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Gravitating around the stock exchange. Companies and investors during the 1907 Genoa crisis.

by Gianfranco Tusset*

1. Introduction

"Come into our stock exchanges, and you will be astonished by people you meet, who usually are unrelated to stock exchange. Among them, doctors, lawyers, drapers or furniture shopkeepers, and clerks." This image of the speculators who played a key role in the making of the 1907 Italian financial crisis was provided in 1912 by Alfonso De Pietri Tonelli (1912-13), and it implicitly underlines that this was first and foremost a stock exchange crisis. A similar interpretation is provided by another economist of the time, Gustavo Del Vecchio, who added in 1913: "By now, there are no longer any doubts that the 1907 crisis was mainly a stock exchange one, that is, a confined and superficial fact that did not arise from the real *economy*" (Del Vecchio 1913: 285). According to these views, therefore, the causes of this financial crisis should be sought in the Genoa stock exchange, whose crash spread through the whole banking system and into the North-West, which was Italy's most highly-industrialized area.

Since Italy at that time was taking its first steps towards industrialization, the Genoa crash confirmed the notion that financial crises and financial euphoria are typical of the birth and development of economies based on competition and the free market.[1] The Turin-Genoa-Milan area, which was the most highly-industrialized in Italy, suffered from the crash, but not to a dramatic extent. It was the banking system which experienced the worst consequences, partly

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[1] See Galbraith 1991: 11.

because the banks were responsible for the crash in more than one way: for all practical effects, they financed speculation and favoured the circulation of the riskiest stocks.

Certainly the symbol of the crisis was the crash of the Genoa stock exchange, and the difficulties of the entire Italian stock markets, which in 1907 suffered the malfunction that had been described by another economist of the time, Ghino Valenti, ten years earlier:

> Every kind of misuse becomes customary: the authorities show laxity rather than supervising the operations of the Stock exchange. Is there a lack of capital and serious investors? On the contrary, there are hazardous transactions that show a lack of responsibility, and clients have no qualms about mediating among themselves. In fact, clients do not know why they should choose official brokers instead of independent ones; and anyway, why must free independent brokers be registered? Finally, the competitive advantages enjoyed by independent brokers push official brokers towards a free competition with no rules. (1894: 154 our translation)

In the years before the crash, the stock exchange operated without rules: carry-over contracts fuelled speculation, and new stocks started out bullish and then invariably became bearish. The young Italian nation faithfully reproduced the financial relationships that were already well known in other, more industrialized, countries such as the United States and Germany.

In 1907, the Italian stock exchange was a model of an unregulated stock market, with no rules to constrain the brokers' activity, and no boundaries on the entry or exit of listed companies. Firms could easily sound out the stock exchange's response to their entry by passing through the over-the-counter market that had been added to the official market in 1904. This state of anarchy was considered to be the main cause of the Genoa crash by the press of the time. 'Lack of discipline' caused by 'euphoria for stocks' was the 'mantra' of the time. In reality, as we shall seek to demonstrate, although inefficient operations were a real problem, the euphoria was limited to just a few stock equities and the crash was not due to financial effervescence. The volume of the financial bubble remained low, and did not fully justify the crash; major increases in stock prices could be observed in 1903-1905 and only few in 1906-early 1907, however taking into account that the increase of some stock prices was offset by the decrease of some others.

These few remarks are sufficient to introduce the topic of this paper, consisting in the investigation of the causes of the crash based on an attentive micro-analysis of listed companies stylized by the performance of shares at the time. On which bases a growing number of companies decided to be listed in the stock exchange? According to what rules investors, often incompetent, shifted from one stock to another? One can readily answer that both the companies' and investors' decisions were influenced by the context and that, giving the lack of rules, the role of the banks, and the decisions concerning monetary and credit policy all affected the course of events in the stock

market. However, here, the behaviour of stock exchange regulars is scrutinized in order to understand this 'crisis without a bubble.'

The prevailing interpretation of the 1907 Italian financial crisis ascribes responsibility for its development to errors made by the commercial banks, which favoured stock exchange speculation at the cost of relinquishing productive investments (Bonelli 1971). As evidence of this, one might mention the bailing out of the Società Bancaria Italiana, a commercial bank that was heavily exposed to speculators and was saved by Banca d'Italia, which was one of the three issuing banks and was to become the Italian Central Bank. However, this interpretation seems to gloss over the behaviour of both private investors, who were often depicted as agents at the mercy of or conniving with banks, and of most of the companies, often obscured by the focus on few of them, but which rushed to be listed. The data below show that companies played a crucial and unusual role in the development of this crisis. However, the fact that a stock exchange existed and stocks were quoted is a sufficient condition to cause some kind of crash. Italy had also experienced a financial crisis in 1883-84, when the level of economic development had been lower.

Section 2 deals with the monetary and economic national context, to understand if any factors other than local ones contributed to the Genoa crash. Section 3 focuses on the number of and the behaviour of the companies rushing to be listed in the Genoa stock exchange. Section 4 presents a micro analysis of the stock prices. Section 5 offers some concluding remarks.

2. The economic and institutional context

2.1 *Was the Genoa's crisis determined by productive euphoria?*

	Increases in capitalization (existing and new companies)	Decreases in capitalization (existing and new companies)	Net increase
1904	299.4	70.3	229.1
1905	857.3	69.5	787.8
1906	763	70	693
1907	617.4	93.6	523.8
1908	354.5	130.5	224
1909	324.6	180.2	144.4

Table 1. Capital changes in corporations (millions of Lira)
Source: *Società Italiane per Azioni – Notizie Statistiche 1928*. Rome 1928: 104-05, in Confalonieri I:45.

Any financial crisis is commonly associated to some kind of real economy euphoria: during the nineteenth century, the building of railways is the most frequent example. Was Italy going through a period of strong economic expansion at the beginning of the twentieth century? According to Canovai (1912: 214), the speculative exuberance of the stock market was a consequence of the

chaotic development that Italy was experiencing during those years. In addition, Canovai was persuaded that Italy would have been hit by the crisis even in the absence of any type of financial contagion.[2] This state of disorder is proved by the corporate capitalization that occurred between 1905 and 1907; this investment was mainly directed towards new companies. Table 1 shows a net increase that reached its peak during 1905. Data concerning the years 1905, 1906, and 1907 contribute to explain the increase of companies listed in the Genoan stock exchange (see below).

Echoing Canovai – and also Schumpeter (1939) – the banking historian Antonio Confalonieri, observing these overinvestments, thought that, regardless of any financial contagion, Italy was destined for a crisis: "*Economic development was too chaotic*" (1982: 3). If capital investment did occur, it did not result in increased production. Certainly, there were expanding sectors: textiles grew by 60.9 per cent between 1901 and 1907; wheat production rose from 39 million quintals in 1900 to 52 million in 1907. As the agricultural data in Table 2 show, however, we cannot speak of a euphoric increase in agricultural production, which remained almost the same after the crisis.

Average 01-05	Corn 47,520	Rice 5,681	Maize 24,045	Sugar beet 7,496	Grapes 70,170	Olives 17,978
1906	51,491	5,803	24,944	8,435	54,744	7,458
1907	51,783	6,560	23,738	10,234	99,074	19,400
1908	44,483	5,896	25,734	16,267	95,114	4,235

Table 2. Agricultural production 1901-1908 (thousands of quintals)
Source: ISTAT, 1958: 106 ff.

It is true that during the Giolitti era, the Italian economy experienced a good growth rate. Between 1898 and 1907, GDP increased by 3.4 per cent annually, and industrial production grew by 5.9 per cent (Forsyth 1998: 71). However, this trend was far from any euphoric production levels. Speaking of chaos, it concerned mainly the behaviour of some companies interested in finding financial resources for their investments.

The same conclusions can be drawn from an analysis of price trends. Comparing export prices with internal prices, one can notice that Italian export prices continued to be above those of analogous imported goods, but without the peaks or oscillations that are symptomatic of a domestic speculative bubble.

[2] Differently, the existence of global causes originating the panic in different countries is argued by Rodgers & Payne (2015)

Looking at the main Italian exported good, coarse silk and its derivatives (Figure 1), it can be seen that the price remained almost the same over the twenty years from 1890 to 1910.

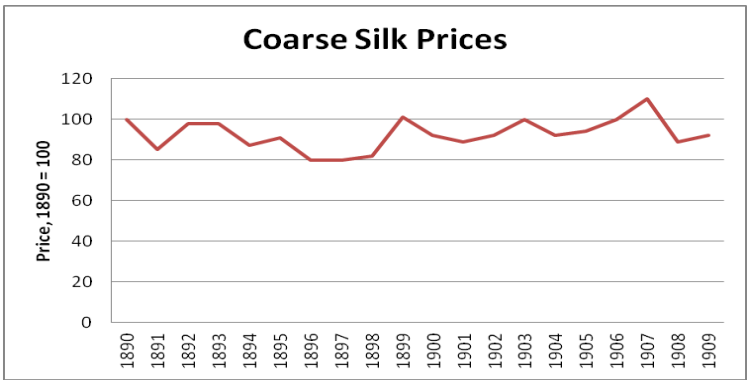

Fig. 1. Coarse silk prices from 1890 to 1910.
Source: Necco 1910: 18-19, author's elaboration.

A slight variation is shown by metallurgical products (Figure 2). Leaving aside tin, and to a lesser extent copper and brass, the prices of iron, cast iron, and zinc did not reveal a notable change over the first decade of the twentieth century. It is however true that copper, a sector that played some role in the Genoan and also international panic, showed an increase, not a real peak, just in the early 1907.

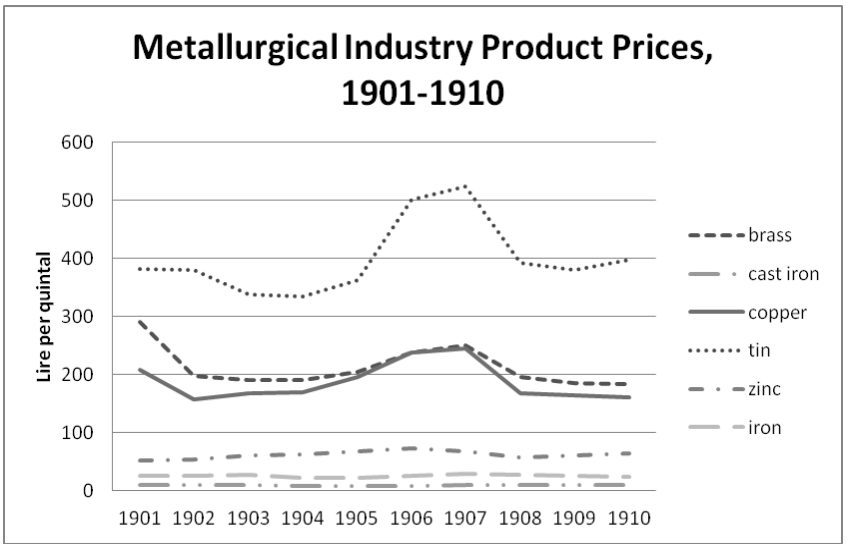

Fig. 2 Prices of metallurgical products
Source: ISTAT 1958: 187-188

In addition, widening the analysis to cover a longer period, it can be observed (Figure 3) that price growth in certain products during the period 1906-1907 also appears to be physiological once the thirty-year trend (between 1880 and 1910) is taken into account. Figure 3 provides a comparison of the export and import prices of minerals, steel and other metals.

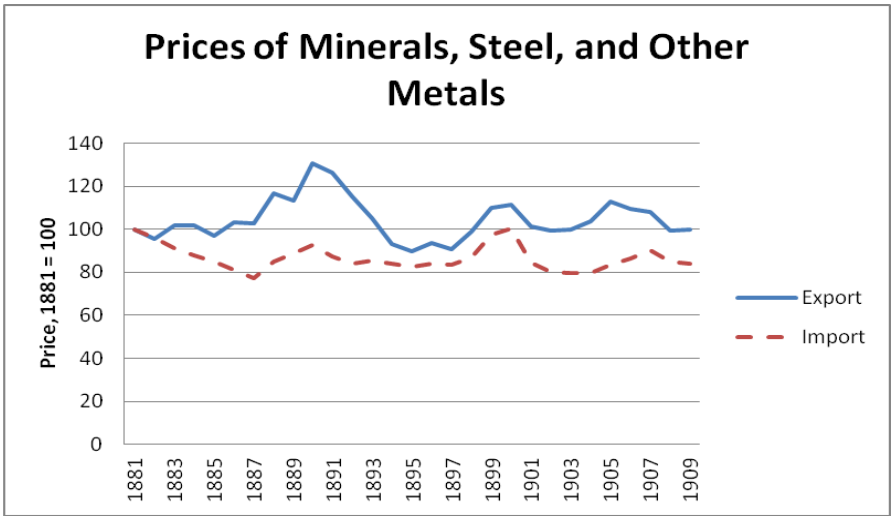

Fig. 3. Prices of minerals, steel, and other metals.
Source: Necco 1910: 81, author's elaboration.

The limited growth of metallurgical prices is reflected in the slow development of the Italian railway system, as demonstrated by a comparison with other European countries (Table 3). The acceleration in the construction of kilometres of new track took place after the 1907 crisis, which means that there could not have been any kind of euphoria over railway stocks during the period under consideration.

	1893-99 (km)	1900-06	1907-13
Austria-Hungary	444	402	198
France	373	326	142
Germany	909	983	828
Great Britain	252	271	129
Italy	274	139	213

Table 3. Kilometres of railway track built per year
Source: Confalonieri 1982: 57, based on data from Mitchell

Conversely, production, and to some extent prices, were affected by the current account surplus, which was lower only than that of Germany in those years. Between 1901 and 1905, financial flows allowed Italy to offset the trade deficit caused by the importation of raw materials and equipment. It should be stressed that these flows consisted mainly of remittances from emigrants, so they were more stable than speculative ones. Finally, revenue from tourism contributed to the equilibrium in the balance of payments, with the result that in 1907, despite the crisis, Italy was not indebted towards foreign countries.

As known, in 1907 a severe financial crisis affected the United States, and then spread to the Netherlands, Germany, Turkey, Egypt, and Chile. This event halted capital flows to Italy, a fact that

certainly weighed on the crisis. But it is also true that Banca d'Italia was able to handle the lack of liquidity. The contagion effect was therefore weak, and local or national causes came to the fore.

In conclusion, although the productive economy did not show an effervescence justifying a financial crisis, there was an increase of net investments of companies just in the few years before the autumn 1907 collapse. Lacking a developed market, firms needed to finance their capitalizations and the entry in the stock exchange could be useful for this task, for several reasons. First, it was a way to have access to national savings invested in bonds, debentures and equities. This corresponds to the traditional idea that stock exchange can intermediate savings between savers and firms favouring the industrial development. Second, since the main source of credit was then represented by commercial banks, the listing could better legitimize companies to ask and obtain new loans. Last, but not less important, stock equities could be exchanged between companies in order to display a higher level of capitalization.

2.2 *Was it a liquidity crisis?*

Forsyth (1998) ascribed the explosion of the Italian financial crisis to two factors: first, international contagion, and second, the more or less visible conflict between commercial banks (particularly Banca Commerciale and Credito Italiano) on the one hand, and Banca d'Italia on the other.[3]

In fact, the Stock exchange crash cannot be kept separate from the performance of the banking system as a whole, particularly the issuing banks. First, during the period examined here, there were no cash flow problems. Between 1900 and 1907, the three issuing banks assured a final growth in liquidity equal to 42.8 per cent (see Confalonieri, p.9). During that time, the assets available to savings banks [*Casse di Risparmio*] and people's banks [*Banche Popolari*] grew by 62 per cent, while commercial banks saw their assets increase by 84.4 per cent. Certainly, the expansion in the monetary basis made credit easier, as testified by the reduction of the interest rate from 4.5 per cent to 4 per cent in 1906.

Liquidity grew in the decade before the crisis, and this trend continued until 1913 (De Mattia, II.2: 1133). Thus, at a national level, it is difficult to argue that a sudden stop or reduction in issuing

[3] "The fact that the private-public banks were conditioned by the industrial activity meant that the industrial recession would be spread to the whole bank system and to the whole economy. Thus, little shocks in the stock market could provoke crisis and stagnation of the whole economic system. This was what happened in 1907 …" (Forsyth, p. 12)

could have favoured the crisis. However, this level of liquidity was also maintained after the 1907 crisis, to the extent that in Italy in 1908:

> … There was plenty of money available for short-term use; this abundance of liquidity was favoured by large supplies of credit, which could be employed for short-term deals. (Banca d'Italia, Report 1908: 5-6, in Confalonieri 1982: 43).

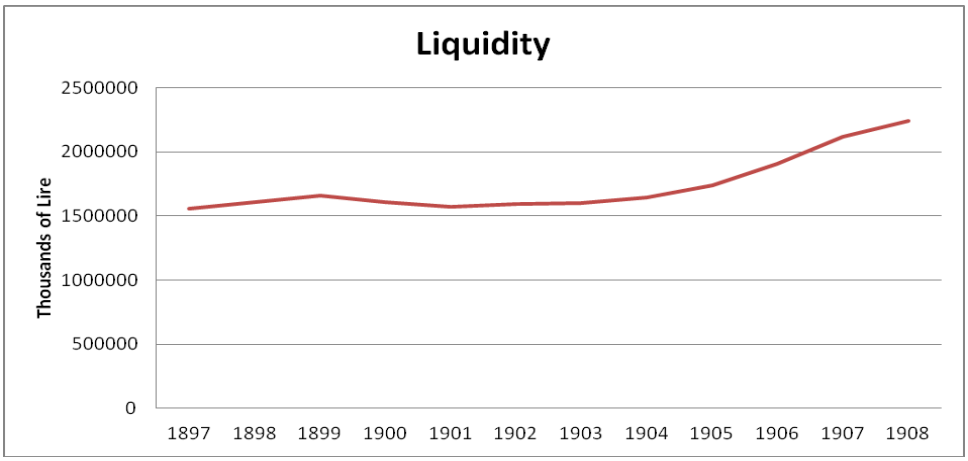

Fig. 4. Circulation of paper money
Source: Author's elaboration on data from De Mattia (De Mattia I.2 pp. 452-53). A mean of the monthly circulation of paper money is calculated for each year.

The discount rates applied by Banca d'Italia showed little changes during the crisis, without the sudden increases that characterize most financial crises. In January 1906, the discount rate was 4.5 per cent and the interest rate 5 per cent. In February 1906, they were 4 per cent and 5 per cent, in October 1907 4.5 per cent and 5 per cent; in November 1907, 4.5 per cent and 5.5 per cent, in December 1907 5 per cent and 5.5 per cent and, finally, in January 1908 4.5 per cent and 5.5 per cent (see De Mattia I.2, 822-23).

It is true that just before the crisis commercial banks reduced the liquidity at disposal of firms and investors, particularly funds used for speculative purposes (see Bonelli 1907), favouring in this way the selling of stocks equities, but it is difficult to consider this as the factor triggering the crash.

2.3 *The lack of rules*

After Italy's unification in 1861, the national government was faced with the problem of the Stock Market's operation and its regulation:

In 1872, Minister Castagnola entrusted the task of investigating the problem to a Special Commission.

> The Commission included the Presidents of the existing Stock exchanges. The most crucial points regarded the establishment of syndicates, the spot and forward trade of public goods, and trading … [in] 1882, Minister Berti put forward a regulatory scheme for Stock exchanges

> and brokers, which was fully accepted, and was included among the general rules accompanying the Commercial Code on 27 December 1882 (De Tullio, 23/11/06, *Giornale d'Italia*).

The subsequent years saw a succession of commissions and draft bills, until the final act, which occurred sometime before the October 1907 crisis: a draft proposed by Minister Luzzatti in 1904 which "*was aimed mainly at breaking insane speculation*." At the same time as Stock exchange tensions were developing, the topic of their regulation came to the fore (Majorana and Cocco Ortu draft bills). However, De Tullio wrote that the proposals "did not include the suppression of forward agreements, carry-over contracts, and short-selling: that is, the common tools used by that type of speculation known as the 'Stock exchange game'" (23/11/06, *Giornale d'Italia*).

However, as Valenti had already stressed in 1894 and reaffirmed in the documents attached to the 1908 draft bill on Stock exchanges, the malfunctions were evident:

> The lack of guarantees regarding the prohibition of entry into the Stock exchanges on specific categories of people; vigilance over the rates applied by Stock exchange syndicates outside the control of Stock Exchange Committees. The lack of discipline relating to the listing of the shares of new companies; the substantial abuse that occurred during dealings in the ring; and the rapid growth of the number of brokers without any control over their efficiency.[4]

In some sense, this degeneration could be interpreted as the result of the application of the principle of non-interference, according to which the government took a neutral position with regard to financial markets, in line – according to Luigi Luzzatti – with the liberism of Jean-Baptiste Say. On the other hand, in *Giornale d'Italia* one can read that certain kinds of prohibition against specific trades in German law "had yielded an over-the-counter market outside the official Stock exchange where stocks were traded with no control over speculation" (De Tullio 23/11/06, *Giornale d'Italia*). This meant that regulation could not prevent risky speculative behaviour.

Luigi Luzzatti (*Corriere della Sera*, 8/10/07) ascribed the 1907 crisis not to weaknesses in the banking and financial systems, but to the absence of caution. "*Young people lack one quality: prudence. They learn it on their own, but they forget it when a ray of sunshine appears on the horizon*". On 27 October of that year, however, Luzzatti imputed the responsibility for "*having contributed to the sad past*" to the "*fatal competition among financial banks, which were dominated by jealousy and the desire to defeat each other*."

[4] See Confalonieri 1982 II: 491, who quoted the A.P. of the XXII Legislature, doc. no. 1012.

The government's response imposed more rigid controls and limitations on the freedom of initiative of investors and financial brokers, banks included. Ministers were convinced that by controlling the activities of intermediaries and credit and the use of savings, speculation and risky conduct could be wiped out. The crisis therefore exploded because of the lack of control and rules. Finally, on 23 November 1907, Luzzatti agreed to the anti-bear measures adopted by the Government, recognizing the need to control the operations of Stock exchanges at the cost of abandoning the Sayan precepts of free trade.

Luzzatti supported the duty to deliver securities before the contract expired, because this would reduce the activity of bears, whose actions Luzzatti considered worse than that of bulls. Luzzatti was persuaded that the Government should have intervened in 1905 by freezing the euphoria of the bulls and avoiding the subsequent decline. He declared himself to be an interventionist, despite the fact that this position would attract charges against the government that would be harmful for credit. Luzzatti believed that the crisis was foreseeable (*Corriere della Sera*, 8/10/97): it would have been sufficient to watch for the speculative bubble that started to swell from 1905 onwards. The state could have issued public bonds, with the aim of reducing this speculative bubble.

At this point, all that remains is to understand the making and the entity of this speculative bubble.

3. The Genoa Stock exchange crisis seen from the listed companies

The lack of rules was influential, starting with the activity of brokers. One could read in *Il Sole* in 1907: "With the exception of two or three Stock exchanges – that is, those cases where the Chambers of Commerce were effective – the brokerage profession is practically open to people who have some thousands of Lira to invest or who know someone who has that kind of money at their disposal." (*Il Sole*, 12/06/1907)

There was a significant problem of access to and administration of the broker's role. The state of quasi-anarchy could have had serious consequences for the effectiveness of stock exchange activities. On the other hand, the lack of control over brokers had its counterpart in the freedom of access to stock market quotations, as clearly demonstrated by the increase in the number of listed stocks.

What was striking about the trend of exchanges on the Genoa stock market in the years before the crisis was not the growth in listings or the euphoria, but the increase in the numbers of companies demanding to be listed. Between 1898 and 1907, the number of listed stocks increased five times, and we must not forget that from 1903 on an over-the-counter market made its

appearance, which allowed quotations of stock equities first on an unofficial market and then on the official one.

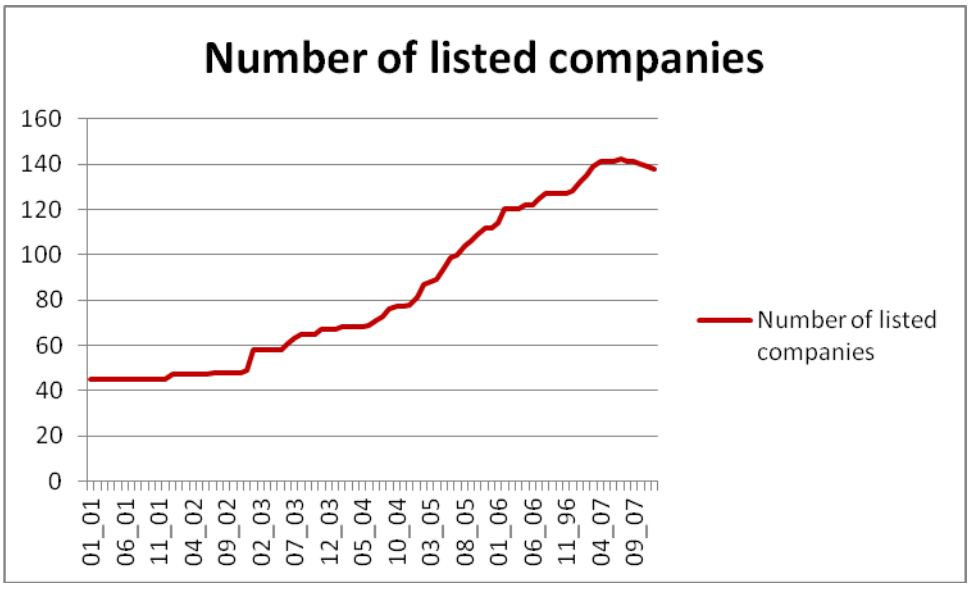

Fig. 5. Number of different stocks listed on the Genoa stock exchange between 1901 and 1907.
Source: Author's elaboration on data from the stock exchange registers kept at the Ansaldo Foundation, Genoa.

Figure 5 reveals that 1903 was the year in which the number of shares listed on the Genoa stock exchange began to accelerate. In some sense, that was a kind of "stock market euphoria," in which the effervescence was referred to the number of companies listed in the Genoa stock exchange rather than to prices.

Passing though the over-the-counter purgatory, companies of every size could have easily access to official quotation. The growing number of entries shows that the stock market was seen as a means to draw savings. As the above Table 1 displays, during the years preceding the crisis, the existing and new firms increased their investments, hoping to finance them also by means of the stock exchange listing. Traditional enterprises were transformed into "public limited companies" and "joint-stock companies" to be listed in the stock exchange. Also the establishment of trust was a common accepted practice, as occurred in the iron metallurgy sector.

It was clear that the companies' interest in stock exchange found its explanation in a simultaneous interest of investors towards stocks. If companies started moving towards stocks exchange in the early 1903, some data about the behaviour of the investors at least partially justifying this shift must be found in the immediately previous years.

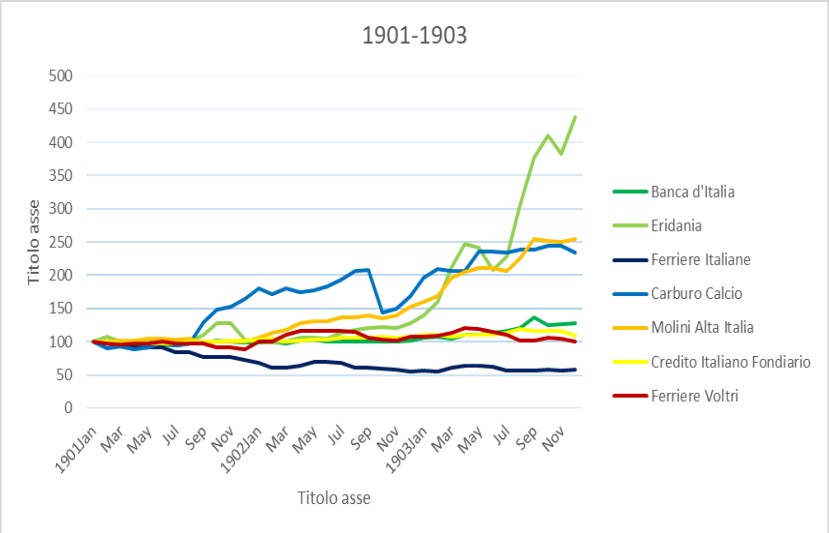

Fig. 6. Performance of some stocks listed on the Genoa stock exchange between January 1901 and December 1903. Source: Ansaldo Foundation.

Figure 6 presents the performance of some stocks listed at the Genoa stock exchange from the early 1901 to December 1903. Good performances can be observed: Eridania, company producing sugar, Molini Alta Italia, involved in cereals' transformation, and Carburo di Calcio (Calcium Carbide), i.e. mining, showed a better performance than banking and iron transformation. Was the good performance of those stocks sufficient to explain the attraction exerted by stock exchange towards new companies? If one considers Eridania's growing price, the answer is undoubtedly affirmative. But, among sugar companies, Eridania was the only one to display a good trend, testifying that these good results were due to company's strategy and to speculative operations, not to production outcomes.

Worth of interest are the valuable results in the iron sector. Particularly, the companies operating in this sector, listed in the stock exchange from the beginning of the 1903, were rewarded with an increase in their price, which attracted other firms. It is true that increasing prices were due also to speculative exchanges between the main shareholders of the most relevant companies, but the visible effect was however a growth in prices.

The price of listed stocks started increasing in the early 1903 to continue until mid 1906, showing that it did not depend on the performance of some specific stock equity – one can think to Eridania – nor to the trend of the new listed stocks, whose performance would be discourage new entries.

Looking at the prices of stocks from the beginning of the century to 1907, one can observe – if not actual euphoria – some price movements at least around 1903. The increasing trend began in 1903 and ended in 1906, after which the Stock exchange closed down for several months until the

crash of October 1907. The slight level of euphoria between 1903 and 1906 was thus followed by a decidedly bearish phase.

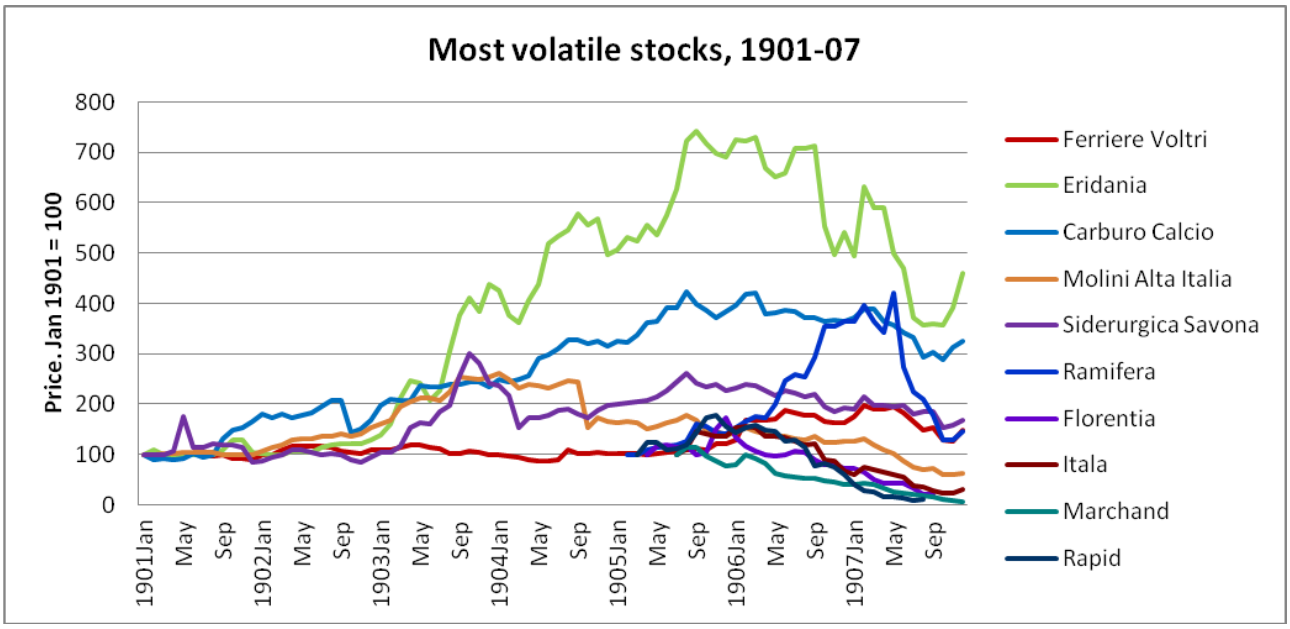

Fig. 7 Performances of the most volatile stocks listed on the Genoa stock exchange between January 1901 and December 1907. Source: Ansaldo Foundation.

Assuming the 1901 price being equal to 100, one can detect a buoyant activity in the Genoan sugar company Eridania from mid-1903 to mid-1905, after which the price decreased. At the beginning of 1905, in *L'economista italiano*, the Italian newspaper that was most attentive to Stock exchange affairs, one cold read that Eridania stock was forecast to increase to 2,000 Lira because of expected new dividends (*L'economista italiano*, 1 January 1905). In reality, the price, which stood at 1,024 Lira at the end of January, grew to 1,500 in September, but then decreased to 1,394 Lira at the end of December. As we can see in Figure 7, the 1905 September quotation marked the highest level reached by the shares. Between August and October 1907, Eridania was listed at 720 Lira, which was, in any event, four times the 1901 price.

The rise in the value of Carburo Calcio's equities was more restrained, but was nonetheless significant. The trend in metallurgical and railway stocks was notably stable. Finally, equities issued by banks displayed virtually constant prices.

Economists like Luzzatti spoke of a speculative bubble between 1905 and 1907. Equalizing the price of the early 1905, one obtains the chart shown in Figure 8.

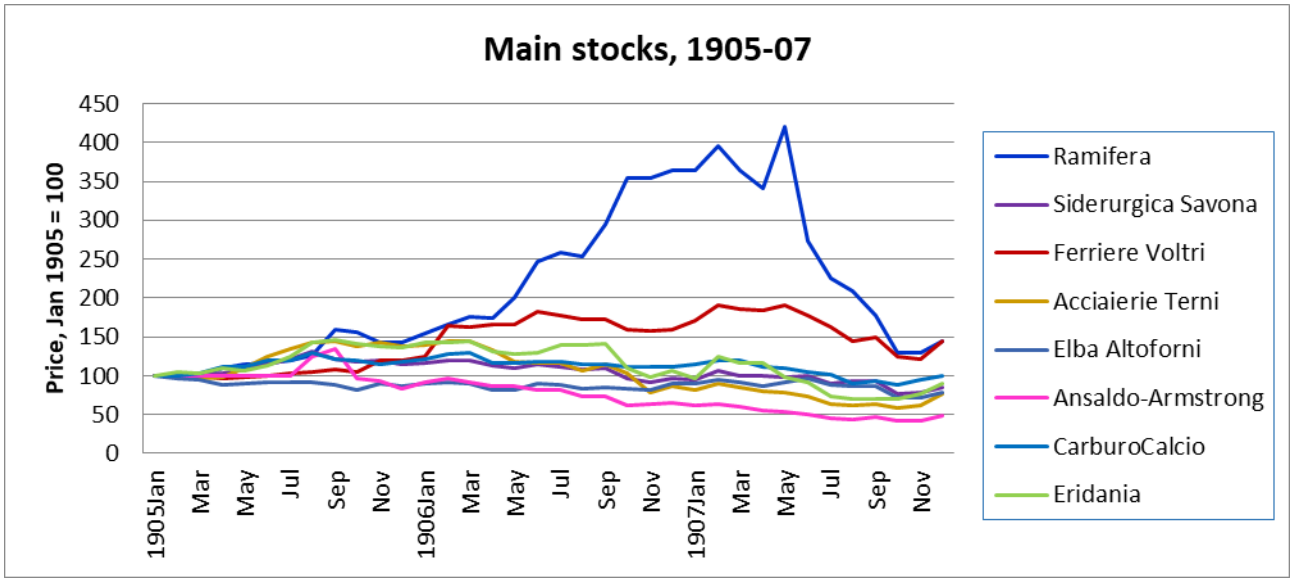

Fig. 8. Performance of some stock equities between 1905 and 1907

Certainly, Ramifera, at the centre of speculation activities showed a peak evoking the idea of financial bubble, but little can be said about the other stocks. Only Ferriere Voltri, in turn at the centre of speculative manoeuvres presents some dynamic trend. The idea of a bubble finds more justification widening the timeframe from 1903 to 1907, the same period that saw the burst in entries.

It is worth to mention the performance of new stock equities, like those of the automotive sector. Notwithstanding their intrinsic attraction, these titles were almost ignored by the Genoan investors, being attracted by the good trend of few local stocks.

The trends tracked in Figures 7 and 8 show that during the months from early 1903 to the end of 1905, euphoria was restricted to three or four stocks (Eridania and Carburo Calcio, and, to a lesser extent, Siderurgica Savona and Molini Alta Italia). Once these stocks started to decline, speculation moved towards Ramifera, Ferriere Voltri and automotive stocks, provoking a price increase only for the former. It is probable that speculation moved from bull to bear bets, with specific attention being paid to automotive stocks.

Considering 1907, the bullish expectations had to make room for bear forecasts. Only Ramifera revealed an oscillating performance with some uprising during the first few months and then a general fall that was limited in the case of bank stocks, and dramatic for others.

Figure 8 makes it clear that, excepting for Ramifera, the crash was not sudden and violent, it was not a high peak followed by a price downfall. The crisis took the shape of a general abandonment of stocks equities with consequent decreasing prices, but not from a high peak: frequently from the entry price we can see that the shares that had been subject to euphoria did not decrease below their starting prices once the euphoria ceased and was transformed into a fall. When

the crisis erupted, Eridania shares were more than three times the price they had been in 1901, however. In September 1907, Ramifera was listed at the same price as at the time of its listing.

The history of Ramifera has been accurately reported by Bonelli (1971), who emphasized the role of commercial banks, particularly the Società Bancaria Italiana, in triggering the explosion of the crisis. It was Società Bancaria Italiana that financed the purchase of Ramifera shares.

Without a doubt, the speculation on Ramifera shares and the carry-over contracts drawn up by Società Bancaria Italiana favoured the eruption of the financial crisis, but one can wonder whether a single stock can produce a crisis such as the one that struck the Genoa Stock exchange: the euphoria surrounding one stock alone – first Eridania and then Ramifera, first sugar and then copper – cannot explain a general crisis.

The really dramatic bearish market involved automotive stocks – see Florentia, Itala, Marchand, Rochet, Aedes and Rapid in the below Fig. 9 – which show only marginal price increases in the second part of the 1905 and an unrestrainable bearish trend from the early months of 1906. Investors or who speculated on stocks decided to not reward these stocks that made their entry in the Genoa stock exchange just before the bearish trend became dominant. However, one can also suppose that their entry contributed to the development of the general bearish trend.

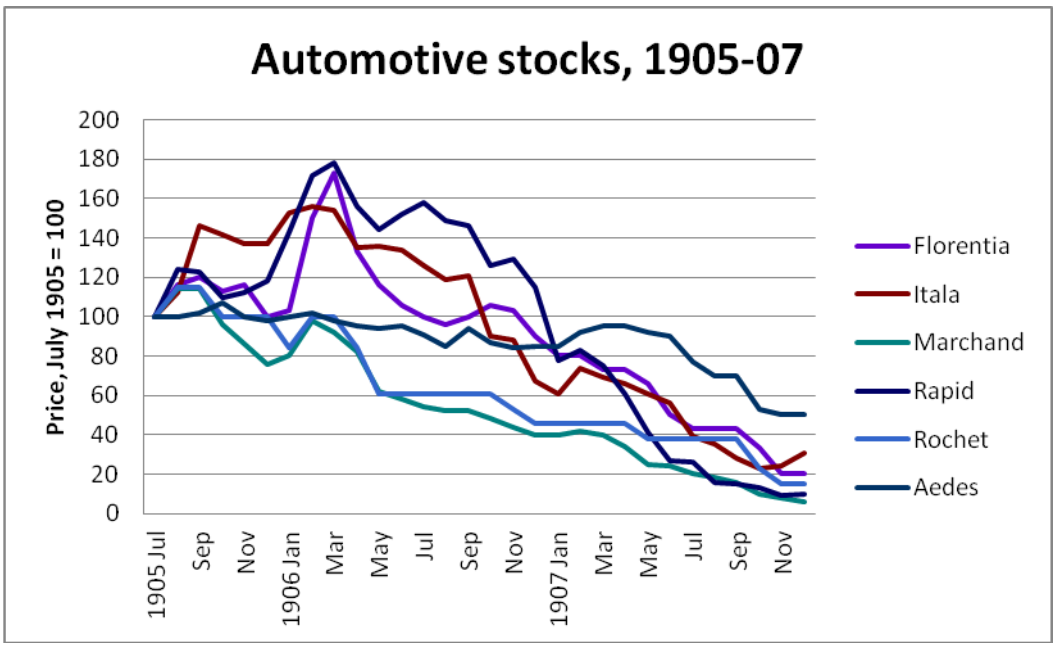

Fig. 9. The automotive sector between July 1905 and December 1907

4. Investors and companies

A measure of the volatility of the Genoan stock equity prices – and thus a measure of the bubble probabilities – is offered by the ratio between the maximum price or the peak (*PM*) reached by the stock before Autumn 1907 and the first price registered in January 1901 or the first quotation (here

labelled *P*1). The higher the peaks, the higher the probability of a bubble. Figure 10 shows a distribution of the peak amplitudes according to their frequency calculated on 86 stocks quoted over those years.

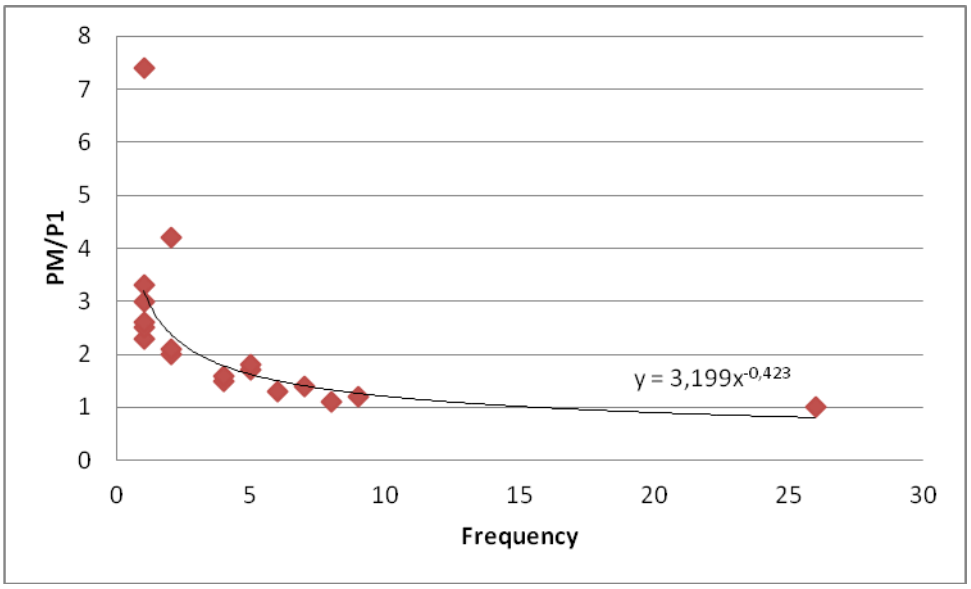

Figure 10. Peak amplitude

It is clearly shown that the ratio between the maximum price reached by the stocks (*PM*) and the initial or entry price (*P*1) follows a Pareto distribution with a long tail characterizing the high frequency of the low or nil peaks. High amplitude connotes few stocks only. Not more than one eighth of the stocks considered reveals a peak higher than twice the first or entry price. Effervescence touched a small part of the quotations, while most of them presented a reduced peak followed by a constant or decreasing price. One can wonder why few stock equities only reached a high ratio between *PM* and *P*1, while the large part of them displayed a peak not far from the first quotation.

To answer, it could be useful to understand at which conditions, between 1901 and 1907, stocks showed the concentration of peaks. Figure 11 displays the distribution of peaks according to the number of companies listed in the stock exchange.

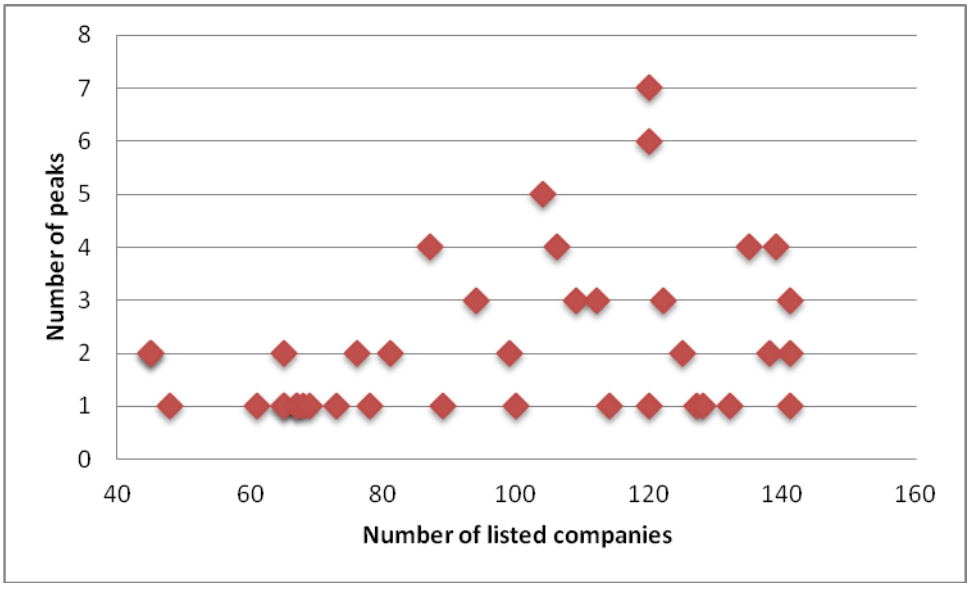

Figure 11. Distribution of peaks 1901-1907. Number of peaks (vertical axis) according to number of listed companies (horizontal axis)

The high number of peaks, independently from their height, was registered when the listed companies were 120, around January/February 1906. From that time onwards, the number of peaks started decreasing.

Figure 11 reveals that the number of peaks increased together with the number of listed companies until a threshold here fixed at 120 companies when, in January 1906, there was a maximum of seven peaks. In relative terms, in the early of 1906, 85 per cent of the whole listed companies during the years 1901-1907 had reached their peaks. According to this view, the crisis was triggered in the early 1906, not in October 1907.

The number of companies listed in the Genoa stock exchange matters also for what concerns the number of the month that a company needed to reach its peak while there was no relation with the height of the peaks. Figure 12 displays the relation existing between the number of months necessary to reach the peak (vertical axis) and the number of listed companies (horizontal axis). Since the listed stocks increased over the years, the fig.12 shows also that stock equities took a gradually reduced time to reach its peak that, consequently, was a smaller peak.

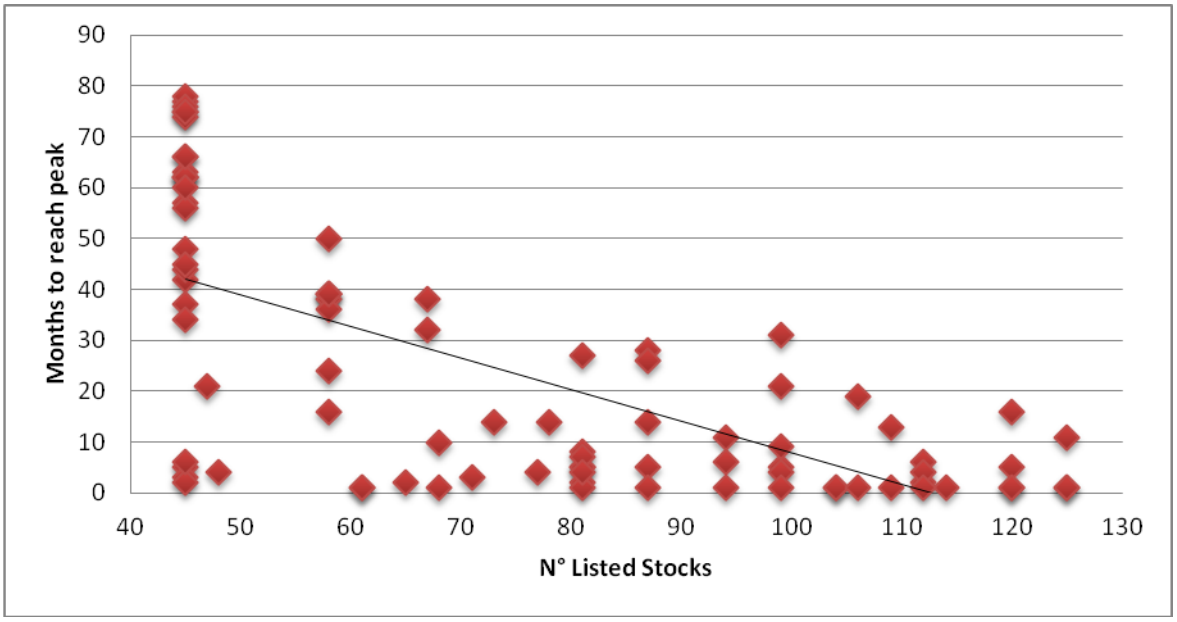

Figure 12. Months to reach a peak (vertical axis) according to the number of listed stock equities (horizontal axis)

This chart is important because it demonstrates that the increasing number of companies reduced the bullish trends pushing stock equity prices towards bearish trend. Enlarging the number of listed companies, the effervescence of stock equities was going to be reduced. This involves that the crisis was not due to the effervescence of stock equities' prices, but it was linked to the number of listed companies.

Finally, a combined reading of Figures 10, 11, and 12 tells us that investors gradually moved from few stocks reaching high prices (in relation to the first quotation) over the medium time – from two to three years – to a higher number of stocks reaching their peak, frequently a lower peak, in few months. This trend was emphasized by the increasing of the listed stocks, as depicted in fig. 12. This conclusion should be compared with what emerges from the figures 8 and 9: in a not negligible number of cases, the first quotation represented the peak for the stock that, in the subsequent months, knew a decreasing price. This trend characterized 26 stocks. When the number of listed companies was around 120, the months to reach the peak tend to be zero. It was in that time that the automobile industry made their appearance in the Stock exchange (*L'economista italiano*, 19 March 1905).

In fact, our perspective of the Genoa crisis based on share performances would emphasize the role of automotive shares. As clearly depicted in Figure 9, these stocks showed an early modest increase followed by a decrease in their prices. Three of the main national stocks (Florentia, Itala, Marchand) saw modest growth until the end of 1905, followed by a fall that brought the shares in the six companies to prices between 50 per cent of the entry one, in the least dramatic case, and 10

or less in the worst case. The devaluation in automotive stocks was dramatic, to the extent that these stocks could be considered a symbol of the Genoa Stock exchange crisis, that is, a financial crisis based on a bear run.

Particularly for automotive equities, the fall in prices was not preceded by a dramatic increase; on the contrary, bearish speculation hit the new shares almost immediately after their quotation on the Stock exchange (figure 9). At the same time, other stocks, such as those of railways, banking, and parts of the food sector escaped unharmed, and oscillated moderately around a stable price.

All this reinforces our hypothesis that the 1907 Genoa financial crisis was a stock exchange crisis caused firstly by that group of companies that tried to sustain their equities and by the whole set of companies that displayed a chaotic behaviour for what concerns the entry into the stock exchange.

5. Concluding remarks

"Stylized facts" about financial crisis usually emphasize investors' expectations on price stocks that would modify the market stock itself and thus the expectations themselves. The Genoa's affair does not fit in such a kind of description. Companies, and their attempts to enter the stock market, were the protagonists of the Genoan crisis. A first effect of this consistent flow was the distribution of investments among a large set of companies, with the visible decrease of the ratio between peak price and price of entry. This also means that equities reached earlier their maximum quotation triggering the descending path. This process represented a first factor pushing the stock exchange towards the crisis. The number of companies wishing to be quoted was excessive not only for the existing saving market, but also for the then credit guaranteeing the rediscounting of stocks.

The performance of the equities shows plainly that the mobilized capital was not sufficient to exchange the amount of new circulating stock equities. The process leading to the crisis involved three key steps, at least, in which the protagonists were companies more than investors. The first step occurred in the early 1903, when stock prices started to increase in a meaningful way, triggering an effervescence that was to be concluded with the crash. The second step was the January 1906 when most of the stock equities started descending, including Eridania, until then the most effervescent stock. The role of automotive stocks in contributing to the bearish trend must not be underestimated. Third, the definitive crash happened when Ramifera, besides Eridania, and Carburo Calcio started decreasing without the simultaneous rising of new stocks. That was the missed role of automotive stocks, which by not attracting the investors triggered the definitive crisis.

The existing mobilized capital was not sufficient to produce what can be called effervescence that, at most, was limited to really few stock equities. It is true that some stock – Eridania, Carburo Calcio and Ramifera – saw a considerable bull performance. But it is wrong to consider the performance of these stock equities as being responsible for the autumn 1907 crash. The true euphoria was that of the companies that after 1903 decided to access the stock exchange, with the purpose of financing their investments. A much smaller part of these companies was successful. Most of them saw the price of their stock equities started decreasing after few weeks, if not almost immediately after the first listing.

The Genoa's one was not a crisis that can be easily pigeonholed in some "stylized fact" or in the classical scheme of the nineteenth century crises. It was an event that requires a deep analysis of the domestic context, starting from companies' behaviours, and that maintains international factors and financial contagion in a marginal role. It was more a product of that time business decisions than of strictly financial factors.

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