Excess inflation

1. In the fifteen years between 1951 and 1966, the Italian economy developed at a rapid pace: the rate of increase of the gross national product, an annual average of 5.4% in constant lire, is high compared with other historical periods of the country and with other comparable countries (1). The expansion was relatively continuous: the business fluctuations, including the serious recession of 1964-65, although creating difficulties in certain sectors, represented only temporary slacks in the overall rate of development.

2. Economic growth was accompanied by an appreciable inflation: the increase in the implicit prices of the GNP (2), an annual average of 3.4% in the fifteen years, is high compared with historical experiences in peacetime, although it roughly corresponds to the average of the Western European countries in the same period.

3. A comparative examination of the rates of increase of the implicit prices and of the GNP in constant lire does not give any experimental confirmation to the thesis according to which a gentle price creep gives a positive contribution to the rate of growth. The experience of Italy in the fifteen-year period — quite apart from any causal analysis — shows, instead, a contrasting evolution between rate of development and rate of inflation.

4. The table gives the two-year averages of the variation in the rates in question, in order to attenuate the variability of the rates

(1) The basic data given in the attached table, are obtained from the following: for the years 1951-1963 from ISTAT, *I conti nazionali dell'Italia, nuova serie, anni 1951-1965*, Supplement to the Monthly Bulletin of Statistics, No. 3, March 1966; for the years 1964-1966, from the *Relazione generale sulla situazione economica del paese*, 30th March 1967; which, in addition to publishing the new data for 1966, made slight adjustments (less than ½%) to the data for the previous two years, ISTAT figures.

(2) The index numbers of the implicit prices are the ratios between values at current prices and values in constant lire, in each year.

from year to year. The two series are plotted in the chart; the price curve is reproduced in a reversed position in the negative quadrant. An obvious parallelism exists between the two curves, that is to say the two evolutions which they represent have opposite patterns: high rates of growth are connected with a moderate inflation; low rates of growth, with high inflation (3).

CHANGES IN GNP AND PRICES

dY = rate of variation in the gross national product in constant lire, in each year compared with the previous year, %;

dP(Y) = annual rates of variation in the implicit prices of the gross national product, %;

dP(I) = annual rates of variation in the implicit prices of gross investment, %;

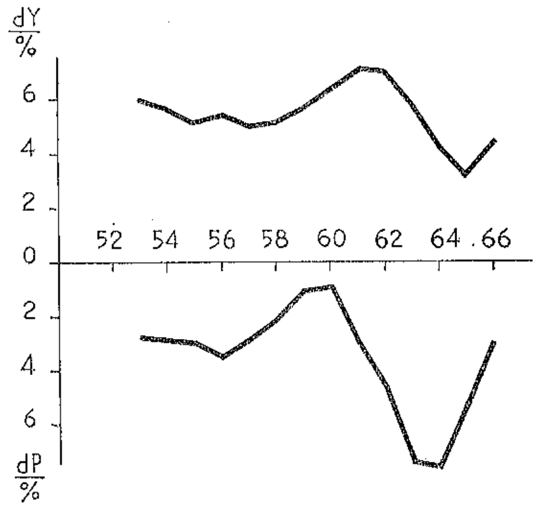
I/Y = quota of gross investment over gross national product, %;

average = geometric average of the annual rates of variation from 1952 to 1966.

Years	*dY*	*dP(Y)*	Two-year averages		*dP(I)*	*I/Y*
			dY	*dP(Y)*		
1951	=	=	=	=	=	19.9
1952	+4.4	+2.6	=	=	−0.6	18.9
1953	+7.5	+2.9	+6.0	+2.8	−0.2	19.6
1954	+3.9	+2.9	+5.7	+2.9	−1.2	19.8
1955	+6.5	+3.1	+5.2	+3.0	+1.1	21.7
1956	+4.5	+4.0	+5.5	+3.6	+2.3	21.4
1957	+5.4	+1.8	+5.0	+2.9	+3.6	21.8
1958	+4.9	+2.5	+5.2	+2.2	−0.9	21.2
1959	+6.5	−0.4	+5.7	+1.1	−0.8	21.8
1960	+6.3	+2.0	+6.4	+0.8	+2.5	24.0
1961	+7.8	+2.7	+7.1	+2.4	+2.4	24.3
1962	+6.2	+6.1	+7.0	+4.4	+4.3	24.9
1963	+5.5	+8.7	+5.9	+7.4	+7.3	24.8
1964	+2.8	+6.6	+4.2	+7.6	+7.6	22.4
1965	+3.5	+3.9	+3.2	+5.3	+1.9	19.7
1966	+5.5	+2.0	+4.5	+3.0	+1.8	19.6
Average	+5.4	+3.4	=	=	+2.0	=

(3) It can be seen from the chart that the maximum correlation would occur if the price curve were lagged one year (if *dY* for 1952-53 was compared with *dP* for 1951-52, and so forth); but the procedure would imply causal interpretations that are always arbitrary.

CHANGES IN GNP AND PRICES
(Two-year averages, 1952-1966)



5. In this connection, three or four periods in the fifteen years can be distinguished, as in the following table.

Years	*dY*	*dP*
1952-58	+5.5	+2.8
1959-61	+6.9	+1.4
1962-65	+4.5	+6.3
1966	+5.5	+2.0
Average:	+5.4	+3.4

From 1952 to 1958, with a relatively gentle inflation, the rate of growth remained at the fifteen-year average; in 1959-61, the inflation was attenuated and the rate of growth rose by 1½ points % above the average; in 1962-65 the inflation increased and the rate of growth fell by 1 point % below the average; in 1966, inflation was again attenuated and the rate of growth returned to the average level.

6. It is unavoidably arbitrary to infer quantitative relationships between rate of inflation and rate of growth; however, the few figures quoted make it possible to make this rough affirmation: an inflation at a rate double the average is connected with a rate of

growth 1 point % below the average; an inflation at one-half average rate is connected with a rate of growth 1 point % above the average (4).

7. With a further step, an attempt can be made to determine the *excess rate*, or non-necessary rate of inflation; in other words, the rate beyond which the sub-optimal allocation of the resources resulting from inflation, is indeed an obstacle to growth (5).

8. In other words: admitted that a certain rate of inflation responds to certain requirements, real or held to be such, of the social structure of a modern country (6), it is a question of seeing up to what point inflation fits to such requirements, and from what point on it becomes, instead, an unmixed evil, a limitation inflicted on national economic development, without a counterpart.

9. In conditions of rapid evolution, proper to modern advanced countries, price stability obviously does not mean the constancy in time of all the individual prices, an intrinsically unachievable objective, but only the constancy of a general price index (7). Some prices may rise and other fall; if the two movements compensate each other, the average is stable.

10. Now, it is true that in a world dominated by inflation, falling prices in an absolute sense are somewhat rare; but it is obvious that, in certain sectors, prices have increased less than the general index, that is to say the relative prices have fallen. Typically

(4) Similar conclusions, but with a more explicit causal correlation, were reached by Jacques Delors of the *Commissariat Général au Plan*: "La tendance permanente de l'économie française à retomber périodiquement dans l'inflation entraîne une perte de production...; on a pu chiffrer cette perte de croissance à près d'un point de taux de croissance par an". ("L'expérience française de politique de revenus", report to the 12th Congress of studies of industrial economics and policy, Fiuggi, May 1966, *Rivista di politica economica*, September 1966, p. 1280). There is, however, no quantitative demonstration of the affirmation.

(5) This obviously does not exclude that inflation could have counteracting effects even below this rate.

(6) For example: full employment, public finance in deficit for the creation of social overhead, autonomy of the trade unions in wage discussions, downwards inflexibility of monetary wages, oligopoly and restrictive practices in certain progressive sectors, protection of regressive sectors, incentives for the development of backward regions.

(7) The representativeness or "truth" of the general price index is a big statistical question, which here we take as solved: an index of "all" prices has never existed in any country.

these are the sectors that have benefitted from a more rapid increase in productivity (8): this greater productivity went mostly to the benefit of the producers themselves, in the form of increased wages and greater profits; but in part it also went to the benefit of consumers, in the form of lower relative prices.

11. Italian national accounts themselves testify to a reduction in relative prices in an important sector, investment: the implicit prices of total gross investment (see table) rose in the fifteen-year period at the rate of 2% average per year, against 3½% for the national income; the relative prices thus fell by an annual average of 1½%.

12. By drastically simplifying matters, we admit that investment is the only sector with declining relative prices. In view of the fact that the quota of investment over the GNP is about one fifth (see table), the stability of the general price index would in the abstract be assured with a reduction in investment prices of 1½%, as above, and with an increase in the other prices (consumer goods) of about a quarter that rate, or about 0.4% (that is $0.80 \times 0.4 - 0.20 \times 1.5 =$ roughly zero). Admitting further that the rigidities of the economic system make absolute reductions in prices unachievable, there will be unchanged investment prices, an increase of 1.9% in the other prices, an increase of 1½% per year in the index of prices for the entire national income.

13. In view of the fact that the effective increase in the prices of the GNP recorded an annual average of 3½%, the rate of excess inflation in Italy, on the average for 1951-1966, was about 2% per year. On the basis of the conclusions as per § 6, this excess inflation results in a reduction of the rate of growth of 1 to 1½ points %; in absolute figures, and taking a GNP of about 40,000 billion in 1967, it corresponds to a figure of about 500 billion per year. It is a very rough estimate, probably falling short of the real figure.

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(8) Output per working hour.