I

# Causes of the Decline in the Stock Exchange in Italy

by

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1. — The movement in Italian stock exchanges since the end of the war has greatly disappointed those interested in the rise of prices of industrial stocks.

TABLE I

INDEXES OF PRICES IN ITALY (1938 = 100)

| Monthly Averages | Industrial Stocks | Commodities (Wholesale) |
|---|---|---|
| 1945 | 736 | 2,059 |
| 1948 | 1,357 | 5,443 |
| 1949, June | 1,347 | 5,225 |

*Source*: U. N. - *Monthly Bulletin of Statistics*, November 1949.

By assuming that industrial stocks are shares of ownership of capitals invested predominantly in land, buildings, machinery, commodities, etc., it was thought that, owing to the decreased purchasing power of the currency, the prices of those stocks would adjust to the commodity price level. Table I shows, on the contrary, that the rise in the prices of stocks has been each time lower than that of commodities.

The anti-inflationary policy that started in September 1947 gradually killed hopes that a boom would soon set in. However, it is still generally believed in Italy that:

(a) stock prices are not adjusted to the level of currency devaluation;

(b) this is due to technical restrictions (deposit of 25% of the price for futures), fiscal restrictions (negotiation surtax) and juridical restrictions (registration of stocks) enforced by the Government until a few months ago on the free play of the market (1).

As it will be seen afterwards, these two beliefs are unwarranted. In particular, there is no good reason whereby the rise in the prices of stocks should be equal to the rise in the prices of commodities, even after a sufficiently long period. The hypothesis is also consistently disproved by comparing the relative price levels in the main countries that participated in the war (see Table II).

TABLE II

INDEXES OF INDUSTRIAL STOCK PRICES (*S*) AND OF WHOLESALE PRICES (*W*)
(1938 = 100)

| Year | France | | Belgium | | Netherlands | | U.K. | | U.S. | | Canada | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S | W | S | W | S | W | S | W | S | W | S | W |
| 1945 | 694 | 375 | 293 | ? | ? | 177 | 140 | 166 | 137 | 135 | 98 | 131 |
| 1948 | 1172 | 1712 | 162 | 389 | 211 | 275 | 141 | 217 | 145 | 210 | 113 | 194 |
| 1949, June | 1014 | 1812 | 159 | 366 | 190 | 288 | 119 | 230 | 130 | 197 | 98 | 200 |

*Source*: U. N. - *Monthly Bulletin of Statistics*, November 1949. The above figures are only indicative and international comparisons are not possible.

It must be admitted, however, that the two beliefs are appealing, owing also to their easy enunciation. To prove that they are wrong, it is necessary to summarize the effects on the Stock Exchange of the main events of Italy's economic policy and situation in the last three years.

(1) The provision that stocks must be registered is still in force, although its advisability is the object of a lively dispute in the financial and political press.

2. — To trace the movement in Italian stock exchanges from the beginning of 1947 to the last months of 1949, the indexes of the prices and of the quantities exchanged of industrial stocks will be used in this article. These indexes were constructed by this author for the « Research Institute on Stock Exchanges » of the L. Bocconi University of Milan; they are computed under his direction and published each quarter, with his comment, in the magazine *La Borsa Valori,* published by the above mentioned Institute (2).

It is not possible to expound here the methodology used for constructing those indexes (3). It is, however, necessary to give the following brief information:

(a) these indexes are a relative on certain averages, different according to each index, of the 1938 base. However, all indexes are constructed as to be also immediately a relative on the January 1947 base.

(b) the market of industrial stocks is considered one time as a speculation market and another time as an investment market. Therefore, in the field of prices, a « speculation index » and an « investment index » are computed.

(c) the speculation index covers the closing prices in the Milan Stock Exchange of 13 selected industrial stocks that were the object of an intense speculation both in 1938 and after the war. This index includes a series having a variable base (the quotation at each date is related to that at the date immediately preceding) and a chain series (unweighted arithmetical mean of maximum and minimum prices in 1938 = 100).

(d) the investment index covers the closing prices of 49 selected industrial stocks that are generally preferred for investment purposes in the Stock Exchange where each stock is most active. The index is given by the ratio between the market value and the par value of the capital stock of the 49 companies. There are, therefore, four series of figures: the first showing the par value of the total capital stock; the second showing the market value, *i.e.*, the value determined by the prices in the market, of the total capital stock; the third (ratio between the second and the first) showing the market value in terms of par value; the fourth compares the latter ratio with a similar ratio (made equal to 100) computed for 1938. The true index is given by each of the last two series; the first two series are, however, useful because they explain the fundamental causes of the changes in the index.

(e) correspondingly with the speculation index and with the investment index, two quantity indexes are calculated; they cover the number of shares exchanged each time in stock exchanges and are computed in the same way as the speculation index.

(f) all indexes are calculated on each Tuesday and Thursday.

3. — It is worthwhile examining now, first of all, the Stock Exchange as a speculative market considering, for simplicity's sake, only some significant figures in the chain series of the speculation index (see Table III).

TABLE III

SPECULATION INDEX (PRICES)

(1938 average = 100)

| Year, Month and Day | Chain indexes | Percentage variation over preceding figure | |
|---|---|---|---|
| | | Total | Theoretical rate of increase |
| 1947: January 2 | 1,091 | — | — |
| May 6 | 3,041 | 179 | 0.88 |
| 1948: March 18 | 666 | − 78 | − 0.60 |
| April 20 | 1,274 | 91 | 2.34 |
| July 20 | 652 | − 49 | − 0.85 |
| 1949: January 21 | 998 | 53 | 0.29 |
| June 28 | 626 | − 37 | − 0.35 |
| September 29 | 729 | 16 | 0.18 |

The figures in the first column of Table III show that at the beginning of 1947 the average price level of the 13 selected stocks was almost eleven times as high as in 1938. But, in the four subsequent months the boom was so intense as to boost the index to a level 30 times as high as prewar. The decline started thereafter and is still continuing, even if at times there have been some upturns. At the end of September 1949 the index was only seven times as high as in prewar and, although it had risen from the minimum level for the whole period (626 on June 28, 1949), it was not possible to think that an inversion of trend may soon set in, also because nothing significant had happened in Italy to warrant this assumption.

However, the downward trend has been, each time, spending itself out and the upturns have been less and less marked. To prove it, it is enough to look chronologically at the minus changes and at the plus changes, respectively, in the other two columns in Table III. From the total changes between each couple of figures it appears that the movement in both directions became always smaller. The theoretical rates of increase, computed by the formula of the compound interest on the base of the number of stock exchange meetings that took place in each time period, show that the market, after a steep decline from May 6, 1947 to March 18, 1948, shot upwards. However, the bull lasted only one month (to April 20, 1948) and was overcome by a new strong bear. Only after July 20, 1948 the market, even remaining substantially bearish, experienced a relative stability, with relatively small and rather lasting fluctuations.

The figures in Table IV, showing the quantity index of the 13 selected speculation stocks, trow light on the course of the market.

SPECULATION INDEX (QUANTITIES) TABLE IV

(1938 average = 100)

| Time periods | Percentages of the indexes | | Average values of the chain indexes |
|---|---|---|---|
| | on the rise | on the decline | |
| 1) January 2-May 6, 1947 | 47 | 53 | 95 |
| 2) May 7, 1947-March 18, 1948 | 54 | 46 | 107 |
| 3) March 19-April 20, 1948 | 50 | 50 | 205 |
| 4) April 21-July 20, 1948 | 42 | 58 | 112 |
| 5) July 21, 1948-Jan. 21, 1949 | 48 | 52 | 94 |
| 6) January 22-June 28, 1949 | 48 | 52 | 128 |
| 7) June 29-Sept. 29, 1949 | 57 | 43 | 102 |

The time periods in Table IV correspond to the alternate price trends of which it has been previously spoken. It is thus possible to see that the quantity of exchanges was consistently higher in the periods of price decline, except for the third period when the rise in prices was coupled with an exceptional amount of exchanges. On the whole, however, from January 2, 1947 to September 29, 1949, the quantity of industrial shares exchanged was, as an average, rather small, as it was close enough to the 1938 average. Furthermore, in each of the seven periods considered, there was never a decided trend in the intensity of exchanges, as it is shown by the fact that the number of the indexes on the rise (increasing exchanges) was, in general, almost equal to the number of the indexes on the decline (decreasing exchanges).

The causes of the above trends in the speculation market should now be mentioned. However, since the discussion is generally similar to that referring to the investment market, it is preferable to describe first the trends that were manifest in the latter.

4. — The investment index, as it has already been explained, covers four series of figures, the last two of which (see Table V) represent the real indexes. Only the most significant figures in each series are shown in Table V because they are sufficient to convey a good picture of the movement of the average price of the 49 selected industrial stocks.

INVESTMENT INDEX (PRICES) TABLE V

| Year, Month and Day | Vn (a) | Vc (b) | $I = \frac{Vc}{Vn}$ (c) | Y (d) |
|---|---|---|---|---|
| 1947: January 2 | 11,033 | 190,202 | 17.24 | 946 |
| April 30 | 14,378 | 469,146 | 32.48 | 1,765 |
| 1948: March 18 | 35,606 | 161,723 | 4.54 | 249 |
| April 20 | 35,642 | 282,018 | 7.91 | 434 |
| Dec. 14 | 70,179 | 242,637 | 3.46 | 189 |
| 1949: Sept. 29 | 113,260 | 276,978 | 2.44 | 134 |

(a) Vn Amounts, in millions of current lire, of the par value of the capital stock of the 49 selected corporations.
(b) Vc Amounts, in millions of current lire, of the market value of the capital stock of the same corporations.
(c) I Ratios between Vc and Vn.
(d) Y Indexes of the above ratios (1938 = 100).

No allowance has been made, in the figures of the market value (Vc), for the differences accountable to payment of dividends and to detached option rights. Furthermore, all figures are rounded. These imperfections, however, do not change the general picture of the

(2) The editor of *La Borsa Valori* is hereby thanked for permission to use the statistical material.
(3) This can be found in *La Borsa Valori*, No. 2 of 1947 and No. 2 of 1948.

trend and alter comparisons from one time period to another only negligibly.

Any of the last two series shows that, also in the investment market, prices, after a steep rise from January 2 to April 30, 1947, declined in subsequent months. Also in this market the fall in quotations was occasionally interrupted by an upturn. However, the decline proved always the strongest. In this way the Y index declined to 1/7 from January 2, 1947 to September 29, 1949 (to 1/12 from April 30, 1947 to the same date); at this time it stood at only 134% of 1938.

At it has already been said, the Y index relates the ratio between market value and par value of the capital stock to a similar ratio (taken equal to 100) in 1938. In this latter year the Stock Exchange valued 82% more the par value of the total capital stock of the 49 selected corporations. As the I index shows it, the Stock Exchange valued said par value 16.24 times more on January 2, 1947, and 31.18 times more on April 30 of the same year. However, on September 29, 1949 these high figures shrank to only 1.44 times more than the par value and, even if it was still higher than in 1938, the market value had fallen considerably from the previous high level.

To realize the arithmetical reasons of this phenomenon it is necessary to consider the changes that occurred in the figures under columns Vn and Vc (see Table VI).

TABLE VI

TOTAL CHANGES AND PERCENT. CHANGES IN THE PAR VALUE AND IN THE MARKET VALUE OF THE CAPITAL STOCK OF THE 49 SELECTED CORPORATIONS

| Time periods | Changes in Vn | | Changes in Vc | |
|---|---|---|---|---|
| | Billions of lire | % | Billions of lire | % |
| 1) Jan. 2-April 30, 1947 | 3.5 | 32 | 278.9 | 647 |
| 2) April 30, 1947-March 18, 1948 | 21.0 | 144 | − 307.4 | − 65 |
| 3) March 18-April 20, 1948 | — | — | 120.3 | 74 |
| 4) April 20-Dec. 14, 1948 | 34.5 | 97 | − 39.4 | − 14 |
| 5) Dec. 14, 1948-Sept. 29, 1949 | 43.1 | 61 | 34.3 | 14 |

Looking at the signs in Table VI, it appears clearly that, while the par value always increased, the market value at times increased and at times fell. It appears also that when the changes had all the same sign and, therefore, both Vn and Vc increased, the increase in the market value was smaller than in the par value, except for periods I and III, when the contrary was true and in which periods both indexes I and Y increased.

It is now easy to explain why the two indexes changed, in each of the periods shown, in the direction and by the amount already seen. In the first period, the large increase (147%) in the market value of the capital stock of the 49 selected corporations was partly balanced by the concurrent increase (32%) in the par value of the same capital stock: therefore, the increase in the indexes was smaller than that in the market value. In the second period, the market value decreased (by 65%) while the par value increased considerably (by 144%), owing to the substantial increases in the capital stock effected in those eleven months by a good number of the 49 corporations: therefore, the decrease in the indexes was larger than that in the market value. And the same reasoning applies to the other periods. If it is remembered that from January 2, 1947 to September 29, 1949 the par value of the capital stock of the 49 selected corporations increased by 102 billion lire (*i. e.*, by more than 1025%) while the market value of the same capital increased only by 87 billion lire (*i. e.*, by less than 50%), it is explained why in the same period there was a downfall in both indexes (I from 17.24 to 2.44 and Y from 946 to 134).

5. — The fall in the investment index was, therefore, the result of two concurrent causes: (a) the issue of new shares by the 49 corporations and (b) the inability of the market to keep *at least* unchanged the average price of each share while the quantity was being increased.

These two causes have a clear economic meaning; before discussing it, it is, however, worthwhile examining briefly three more problems.

First of all, it is interesting to see the behavior of the average price of each group of stocks in which it is possible to classify the 49 selected stocks according to the Exchange official list. To this purpose it is useful to use partial investment indexes similar to the total indexes I and Y used in the preceding paragraph. However, to make considerations brief and simple, it is better to take only indexes of the Y type (1938 = 100) and to divide the total period considered into two partial periods only (see Table VII).



TABLE VII

INVESTMENT INDEXES (PRICES) OF THE Y TYPE BY GROUPS OF INDUSTRIAL STOCKS

(1938 = 100)

| Stocks | Jan. 2 1947 | Apr. 30 1947 | Sept. 29 1949 | Percentage variations Increase (+) Decrease (—) | |
|---|---|---|---|---|---|
| | | | | from (1) to (2) | from (2) to (3) |
| | (1) | (2) | (3) | (4) | (5) |
| Financial | 1,420 | 2,181 | 129 | + 54 | — 94 |
| Textile | 3,085 | 3,650 | 628 | + 11 | — 83 |
| Metal and machine | 42 | 74 | 10 | + 76 | — 86 |
| Electrical | 750 | 1,624 | 122 | + 116 | — 92 |
| Food | 1,572 | 3,322 | 221 | + 111 | — 93 |
| Real estate | 1,522 | 2,387 | 176 | + 57 | — 92 |
| Miscellaneous | 1,851 | 2,501 | 391 | + 35 | — 84 |

Column 5 of Table VII shows that the indexes of the seven groups of stocks decreased by almost the same proportion from April 30, 1947 to September 29, 1949. The decrease was only a little smaller for textiles and miscellaneous (which include also companies processing rubber, cement and paper). The same indexes, however, increased by a very different proportion from January 2 to April 30, 1947 (see column 4) and, furthermore, their relative levels were at great variance at the beginning of 1947 (see column 1). Therefore, also on September 29, 1949 their relative levels were very different: while textiles were at 628, miscellaneous were at 391, real estate at 176, etc. (1938 = 100 in all cases). The minimum was reached by metal and machine that were at only 1/10 the prewar level.

By comparing the figures in column 3 with those in column 1 it can be seen that all indexes on September 29, 1949 were lower than on January 2, 1947. However, while their order of increase relative to 1938 did not change in the period, the difference from one group to the other became more or less large according to the greater or smaller resistance offered by each group to the declining trend. As a matter of fact, if the index of textiles is made equal to 100 and all other indexes are related to it, the proposition will appear clearly:

| Stocks | Jan. 2, 1947 | Sept. 29, 1949 |
|---|---|---|
| Textile | 100.0 | 100.0 |
| Miscellaneous | 47.6 | 45.4 |
| Food | 41.5 | 20.6 |
| Financial | 40.2 | 17.3 |
| Real estate | 17.5 | 14.4 |
| Electrical | 12.2 | 8.9 |
| Metal and machine | 6.7 | 7.4 |

The above figures show clearly that the order of the seven indexes did not change from January 2, 1947 to September 29, 1949, but the relative advantage between each group and the others changed.

The cause of these changes can be readily seen if the changes that took place in the meantime in the par value (Vn) of the capital stock are compared with the changes in the market value (Vc) for each of the seven groups of stocks:

| Stocks | Percent. changes from Jan. 2, 1947 to Sept. 29, 1949 | |
|---|---|---|
| | Vn | Vc |
| Textile | + 480 | + 28 |
| Miscellaneous | + 576 | + 43 |
| Food | + 774 | + 22 |
| Financial | + 1,336 | + 36 |
| Real estate | + 1,110 | + 40 |
| Electrical | + 1,086 | + 92 |
| Metal and machine | + 308 | — |

It appears thus clearly that, except for the metal and machine group, and with an exchange of place between financials and electricals, the order of the groups, by growing increase of par value of the capital stock, is equal to that, seen before, of the same groups by declining price indexes.

It appears thus the conclusion, already arrived at when the changes in the total investment index were examined, that the larger was the increase in the par value of the capital stock of the corporations in the group, the larger was, as a general rule, the decline in the stock price index of the group of those corporations.

6. — The second problem to be examined consists in the relation existing between the price trend and the volume of transactions.

Also in this case, to make considerations short, only some figures taken from the series of the quantity index of exchanges of investment stocks will be examined (see Table VIII).

TABLE VIII

INVESTMENT INDEX (QUANTITIES)

(1938 = 100)

| Time periods | Percentage of the indexes: On the rise | Percentage of the indexes: On the decline | Average values of the chain indexes |
|---|---|---|---|
| 1) January 2-April 30, 1947 | 49 | 51 | 138 |
| 2) May 1, 1947-March 18, 1948 | 50 | 50 | 155 |
| 3) March 19-April 20, 1948 | 75 | 25 | 336 |
| 4) April 21-December 14, 1948 | 48 | 52 | 151 |
| 5) Dec. 15, 1948-Sept. 29, 1949 | 75 | 25 | 134 |

That table shows clearly that the volume of exchanges was always large independently from the price trend prevailing in each period; as a matter of fact there was no exact correlation between the price trend and the quantity of shares exchanged.

Under this aspect, therefore, the behavior of the investment stock market was considerably different from the speculation stock market (see para. 3). Furthermore, while on the speculation market there was never a decided trend for the rise or for the decline in the volume of exchanges, on the investment market there was, on the contrary, a strong predominance of meetings with rising exchanges, in two periods at least (the third and the fifth).

As a conclusion, it can be affirmed that the investment stock market was, in general, much more active than the speculation stock market; instead, for what concerns prices — and this is the third problem to be examined — the contrary is true.

In Table IX, the speculation index (chain series) and the investment index (of the Y type) are compared at the same dates respectively indicated in paras. 3 and 4. However, to make immediately evident the behavior of the two indexes, the figures in each series are made a relative on the January 2, 1947 (= 100) base.

If the dates as well as the figures are taken into account, it can be readily seen that:

(a) on the speculation market the rising trend lasted, in general, longer than on the investment market (*f. i.*, from January 2 to May 6, 1947 on the former and from January 2 to April 30, 1947 on the latter; from July 20, 1948 to January 21, 1949 on the former while prices remained practically stable on the latter).

TABLE IX

PRICE INDEXES OF INDUSTRIAL STOCKS

January 2, 1947 = 100

| Year, Month and Day | Speculation (chain index) | Investment (Y index) |
|---|---|---|
| 1947: January 2 | 100 | 100 |
| April 30 | | 187 |
| May 6 | 279 | |
| 1948: March 18 | 61 | 26 |
| April 20 | 117 | 46 |
| July 20 | 61 | 22 |
| December 14 | | 20 |
| 1949: January 21 | 91 | 26 |
| June 28 | 57 | |
| September 29 | 67 | 14 |

(b) viceversa, on the investment market the declining trend lasted, in general, longer than on the speculation market (*f. i.*, from April 30, 1947 to March 18, 1948 on the former and from May 6, 1947 to the same date on the latter; from April 20 to December 14, 1948 on the former and from April 20 to July 20, 1948 on the latter).

(c) the rise was, in general, higher on the speculation market than on the investment market.

(d) finally, the speculation stock price index declined much less than the investment stock price index.

Summarizing, it can be concluded that the stock speculation market, while was less active than the stock investment market, proved always stronger than the latter.

However, this conclusion is perplexing. Assuming, as it seems legitimate, that the above indexes are representative of the phenomena under consideration, the speculation market should have proved more responding than the investment market to the prevailing price trend. This happened, indeed, in the boom period starting at the beginning of 1947. From January 2 to May 6, 1947 the speculation index increased by 179% while the investment index increased by only 87%. However, during the succeeding downward trend and, each time, up to September 29, 1949, the speculation index declined much less than the investment index and, many times, it showed upturns that did not appear on the investment market and that had, anyway, negligible consequences.

Owing to some reason or other, therefore, the speculation market did not succeed (and maybe it still does not succeed) to anticipate the effective price trend of industrial stocks in Italy. The likely causes of this inability will be discovered by analyzing the reasons that, most likely, were responsible, first for the rise and then for the decline in Italian stock exchanges.



7. — The most widely accepted justification of the boom that lasted for about the first four months of 1947, as it has already been said, was the fact that the average price level of industrial stocks was not yet adjusted to the average level reached from prewar by commodity prices.

The opinion that, following a currency devaluation, stock prices must rise by the same level as commodity prices is, as already stated in para. 1, superficial and erroneous. As a matter of fact, on one hand, that opinion explains the movement of prices by giving a predominant, if not exclusive, weight to the currency factor and neglecting the fundamental and direct causes offered by changes in the schedules of supply and demand; on the other hand, it is founded on the misunderstanding that the supply and demand for stocks is identical to the supply and demand for commodities. To give an example, the demand (supply) for woollen cloth, in consideration of its origin and its purpose, is different from the demand (supply) for stocks of woollen corporations; therefore, even if the price of woollen cloth increases in a period much more than the price of woollen stocks, there would not be any sufficient reason to affirm that the price of that stock is not adjusted to the price of woollen cloth.

Once this misunderstanding is cleared, the fact that stock prices were at the beginning of 1947 at a lower level than commodity prices represents only *one feature* that, at that particular time and in that particular situation of the Italian economy, *contributed*, through an orientation of collective psychology, to change the data of the Stock Exchange in a way favorable to the rise. It is to be stressed, however, that the time and the particular situation are essential to understand the dynamics of the Stock Exchange during that period; otherwise, it is impossible to explain why the difference between stock prices and commodity prices, already existing in 1945 and 1946, and that continued to exist after April 1947, was the cause of the stock advance only in that particular period.

The fact is that a price differential is only a pretext for a bull, which takes place when the situation is favorable, *i.e.*, when there are specific conditions that, relatively to the supply, cause the rise in the demand for stocks up to a certain price. These conditions, in the first four months of 1947, were:

(a) the expectation of a further inflation and, therefore, of a further fall in the value of the currency;

(b) the expectation of numerous and large book revaluations of the fixed capital (land, buildings, plants, machinery) of the corporations whose stock was quoted in the Stock Exchange; there was, therefore, the expectation of a free issue of new shares or of a free increase in the par value of the existing shares.

Those two expectations concurred to increase the demand for, and to decrease the supply of stocks. Viceversa, the increased industrial activity and the large profits of some industries at the time, owing to the development of exports (4), must have contributed negligibly to the stock price advance. As a matter of fact, however large, within possible limits, could have been the expected dividends, the yield of almost all stocks quoted in the Stock Exchange would have resulted very low in relation to the prices prevailing on January 2, 1947. There-

(4) The general index of industrial production in Italy (1947 = 100) increased continuously from 76 to 118 from January to July 1947. Italy's exports (monthly averages in millions of current lire) increased from 5,381 in 1946 to 28,294 in 1947 (*Source*: U. N. - *Monthly Bulletin of Statistics*, No. 1-2 of 1949).

fore, the profit consideration, taken by itself, should have curbed, and not stimulated, the advance.

Furthermore, two facts prove that the boom in the first four months of 1947 was prompted by considerations on the capital value, and not on the income, of industrial investments. The first is that already in the preceding year, the stock market became bullish after the issue of ministerial decree of May 27, 1946, allowing, within certain limits, the book revaluation of capitals of corporations and the transfer of the balances to increase the capital stock. The ensuing lively price advance was, however, curbed as soon as corporations did not avail themselves of that faculty in order not to pay to the Government, as decreed on September 13, 1946, an amount equal to 25%, or 15% in certain cases, of the above mentioned balances.

The second fact is that electricals participated little in the rise in the first four months of 1947; on April 30, their average market price was only 2050% of their average par value, compared with prices of 9200% for textiles, of 6800% for food stock, of 5000% for « miscellaneous » stock, etc. If it is remembered that the electric industry is one having a large proportion of fixed capitals and that, therefore, it was logical to expect that electric corporations would have a very large book revaluation, the disinterest of the market for electrical stock may be explained only by assuming that fears of a projected nationalization of the electric industry, then widespread in Italy, deprived of a sufficient security the expectation of an earning on capital account (5).

8. — Stimulated by these causes, the stock market became bullish at the beginning of 1947; the advance became soon high and fast owing to the appearance on the market of an increasingly large number of occasional and inexperienced speculators.

The deposit of the 25% of the price on share future proved inadequate to curb the boom, that was considered morally bad in some political quarters and by the public opinion as well as dangerous technically (in the first months of 1947 the money market was very liquid in Italy owing to the galloping inflation and, therefore, speculators for the rise either had the money for the deposit or could get it at a rate of interest favorable in respect to the profits made possible by speculation). The Government decided then to act, this time directly (it had acted indirectly when it issued the above mentioned decree of September 13, 1946), by recalling into force, on April 2, 1947, the negotiation surtax on stocks, amounting to 4%, half of which chargeable on the buyer and the other half on the seller.

This provision, however, did not succeed to curb the rise, both because it was poorly devised and because it could not reverse the existing situation and the collective psychology of the market.

For what concerns the structure of the surtax, it is evident that if the purpose is to contrast a price advance, it is necessary to have the demand fall without reducing the supply, or better, by even increasing the latter. If it is remembered that the surtax was levied equally on buyers and on sellers, it is seen that if it curbed the demand, it curbed the supply as well. It would be useless to affirm that the speculator for the rise buys to sell and that, therefore, he is the one who paid the whole surtax of 4%, because in a rising market the certainty to pay the 2% of the price cashed to the Treasury curbs the sales both of those that must close their speculation operations and of those who, enticed by the high prices, would like to liquidate their stock investments. The tax, therefore, by inducing, each time, potential sellers to wait for a higher price, caused a decline in supply.

A tax of 4% charged only on buyers, even if unjustly onerous on those who would have liked to purchase shares for investment purposes, would have been, *coeteris paribus*, more effective in curbing the rise. However, it would not have been entirely effective because, and this is the second cause of the failure of the tax provision, the profit deriving from the rise

(5) Similar considerations, although for other reasons, can be made for metal and machine stocks, that behaved like electrical stocks in the period of price advance. The capital situation of the corporations in that group has, as a matter of fact, become, with some exceptions, very difficult also after the second world war. Therefore, there could not be expectations of a book revaluation of fixed capitals necessary for a free increase of the capital stock.



was high enough to consent easily the payment of the 4% tax. The following figures, showing percentage changes in the speculation index *from one date over that immediately preceding*, will prove it:

| | | |
|---|---|---|
| 1947 - April | 3 | — |
| » | 9 | 6.74 |
| » | 11 | — 1.51 |
| » | 15 | 7.00 |
| » | 17 | — 0.87 |
| » | 22 | 9.53 |
| » | 24 | 10.77 |
| » | 28 | 14.04 |
| » | 30 | 2.10 |
| May | 6 | 3.93 |

It is clearly seen that the 4% tax, even if high, could not discourage operations earning in few days gross profits of 6, 8, 10 percent, and more.

The stock price advance would have continued most likely, but for a turn in Italian monetary policy in April-May 1947. At the beginning, the new directives, consisting of an « advice » by the Bank of Italy to all banks, seemed to be addressed exclusively against speculation in the Stock Exchange, because they affected the granting of credit for contangoes. Then it was seen that they aimed, through a new control of liquid reserves that banks had to hold as a security for deposits, to restrict the liquidity of the money market.

It is not the purpose of this article to discuss the purpose and the consequences of that policy, which have, anyway, been examined many times in this *Review*, also by this author (6). It will be sufficient to say that it is convenient to consider that policy as aiming: (a) to cause a decline in the prices of commodities by forcing a liquidation of inventories; (b) to facilitate the financing of the Treasury with the already existing money supply. But, in interpreting that policy in this way, which is the individuation of the technique used for stopping inflation, the effects of that policy on the Stock Exchange are discovered, because it reversed the situation and the expectations that were the cause of the advance in stock prices.

9. — The Italian Stock Exchange reversed its trend without waiting for the new anti-inflationary monetary policy to develop. The price decline started as soon as the money supplied by banks to the Stock Exchange became scarce as well as dear. In effect, the scarcity of money was more responsible than the dearness for turning prices down.

It is too bad that it is not possible to support this statement with statistics. It is to be trusted, however, that everybody will admit that a strongly rising market can afford to pay — even if within certain limits, that can be very wide practically — a high rate of interest on the amounts of money borrowed, while it cannot stand long under the pressure of scarce credits. This will appear even truer if it is remembered that the amounts of money needed by speculators for the rise become larger, other conditions being equal, as the rise grows, owing to the price advance. In the case under consideration, the speculation index rose (see Table III) from 1,091 to 3,041 from January 2 to May 6, 1947. Under the condition of an equal number of transactions and of an equal average bank credit requirement, the amounts of money needed for contangoes had, therefore, to increase as from 100 to 279. No consideration is here given (because it took place outside the Stock Exchange) to the amount of money invested by banks in financial contangoes (*i. e.*, in short term loans guaranteed by stocks), that was large in Italy at that time because enterpreneurs were inclined to use all their credit potential to increase their inventories, to buy commodities, even for personal use, and to export capital (7).

If the assumption that the gradual scarcity on the money market was responsible for reversing the trend in the Stock Exchange is accepted, it is also explained the price decline in the stocks preferred by speculators without insisting on the psychological cause that acted mostly in widening the movement. Furthermore, it will be also seen the reason why the investment index started to decline more than the speculation index; as Table IX shows it, it declined by 74% from January 2, 1947 to

(6) See L. FEDERICI, *Six Months of Italian Economic Policy*, in *Banca Nazionale del Lavoro Quarterly Review*, January 1948.

(7) For such facts, see the article quoted in note 6.

March 18, 1948, while the speculation index declined by 39% only.

The fact is that the policy of bank credit restrictions, applied first on the Stock Exchange only and then on industry, forced to look elsewhere to meet the money requirements. It was also, therefore, necessary to sell stocks bought previously for investment purposes. It is not possible to estimate the importance of this cause in the gradual price decline of the investment securities (including here industrial stocks as well as public and private bonds), owing to the fact that, as it will be seen below, other causes contributed concurrently to increase the supply and to bring down the demand for those securities. However, credit restrictions were the likely main cause, at least until the end of 1947, of the decline in the Stock Exchange, because the sale of shares (and of bonds) represented, most likely, the simplest and fastest means used, either on their own will or through compulsion, first by speculators for the rise confronted now with a decline, and then by those who had to balance their bank account deficits or who had to replenish their inventories or to refund a financial contango.

The above considerations show clearly the cumulative effects of the anti-inflationary policy on private finance and, indirectly, on stock prices. At the beginning, the smaller bank credits affected mostly speculators in securities causing a price decline that magnified as futures based on the rise had to be settled. Afterwards, credit restrictions affected production. From that moment onwards the effects on the Stock Exchange overcame the capacity of speculation, magnified, maybe unexpectedly, the first decline effected by the ablest speculators and, mostly, changed radically the basic conditions that each time regulate the activity and the trend in the stock market.

10. — Other causes, however, as it has been said previously, contributed to depress prices of investment stocks and, in this way, to keep the speculation index at a continuously higher level than the investment index.

To tell the truth, this phenomenon, that has already been stressed many times, can in part be ascribed to the construction itself of the investment index. Since this index is not based on the absolute value, but on the relative value (market value divided by par value — see para. 2) of the capital stock of the 49 selected corporations, as the par value is increased, owing to book revaluations of the assets, it disappears, *coeteris paribus*, the reason whereby the market value is higher than the par value and, therefore, the index declines.

This effect must be kept well in mind when speaking of increases in capital stocks because, as Tables V and VI show it, the 49 selected corporations effected the greater part of their capital stock increases right after the lira was effectively stabilized. However, there were, undoubtedly, other causes that acted concurrently in the last two years to depress investment stock prices and to support speculation stock prices.

The first fact is represented, at least in 1948, by the high burden of extraordinary direct taxation. In the fiscal year 1946-47 that taxation yielded only 14.6 billion lire. In the following year the yield jumped to 69.2 billion lire, including 59 billion lire yielded by the two property taxes and more than 9 billion lire yielded by the three taxes levied on war profits, on speculation profits and on fascist regime profits. All these taxes (yielding in fiscal 1948-49 67 billion lire) were paid in a substantial amount only in March-April 1948 and reached the peak for fiscal 1947-48 in June 1948. It is then possible to assume, and some specific cases were then known in Stock Exchange quarters, that to pay such large amounts of money, tax-payers were often compelled to sell some of their stocks. Moreover, it happened many times that tax-payers, hoping that the Government would revise its policy on extraordinary taxation, delayed as much as possible their sales of stocks. The result was that such sales did not take place continuously but were concentrated in a few weeks. This fact could contribute to explain the relatively heavy decline in the investment index in June 1948.

Another important group of causes is related, directly or indirectly, to the large capital stock increases effected by the 49 corporations starting with the second half-year of 1947.

Those increases were partly gratuitous (as a balance to the book revaluation of the assets) and partly against payment (to supply industry with fresh money needed for reconversion purposes). Without going into detail as to the amount of each group of increases, it is certain that they contributed to the stock price decline.

Free increases, on one side, caused the decline in the prices, and in the index, on the investment market, owing to the monetary reason already explained at the start of this paragraph; on the other side, they increased the supply of shares each time that the corporations distributed to shareholders the book revaluation balance of the assets not by increasing the par value of the existing shares, but by issuing new ones. In the latter case, there is no proof, of course, to the statement that the higher number of shares became soon and completely a larger effective supply. It is, however, reasonable to assume that, because the Stock Exchange was almost continuously weak, shareholders did not find it convenient, in general, to keep the new shares, but they sold at least a part of them, sooner or later, particularly when the distribution of free shares was combined, as it often was, with another issue of shares against payment.

When corporations increased their capital stocks to get a fresh supply of savings, the stock price decline on the investment market was, most likely, the combined effect of three causes. First, when the Stock Exchange is weak there is little propensity to underwrite new shares. Therefore, the capital stock increases effected after the first half-year of 1947 must have been a burden on the market, intensifying the decline.

Second, the demand for savings by industries was in the last years gradually higher than the supply available for investment in stocks. The result was that even if investors would have been favorable to underwrite new shares, they would not have had the sums needed by corporations. It is a pity that the importance of this cause — that appears with the first one — cannot be measured, even approximately, because Italy lacks sufficient statistical information on the amount and rate of accumulation of monetary savings and on its allocation. As a matter of fact, there are some persons who, with authority, doubt the reliability of the best estimates of the national income for the last years. Anyway, if it is kept in mind that from the beginning of 1947 to the end of August 1949 short term Treasury bonds increased by 491 billion lire, that corporations *approved* (although it is not known by what amount they effected):

| | |
|---|---|
| issues of bonds for . . . . | 93.1 billion lire |
| increases of capital stocks against payment for . . | 262.4 » » |
| reconstitutions of capitals for . . . . . | 0.8 » » |

and that finally new companies were incorporated for a capital to be paid amounting to 12.8 billion lire, one can understand the magnitude of new savings required. At the same time, national income in Italy amounted from 5 to 6 thousand billion lire per year, but with this income it was necessary to finance the Treasury and corporations as well as all other productive activities (agriculture, manufacturing, transportation, etc.) carried out by individual firms, partnerships, etc.

There are, therefore, good reasons for assuming that the increases in capital stocks against payment effected through the Stock Exchange contributed to depress the market, also because there was impossibility to meet them in full. The greater part of those issues of stocks could be effected only because of the financial assistance of the interested groups, that replaced the speculators in the temporary purchase of the new securities. But — and here is the last cause — most likely, the action of those groups caused immediately a certain firmness on the speculation stock market, but a weakness, even if only after a certain time, on the investment stock market.

As a matter of fact, it must be assumed that, when intervening, the groups never forgot to maneuver the prices of the few stocks that are believed to anticipate the general trend in the Stock Exchange or the trend of whole groups of securities. It is even more likely to assume that there was a price maneuver if it is borne in mind that — owing to the almost total absence of the minute speculation, routed by the losses suffered when the decline started — the speculative market in the last two years has been engineered mainly by big maneuverers, who buy and sell not for a premium but to reach higher and more remote purposes. On the other hand, it must be assumed that the groups interested in the capital stock increases of each corporation, unable or unwilling to increase their participation in those corporations, must have, in general, underwritten the new shares with the purpose to sell, by an equal amount, existing shares owned by them. If the above mentioned credit restrictions are borne in mind, one realizes that they must have sold existing shares — thus increasing the effective supply on the stock market and depressing, therefore, prices — as soon as they needed cash, either for production requirements or to pay taxes. Many capital stock increases, after the first half of 1947 were thus effected soon, but only apparently. In reality, they increased the floating supply of shares on the market and for many months must have influenced depressively stock exchange quotations.

11. — The preceding analysis can now be thus summarized: without neglecting the more general psychological, technical, political and economic causes, the main cause of the decline in the Italian stock market is the persistent disequilibrium between supply and demand for savings for industrial investments. This disequilibrium was for a long time hidden by the bountiful money supply caused by the gradual inflation; it was brought to light, but *not caused*, by the anti-inflationary policy started by the Government in the spring of 1947.

All other causes that may be listed to explain the decline in the Stock Exchange are only secondary and some are even groundless. For instance, it is not true at all that, taken separately, technical and fiscal controls imposed for many months on stock futures have had any effect on the decline. As long as there was a bountiful money supply, those controls did not succeed, as it has been seen in para. 8, to stop the price advance; but when the money supply became scarce, the removal of those controls was unable to stop the decline. As a matter of fact, the decline in the stock market continued even after the official discount rate was lowered by one point.

If the problem is examined from a formal and technical angle, it appears that the responsibility for the persistent decline in the Stock Exchange can be safely ascribed to the financial policy of corporations. Stock brokers are right when they insist on this cause and they even urge some government controls on capital stock increases.

This policy, in consideration of the principle implied, would be very dangerous in a country that has returned only recently to political freedom and that even now enjoys only a half freedom in the economic field. It must be admitted, however, that corporations have done nothing to coordinate their financial policies for adjusting their aggregate demand to the supply of savings willing to take the risk of investment in stocks.

Most likely a coordination is difficult in the same way as it would be difficult to estimate each time the would-be total demand. It must be pointed out that, in the last few months, corporations have preferred to thwart the obstacle by replacing the disagreeable issue of new stocks with the more palatable issue of bonds endowed with special privileges. In this way, however, they have further weakened the Stock Exchange because, if they avoid to increase the already large supply of stocks, they equally lower the small supply of savings that could result in a demand for stocks.

The disequilibrium between supply and demand for savings is, therefore, the main fact that cannot be eliminated by any artifice of financial technique as long as the Government pursues a policy of stable currency that commands a sincere expression of the economic situation. But if this point is stressed, it must also be admitted that the persistent and substantial decline in the stock market is, in conclusion, exactly and only one of the more manifest expressions of that sincerity. Therefore, if in Italy the supply cannot meet the demand for savings, it is evident that the rate of interest should increase, even if — to make less expensive the public debt and to support the prices of medium term Treasury bonds that the Government is converting — the official discount rate was lowered in April 1949 from 5.50% to 4.50%.

There is, therefore, nothing strange in the long and heavy decline in the Stock Exchange because the decline in stock prices, by increasing their yield, expresses only a trend, in an important branch of the financial market, toward a rate of interest high enough to equilibrate supply and demand for savings (8).



12. — With respect to the yield of savings, it may be useful to examine here briefly the course of prices of public and private bonds. To this purpose, some series of figures calculated for the construction of another index (the Index of fixed income) will be used. This index is published periodically along with those shown earlier, with a comment by the same author, on the above mentioned magazine *La Borsa Valori* (9).

Three series of this index are calculated, each a relative on the 1938 base; the first covers the prices of 7 Government bonds (including three Consols or Redeemables at long term and four medium term Treasury bonds); the second covers the prices of 12 non-Government bonds (including three bonds of public entities and nine industrial, banking and agricultural bonds); the third series covers all these 19 bonds.

Table X shows how the three series moved, in the same time period considered for the stock market.

Table X

INDEX OF FIXED INCOME (PRICES)

(1938 averages = 100)

| Year, Month and Day | Government Bonds | Non-Government Bonds | All Bonds |
|---|---|---|---|
| 1947: January 2 | 100.59 | 102.82 | 101.70 |
| February 10 | 103.68 | | |
| February 13 | | 105.30 | 104.48 |
| October 23 | | 84.15 | 88.21 |
| December 4 | 91.52 | | |
| 1948: May 4 | 99.95 | 96.82 | 98.39 |
| August 26 | | 97.18 | |
| December 16 | 99.73 | | 98.25 |
| 1949: March 15 | 100.06 | | |
| March 29 | | | 100.05 |
| April 5 | | 100.14 | |
| September 29 | 101.68 | 101.87 | 101.27 |

Since the figures were chosen to show the turning points in the trends, it is easy to obtain immediately the following information. First, also the bond market was bullish at the beginning of 1947. Prices of bonds, however, started to decline much earlier than those of stocks, but the decline was relatively small and did not last long. From the maximum points of February, Government bonds declined by 9.80%, non-Government bonds by 20% and all bonds (average) by 18.45%; starting with the last quarter of 1947 the trend was again for the rise.

Second, during all 1948, prices of bonds of all groups were relatively strong, fluctuating little on the maximum points reached at the beginning of May of that year.

In the third and last place, after the first half of March 1949 all bonds were at an average level higher than the 1938 base (= 100) and started to rise, slowly but continuously. On September 29, 1949, however, each index was at a lower level than the maximum reached in February 1947 and only the group of Government bonds was at a higher level than that on January 2, 1947.

It must be pointed out now that the above comparisons are not mathematically accurate because the rates of some bonds include the interest accrued at each date. However, the error is never large enough, on each of the dates in Table X, to change the trend.

Two facts, among those listed above, must be pointed out because significant. The first is that the decline that started in February 1947 may be explained in correlation with the coincident rise in the stock market; namely, from February to April 1947 there must have been an arbitrage between bonds and stocks for the purchase of the latter and, thereafter, bonds were sold, as it has been said in para. 9, mostly for need of cash, both by speculators losing in the stock market and by those who were affected by bank credit restrictions. It is the opinion of this author that the first stimulus must have been the predominant one.

Anyway, as soon as the exceptional and urgent demand for cash was met, the bond market returned to be indifferent to what was happening in the stock market; moreover, bond

(8) Calculations by the Research Department of the Bank of Italy show that the average yield of 40 important stocks quoted in the Milan Stock Exchange was: 5.17% in 1938, 0.64% in 1947, 2.27% in 1948, 4.69% in 1949 (October). *Source: Bulletin of the Research Department of the Bank of Italy*, September-October 1949.

(9) For the methodology used in the construction of this index, see *La Borsa Valori*, issue No. 2 of 1947.

rates became stable for the same cause that, acting directly and indirectly, was depressing stock prices, *i. e.*, the governmental anti-inflationary policy.

Finally, and this is the second significant fact, bond prices started to rise after the first half of March 1949, and the trend was anticipated by a few weeks by the group of Government bonds. It is, however, hard to believe that the movement was spontaneous. It was rather induced by a maneuver in the market related to the above mentioned reduction in the official discount rate, that took place in April, and to the necessary preparation for the success of the conversion of the medium term Treasury bonds.

In respect to this, it is necessary to point out that the highest price rise in the group of Government bonds was shown by redeemable bonds. Calculations by the already mentioned Research Department of the Bank of Italy show that the indexes (1938 averages = 100) of the ex interest prices of consols, redeemables and five and nine years Treasury bonds changed as shown in Table XI.

Table XI

EX INTEREST PRICE INDEXES OF GOVERNMENT BONDS

(1938 averages = 100)

| Government Bonds | December 1948 | September 1949 | Percent. changes in the period |
|---|---|---|---|
| Consols | 102.7 | 107.4 | + 4.57 |
| Redeemables | 87.9 | 94.9 | + 7.96 |
| Treasury Bonds (5 and 9 years) | 95.7 | 100.2 | + 4.70 |

*Source*: Research Department of the Bank of Italy.

Owing to this maneuver for the rise, the average yield of Government bonds, calculated on ex interest prices, declined in the first nine months of 1949 down to little more than 5% in September, except for redeemable bonds whose average yield still amounted to 5.66%. However, at the same time, non-Government bonds were yielding from 6.50% to 7.80%.

In conclusion, if the all special and maneuvered group of Government bonds is left aside, it is possible to confirm that the relative scarcity of savings in Italy is responsible for keeping securities at prices low enough that their yield correspond at a high rate of interest.