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 LISBOA SCHOOL OF ECONOMICS & MANAGEMENT

Macroeconomia II Teórica 2

Macro 2

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Tema da aula de hoje (18.02.2014) Teórica nº 2

Crescimento económico: os dados e os factos

- Como “estudar” (descrever, explicar) o crescimento económico?
- Os factos estilizados do crescimento: Kaldor (1961) e sua reavaliação actual.


Leitura Obrigatória
Jones & Vallrath (2013), cap. 1, pp. 1 – 19
“Introduction: the facts of economic growth”.


Leituras Complementares
Kaldor, N. (1961), *Capital Accumulation and Economic Growth*, in Lutz & Hague (eds), *The Theory of Capital*, St. Martins Press, 1961, pp. 177-222.

Jones, C., P. Romer (2009), *The New Kaldor Facts: Ideas, Institutions, Population and Human Capital*. Paper January 2009 annual meeting American Economic Association.

Clássico nº 1

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 UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION

SEMINAR ON THE PROGRAMMING OF ECONOMIC DEVELOPMENT
San Paulo
30 December 1962 / 17 January 1963

CAPITAL ACCUMULATION AND ECONOMIC GROWTH

BY
NICHOLAS KALDOR
King's College, Cambridge

Artigo clássico da literatura sobre o crescimento económico

Os Factos Estilizados do Crescimento

REPRINTED FROM
THE THEORY OF CAPITAL
MACMILLAN & CO LTD
1961

A theoretical model consists of certain hypotheses concerning the causal inter-relationships between various magnitudes or forces and the sequence in which they react on each other. We all agree that the latter requirement of any model is that it should be capable of explaining the characteristic features of the economic process as we find them in reality. It is no good starting off a model with the kind of abstraction which initially excludes the influence of forces which are mainly responsible for the behaviour of the economic variables under investigation; and upon finding that the theory leads to results contrary to what we observe in reality, attributing this contrary movement to the compensating (or more than compensating) influence of critical factors that have been assumed away in the model. In dealing with capital accumulation and economic growth, we are only too apt to begin by assuming a 'given state of knowledge' (that is to say, absence of technical progress) and the absence of 'uncertainty', and content ourselves with saying that these two factors — technical progress and uncertainty — must have been responsible for the difference between theoretical expectation and the recorded facts of experience. The interpretative value of this kind of theory must necessarily be extremely small.

Any theory must necessarily be based on abstractions; but the type of abstraction chosen cannot be dictated in a vacuum: it must be appropriate to the characteristic features of the economic process.

I submit, however, that the abstractions here mentioned are intended within the limits of an admission that they are not intended in accordance with prior assumptions, but that they are intended in accordance with the members of the Royal Tribunal did not have the greatest seat in their hands.

The author is indebted to Mr. L. Parsons and Mr. F. H. Hahn for the assistance in setting out the models in algebraic form.

Objectivo de natureza científica

Construção de uma teoria explicativa do processo de crescimento de uma economia.



Necessidade de um método científico

(abstracção, focando no essencial, no que é relevante)

as recorded by experience. Hence the theorist, in choosing a particular theoretical approach, ought to start off with a summary of the facts which he regards as relevant for his problem — 'stylized facts', as recorded by statisticians, are always subject to numerous omissions and qualifications, and for that reason are incapable of being accurately summarized; the theorist, in my view, should be free to start off with a 'summary of facts' — or, conceivably, 'stylized facts' — which he considers appropriate, and which would account for these 'stylized' facts, without necessarily committing himself on the historical accuracy, or sufficiency, of the facts or incidents thus summarized.

As regards the process of economic change and development in capitalist societies, I suggest the following 'stylized facts' as a starting-point for the construction of theoretical models:

- (1) The continued growth in the aggregate volume of production and in the productivity of labour at a steady rate; no recession, tendency for a falling rate of growth of productivity.
- (2) A continued increase in the income of capital per worker, whatever technical increase of capital is chosen in this connection.
- (3) A steady rate of profit on capital, as fast as the 'developed' capitalist societies; the rate of profit being substantially higher than the 'pure' long-term rate of interest as shown by the yield of gilt-edged bonds. According to Phelps Brown and Webster, the rate of profit in the United Kingdom was sensibly steady around 10 1/2 per cent in the period 1870-1914, the annual variations being within 9 1/2-11 per cent. A similar long-period steadiness, according to some authorities, has shown itself in the United States.
- (4) Steady capital-output ratios over long periods: in fact there are no clear long-term trends, either rising or falling, if differences in the degree of utilization of capacity are allowed for. This implies, or reflects, the non-steadiness in the percentage rate of growth of production and of the capital stock — i.e. that for the economy as a whole, and over longer periods, income and capital tend to grow at the same rate.
- (5) A high correlation between the share of profits in income and the share of investment in output; a steady share of profits (and of wages) in societies and/or in periods in which the investment coefficient (the share of investment in output) is constant. For example, Phelps Brown and Weber found long-term constancies in the investment coefficient, and in the profit share, but the above propositions concerning the constancy of relative shares and of the capital-output ratio are applicable to countries with differing rates of growth.

None of these 'facts' can be admissibly 'explained' by the theoretical constructions of neo-classical theory. On the basis of the marginal productivity theory and the capital theory of Böhm-Bawerk and followers, one would expect a continued fall in the rate of profit with capital accumulation, and not a steady rate of profit. (In this respect classical and neo-classical theory, arguing on different grounds, come to the same conclusion — Adam Smith, Ricardo, Marx, alike with Böhm-Bawerk and Wicksell, predicted a steady fall in the rate of profit with economic progress.) Similarly, on the basis of the neo-classical approach, one expects diminishing returns to capital accumulation which implies a steady rise in the capital-output ratio *pari passu* with the rise in the capital-labour ratio; and a diminishing rate of growth in the productivity of labour as any given ratio of investment to output (or savings to income). Finally, the fluctuations in the rate of profit that are associated with fluctuations in the rate of investment cannot be accounted for at all on the basis of the marginal productivity theory — if one assumes, as I believe we must, that the fluctuations in the level of investment are the causal factor, and the fluctuations in the share of profits consequential, rather than the other way round.

The author here introduces a model of income distribution and capital accumulation which is capable of explaining at least some of these 'stylized facts'. It differs from the prevailing approach to the problems of capital accumulation in that it has more affinities with the classical approach of Ricardo and Marx, and also with the general equilibrium model of von Neumann, than with the neo-classical models of Böhm-Bawerk and Wicksell; or with the theories which start off with the Cobb-Douglas type of production function. It differs from the classical models in that it embodies the basic ideas of the Keynesian theory of income generation, and it takes the well-known 'dynamic equation' of Harrod and Domar as its starting-point.

Observação da realidade, concentrando no que é relevante, i.e., numa visão estilizada dos factos, ignorando pormenores irrelevantes

Os (seis) factos estilizados (considerados pelo autor em 1961)

also short period fluctuations of these magnitudes. The steadiness in the share of wages implies, of course, a rate of increase in real wages that is proportionate to the rate of growth of (average) productivity.

- (6) Finally, there are appreciable differences in the rate of growth of labour productivity and of total output in different societies, the range of variation (in the fast-growing economies) being of the order of 2-5 per cent. These are associated with corresponding variations in the investment coefficient, and in the profit share, but the above propositions concerning the constancy of relative shares and of the capital-output ratio are applicable to countries with differing rates of growth.

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O desafio teórico colocado ao autor:

a teoria actual não explica





construir uma nova teoria


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Os **Factos Estilizados** segundo Kaldor (1961)

1. A produtividade do trabalho tem **crecido** de forma sustentada
2. O ratio capital por trabalhador tem **crecido** de forma sustentada
3. A taxa de juro real, ou a taxa de rentabilidade do capital, tem-se mantido **estável**
4. O coeficiente capital produto (ratio capital/PIB) tem-se mantido estável
5. As remunerações do trabalho e do capital têm mantido um peso relativo **estável** no rendimento nacional
6. Observam-se **diferenças**, na ordem dos 2% a 5%, nas taxas de crescimento das economias com crescimento económico mais rápido.

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50 anos depois

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Jones, C. I., Romer, P. M. (2009), *The New Kaldor Facts: Ideas, Institutions, Population and Human Capital*. Paper presented at the January 2009 annual meeting of the American Economic Association

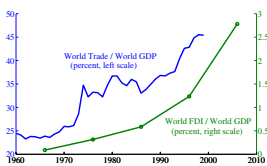
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1. Increases in the extent of the market

Increased flows of goods, ideas, finance, and people – via globalization as well as urbanization – have increased the extent of the market for all workers and consumers.

Figure 1: The Rise in Globalization



Note: World trade is the sum of world exports and imports as a share of world GDP from the Penn World Tables 6.1. FDI as a share of GDP is from the World Bank's World Development Indicators.

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2. Accelerating growth

For thousands of years, growth in both population and per capita GDP has accelerated, rising from virtually zero to the relatively rapid rates observed in the last century.

Figure 2: Population and Per Capita GDP over the Very Long Run

Note: Population and GDP per capita for "the West," defined as the sum of the United States and 12 western European countries. Both series are normalized to take the value 1.0 in the initial year, 1 A.D. Source: Maddison (2006).

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3. Variation in modern growth rates

The variation in the rate of growth of per capita GDP increases with the distance from the technology frontier.

Figure 3: Growth Variation and Distance from the Frontier

Source: Penn World Tables 6.1.

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4. Large income and TFP differences

Differences in measures inputs explain less than half of the enormous cross country differences in per capita GDP.

Figure 4: Large Income and TFP Differences

Note: Both TFP and per capita GDP are normalized so that the U.S. values are 1.0. TFP is reported in "labor-augmenting" form and is constructed following the methodology of Hall and Jones (1995) using the Penn World Tables 6.1 and the education data of Barro and Lee (2000).

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5. Increases in human capital per worker

Human capital per worker is rising dramatically throughout the world.

Figure 5: Years of Schooling by Birth Cohort, United States

Source: Goldin and Katz (2007), Figure 7.

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6. Long-run stability of relative wages

The rising quantity of human capital relative to unskilled labor has not been matched by a sustained decline in its relative price.

Figure 6: The U.S. College and High School Wage Premiums

Source: Goldin and Katz (2008), Table D1.

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Questões relevantes

Em que medida a teoria económica fez reflectir, nos modelos económicos de crescimento, os factos estilizados do crescimento enunciados por Kaldor?

Em que medida as novas teorias do crescimento têm reflectido as alterações ocorridas nos padrões de crescimento e que originaram os “novos factos estilizados”?

↓

- Teoria económica (os modelos económicos de crescimento)
- O seu enquadramento histórico (como evoluiu o pensamento económico sobre o crescimento)

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