status related to financial performance?

To do so, we adopt a quantitative methodology to analyze investment profitability realized by brokers. Our aim is to elaborate a performance model of brokers and to compare it with the one of other market actors such as trainers. The paper is presented following 4 parts. The first part presents literature on expertise and market values; the second part describes the field studied and methology used; the third part details our findings; the last part is a discussion of our findings and limits.

1. Literature on expertise and market values

1.1.Fair value and social interactions on markets

Fundamental value is one of the oldest concepts related to assessment issues. It has the particularity of being studied by several research disciplines: economics researchers (Orléan, 1999) study correlations between value and market theories; sociologists (Callon & Muniesa, 2005) observe the link between value and market actors; finance researchers have an increasing interest in issues about financial transparency. Over the last few decades fundamental value has become an important issue for international accounting regulators too. The elaboration of several standards about "fair value" (IFRS13) and assessment methods (IAS16, IAS38, IFRS9) reveal the importance given to relevance, reliability and faithfulness (Erb & Pelger, 2015).

Considering market efficiency theory, the fundamental value is the value that translates the economic reality in a "true" way (Ortiz, 2013). Market values are rightly considered as reliable values because they reflect a consensus between offer and demand. Indeed, the market as an economic concept has been perceived for many decades as a rational space in which only rational transactions occurred, people having access to the same information and being able to elaborate their own calculation of utility and profit. Rationality, information and mechanical adjustment of offer and demand lead to a general or partial equilibrium of the price. However, reliability raises problems for certain kind of assets and certain kind of markets when fair value is obtained through measurements instead of market prices. It is the case for singular assets such as intangibles or unique assets.

This vision of the market as a perfect mirror of the reality of the value was then challenged by numerous economists (Black, 1986). The abstract market then becomes a concrete area of relational exchanges. Sociologists point out the imperfect rationality linked to these personal relations and argue that strong volatilities reflect probable lacks for reliability (Aboody & al 2002). Market and individuals are interdependent (Steiner 2012). Sociologists underline the existence of loopholes surrounding markets. Personal loopholes are essentially linked to the inability to evaluate its own interests or to assess a good. This limited cognitive capacity is due to: a lack of skills, the non-membership of a socio-professional network or other social characteristics able to generate information asymmetry (Akerlof 1970; Admati & Pfeiderer 1986; Sagot-Duvauroux 1992). Examples include references to financial markets (Huault & Rainelli-Le Montagner, 2009) and underline the conditions of their inefficiency: uncertain quality of the exchanged assets and a complex classification or modelling (MacKenzie & Millo 2003; Zuckerman 2004).

Baker (1984) suggests that definition of assessment criteria and the concept of "social structure" are linked. Markets can be defined as interactions between actors organized around shared internalized beliefs and cultural backgrounds (Abolafia & Kilduff 1988; Abolafia 1998). Studies conducted on markets of singular products reveal that consensual evaluations rely on social codes or assessment criteria suggested by individuals considered as legitimate by their own socio-professional community (Smith 1989). For the researchers in Economics

of Conventions (Orléan 1999), actors' interactions produce rules, norms and conventions. Conventions then appear as a legitimate way of solving uncertainty surrounding products. For example, conventions may result in a "quality" scale that helps buyers to compare assets via homogeneous characteristics, leading to a consensual evaluation among all buyers.

1.2. Valuation of singular assets by experts

These last decades, financial markets have been studied a lot because they offer an interesting example of how market actors develop assessment methods and/ or models to justify market values (Power, 2010) for very specific or singular assets. Literature underlines the existence of a certain assessment consensus among a socio-professional community sharing values and codes (Smith, 1989), training (Ortiz, 2013), social relations. Literature particularly insists on the existence of a consensus even for assets having very subjective or even unique characteristics (Callon & Muniesa, 2005). This consensus mainly comes from experts giving their opinion to the whole community.

By analyzing the role of analysts or brokers working on financial markets, studies reveal the gaps between theory and market reality. Market experts are charged to elaborate qualitative information about assets or companies. Most of the time, they share similar academic training and social, professional and cultural values. This common background generates a common belief on market efficiency and on the existence of a faithful value.

Literature brings into opposition market efficiency and information asymmetry (Akerlof, 1970; Admati & Pfeiderer, 1986) or knowledge asymmetry (Karpik, 2007) on markets. Given the number of assessment methods used by experts, Ortiz (2013) suggests that assessment reflects experts' personal opinions. Experts belong to a professional community with which they interact. This prevents them from being perfect rational participants (Orléan, 1999). Promiscuity with the companies evaluated can also lead to bias in assessment (Bessière & Schatt, 2010). Moreover, socio-professional legitimacy reinforces experts influence (MacKenzie & Millo, 2003).

The notion of fair value for singular assets raises questions and criticisms among scholars and practitioners especially for assets without active markets (Machado et al., 2014) or agricultural assets (Bozzolan et al., 2016). The Economic Sciences were interested in the value of race horses in auction markets (Buzby & Jessup, 1994; Ng & al., 2013) from a very econometric point of view. With this work, we aim to develop research about horses' market values.

2. Presentation of the field studied and quantitative methodology

2.1.Field studied

The French horse market has been dynamic for several decades. It represents a relevant field of study that gathers most of the dimensions observed in other markets already studied, such as financial, art (Sagot-Duvauroux & al., 1992) or sport markets (Amir & Livne, 2005). Indeed, we observe a socio professional community of insiders (sellers and buyers) dealing with assets (horses) characterized by intangible and subjective characteristics. On this market there is an important volatility of market values. Volatility reveals efficiency failures, such as a clear asymmetry of information among potential investors and the heterogeneity of market participants' profiles and opinions. Volatility also underlines the lack of understanding of assets quality. The main reason is the singularity of the exchanged asset. Several parallels can be made with other unique assets, such as piece of art, football players or some specific financial assets markets such as that of derivatives: same uniqueness of the asset (art, football and horses); same alive characteristic (football and horses); a close-knit professional community (all); the complex measurement and recognition of a singular asset (human capital for football players, intangible for a piece of art, financial for a derivative, biological for a horse).

The market studied here is characterized by a socio professional community very ancient that has been developing communal practices through centuries, such as a specific technical vocabulary or dress codes. Therefore, outsiders are excluded. During the auction sessions, a unique offer (the horse) is proposed to a multitude of potential investors. Yet the auction market has been evolving since three decades in an outstanding way and is attracting more and more investors coming from everywhere, having disparate motivations and having access to different horse knowledge and different information about the quality of the products. The heterogeneity of potential investors renders values predictability quite impossible (moreover we observe a high volatility in auction prices). Precisely, we have identified three kinds of investors:

- Professionals, such as horses' trainers, breeders or stables managers, live off the sportive results of the horses they manage.
- Brokers are intermediaries buying horses with a reselling aim. They earn money in the reselling transaction.
- Particulars are buyers, whose main source of income doesn't depend on the racing activity.

The economic development of the horse market has then followed the same trends than other comparable markets. Some actors, i.e brokers, have been trying to develop cognitive and relational skills to serve outsiders interests (MacKenzie & Millo, 2003; Huault & Rainelli-Le Montagner, 2009). Well known by their own community and having acquired a certain acknowledgment thanks to their skills or their professional network, brokers have reinforced their professionalism and are now considered as experts. This status clearly helps them to

legitimate their opinions. It is this legitimacy that explains the real attractiveness of novice investors for these emblematic figures of the market.

> To the question: "*Why do you think an investor decides to call a broker*?", a broker answers while laughing: "*The broker is a horse specialist, that is why! When you are sick, you go to the doctor. Here it's the same! You need help? You call an expert. The broker knows, his job is to know. He knows horses, he knows races, he knows people, so of course he knows better than the others*".

It clearly appears that mechanisms for achieving investors trust may lie in the confidence given to experts. Yet the legitimacy of assessment experts raises questions regarding the un-measurability of singular assets. In is the case in our study, which focuses on an asset whose characteristics make its assessment particularly complex and question the reliability of the recorded accounting data. Precisely, three main specificities have been observed for horses as singular assets:

- Alive characteristics: To be valued, the horse has to be alive and even in a good health, as biological assets or even sportsmen, whose value is linked to the health condition;
- Uniqueness of the horse: Such as the case of pieces of art (Sagot-Duvauroux & Moureau 2010) or great wine (Chauvin 2010), the particularity of singular assets (Karpik, 2007) is that there is no possible comparison between identical or similar assets.
- A double career: firstly a sportive career, then a breeding career. The second career depends on the quality of the sportive career and can be very lucrative[1]. The existence of a potential second breeding career has an impact on valuation.

2.2.A quantitative methodology to elaborate experts' performance models

We adopted a quantitative methodology to analyze investment profitability realized by buyers. For each horse bought at auctions, we compared auction prices and gains won in races during the following years. Precisely, we decided to analyze the auctions on year 2014 (year N), in order to be able to collect gains won in races on 2015 (year N+1), 2016 (year N+2), 2017 (year N+3) and 2018 (year N+4). The panel was of 229 horses born in 2013 and running their first race on 2014. We focused on a precise type of horses: *Yearlings*, which are horses that have never run a race. They have no sportive career and the unique available data are their pedigree and their appearance. We then distinguished investors' profiles: brokers, professional buyers (trainers for example) and non-professional buyers (particular owners).
Our aims were the following:

[1] In the French system, stallions gain between 1 500 euros and 300 000 euros for each covering. Concerning females, a bonus scheme returns 5% of all the sportive allocations to the breeder.

- Firstly, we wanted to calculate profitability of investors when buying a yearling. As yearlings do not have any sportive performance, buyers can only base their investment decision on subjective data such as pedigree or horse's attitude. These non factual elements could be considered as not relevant enough and lead to a subjective assessment ;
- Secondly, we wanted to compare brokers' and professionals' profitability. Considering literature on expertise, brokers should have a better profitability because of their expert's status. Their assessment should represent « fair value », that means that their clients should benefit from their expertise in terms of profitability. If it is not the case, we can deduce that clients benefit from other things.

Our method relies on the comparison between auction prices and profitability from N to N+4 with the basic formula : *Earnings – Auction Price*. We did not take into account the amounts of expenses linked to the ownership of a horse (around 2000 euros per month) because it is considered as a cost supported by each buyer, whatever the gains recorded by horses.
The following part presents our main findings concerning what we call the financial performance of brokers, considered as market experts, i.e. their investments' profitability.

3. Findings

3.1.Only two profiles of buyers

One interesting result is that only two kinds of actors are active during the auctions studied here, even if sales are opened to every kind of buyers. In our case, the two main profiles are brokers (136 purchases) and trainers (70 purchases). Other buyers called "particulars" have been found too, but they represent a small number (23 purchases). This finding is interesting because it reveals that horses' auctions are far from being open, even though they are very popular and attracts a lot of people. It also reveals that we are facing a very close-knit social and professional community. Outsiders don't seem to have neither capacity nor tools/codes necessary to take part to auctions.

In our specific case we must distinguish the role of both actors. Brokers buy horses for a precise client and for a precise budget, whereas trainers buy either for themselves or for a client. When buying a horse for a client, trainers play the same role of adviser than brokers. The difference is that they will keep the horse in their stable and train it, i.e. they will financially benefit from horses' gains during its sporting career. On the contrary, brokers only play the role of advisers. In both cases, brokers and trainers earn fees to play this role.

3.2.Global and descriptive statistics

The Table 1 reports the descriptive statistics for the yearling sample in the case that the three types of buyers are considered as homogenous individuals. We have our nine following variables: the auction's price in 2014, the gains over the year 2014 to 2018, the total gains over the period, the profitability, the profitability rate and a dummy variable which takes the value of one when the profitability is positive (called positive profitability). As already mentioned, we observe a high standard deviation in the auction variable which underlines the potential asymmetry of information. The gains variables are also defined in large span of values, medians are very low or null and only 37% of yearlings have a positive profitability over the period. These results highlight the difficulty to forecast the future gains during the purchase. In view of the skewness and the kurtosis, the distributions of the variables are not Gaussian; they are asymmetrical with many extreme values.

We now focus on the descriptive statistic categorized by the owner profile. The table 2 reports the positive profitability by buyer type. In our sample, we observe a higher chance of profitability for the professionals or particulars (around 50%) than for the brokers (25%). This result is confirmed in Figure 1 that reports the total gains by buyer category[2].To pursue the analysis, we represent in Figure 2 the box plot of the auction by profile. The difference is less obvious, except an extreme value for professional buyers; median and mean are quite similar. Despite these previous results, we are trying to find out if the profitability could be explained by auction values. To do that we estimate a linear regression between these two variables and we introduce buyer effects with dummy variables[3]. The estimated coefficients are reported in table 3. The t-statistics are corrected for heteroskedasticity, and we hope that the issue of non-normality will be limited by the size of our sample (Greene, 2003). We observe a significant and negative link between profitability and auctions. This result could be explained by the low number of yearlings that generates profit. The dummy variables are significantly different of zero and show similar results as previously: the profitability is lower for brokers. The low coefficient of determination indicates that other determinants would explain the profitability variation.

4. Discussion and conclusion

Our findings reveal that financial performance of brokers, considered as experts on their market, is far from being obvious. It is not only lower but also mainly negative. It would have been understandable to find a profitability higher for experts than for other investors' profiles.

4.1.Financial performance is not what brings legitimacy to experts

[2] All the results of the other variables of gains are available upon request.
[3] Drop the buyer effects do not modify the conclusion.

Our findings lead us to discuss important points. The first point is that experts and professionals have quite the same behavior in terms of valuation. The third quartile shows that prices payed by brokers can even be lower than trainers' prices. This result can be explained by auction's frenzy around the ring. It also reveals that there is a consensus on behalf prices that investors are ready to pay to buy a racing horse. This point can not be really compared to literature that usually studies experts' behaviors only.

The second point is that experts' legitimacy doesn't rely on financial perfomance, almost in our study. This is a very interesting finding, as it is not the case on other markets studied such as financial or art markets. On financial markets, reputation of experts (analysts for example) is notably linked to their financial performance (Huault & Rainelli-Le Montagner, 2009; Power, 2010). On the art market, the price given to a piece of art is translated by a quotation that will perform market prices (Sagot-Duvauroux, 1992). In our research, prices don't reflect future earnings, neither do brokers.
We observe that brokers buy more horses than trainers. That shows that, whatever the low or even negative financial performance, brokers are the prior way used by outsiders to buy a horse on a closed market such as the race horse market. We justify it by the need for outsiders to entrust their financial interests to someone recognized and well reputated by the community. We can also justify it by a social explanation: brokers bring a social and professional network to outsiders. As they are supported by the French Association of Owners and the French Institution France Galop, brokers represent an entry in a fantasmatic world. A last reason could be that brokers are useful for exportations. Indeed, we found that half of the horses bought by brokers are exported on foreign countries (72/136).

The consequence of this finding is that brokers' assessments establish a scale of market values that help generating forecasts for future auction sales. The paradox is that forecasts support the notion of fair value but take away the notion of reliability. In other words, their is a performative system linked to the influence of experts's assessment: each value reinforces other values for the same kind of asset (Mac Kenzie & Millo, 2003). For instance, a horse that belongs to the same family of a yearling bought for 100 000 euros may be purchased for around the same amount. Yet, on the other side, this performative system is not efficient for the reason that the value doesn't represent future gains in most of the cases.

We need to write a few words concerning the good financial performance for professionals such as trainers. We can justify this by the fact that they are directly involved in the good level of their investments.

4.2.Limits of our findings

Nevertheless, our findings present two limits. The first one is that we only study one category of horses: *yearlings*. This category is distinctive because it presents the specificity of being assessed on a very subjective basis. This is not the case for horses sold during their sportive career. Yearlings assessment doesn't take into account some factual and objective elements for which buyers could find a consensus. Yearlings correspond to singular assets studied in literature (Karpik, 2007) because of the absence of objective criteria.
The second limit is that we don't include in our results potential gains linked to resale. This kind of data is of course not available and opaque. We are very conscious that this data could modify our findings, especially in the case of a purchase dedicated toan immediate resale. For example we found that a high number of brokers export horses right after the sale (around 33%). Exports mean two options:
- the client is a foreign horses' owner asking to the broker to find a horse that will run in his country;
- the broker buys the horse for himself and will resale it to benefit from a commission.
As another example, we found that owners of yearlings bought during auctions may change during the sporting career of the horse. The resale price is, again, a non available data. We took the decision to consider that profitability is measured by sporting gains, whatever ownership's changes.

In conclusion, this paper allows us to introduce some important considerations about singular assets' values and about markets' expertise. Expertise seems to be a clear professional opportunity, whose status relies on social legitimacy more than on financial performance.

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Tables and figures:

Table 1: Descriptive statistics for yearling sample

	Auction 2013	Gains 2014	Gains 2015	Gains 2016	Gains 2017	Total Gains	Profitability	Profitability Rate	Positive Profitability
Mean	12578.60	3894.00	8452.66	6314.90	2273.55	20976.82	7679.07	1.51	0.37
Median	9000.00	0.00	0.00	0.00	0.00	3055.00	-4462.00	-0.77	0.00
Maximum	150000.00	212878.00	95265.00	98185.00	58279.00	287072.00	272072.00	56.02	1.00
Minimum	1000.00	0.00	0.00	0.00	0.00	0.00	-149332.00	-1.00	0.00
Std. Dev.	14614.65	17757.32	17278.67	14961.99	7156.92	39520.63	41212.93	5.71	0.48
Skewness	5.07	8.46	2.67	3.37	4.74	3.02	2.11	5.04	0.55
Kurtosis	40.15	91.05	10.27	15.50	29.13	15.02	12.73	40.47	1.31
Observations	229.00	222.00	222.00	221.00	221.00	221.00	229.00	229.00	229.00

Table 2: positive profitability by buyer type.

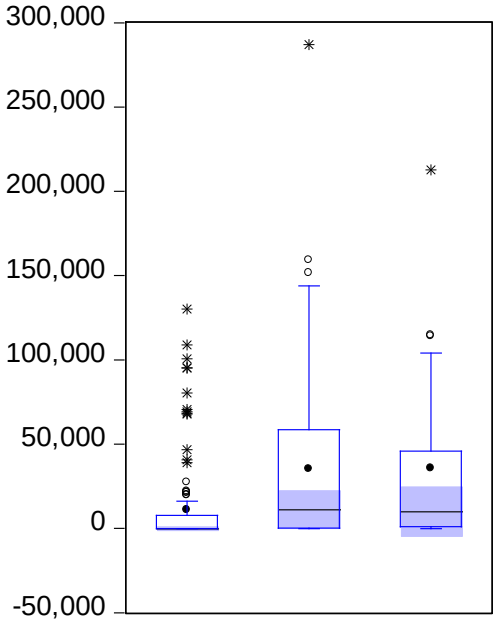
PROFIL	Mean	Median	Std. Dev.	Obs.
brokers	0.25	0	0.434613	136
professional buyers	0.542857	1	0.501757	70
particular owners	0.521739	1	0.510754	23
All	0.366812	0	0.48299	229

Table 3: linear regression between profitability and auction

Variable	Coefficient	t-Statistic
Auction	-0.90***	-5.30
Profile="Broker"	9493.27***	3.59
Profile="Professional"	32511.42***	5.32
Profile="Particular"	34712.66**	3.20
R-squared	0.18	

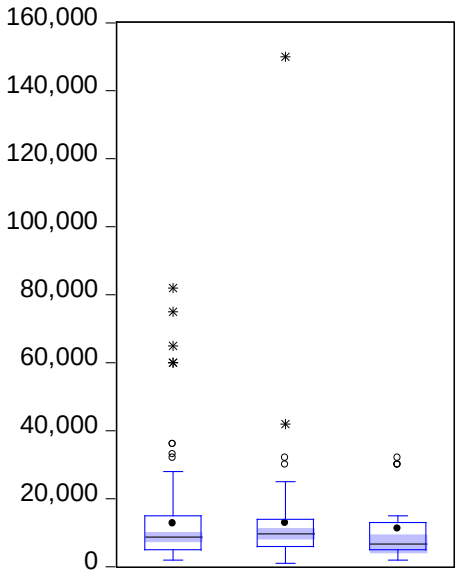
Notes: The T-statistics are corrected for heteroscedasticity. ***, **, * denotes respectively 1%, 5%, 10% of significance level.

Figure 1: Total Gains by buyer type



Notes: the variables are in the following order: Brokers, professional and particular buyers.

Figure 2: auctions by buyer type



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