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Sonderdruck aus:
Journal of Post Keynesian Economics, 1 (1978)

Keynesian thinking in politico-economic models

Among the many different interpretations of Keynes' economic ideas, two aspects are of special importance for present-day reality and economic theory: (a) the idea of circular flow, and (b) the idea that economics extends beyond the market.

Circular flow

Keynes emphasized the importance of the circular flow of income and expenditures, and in particular the interaction between private households and firms, for an understanding of the economic process. The thought is, of course, quite an old one in economic thinking, dating back to at least the Physiocrats and Quesnay's *tableau économique* of 1760. During the period of the neoclassicists, the circular flow aspect was almost completely disregarded: neoclassicists of the Marshallian school ignored it because it seemed superfluous in a microeconomic and partial approach; neoclassicists in the general equilibrium tradition à la Walras implicitly included a circular flow, but the concept was not stressed and consequently was not a part of a typical economist's intuitive thinking. Neo-neoclassicism, which purported to be an amalgam of neoclassicism and Keynes, neglected the circular flow of income and expenditures more and more. In the most celebrated branch of modern neoclassicism — the aggregate theory of economic growth developed by Solow — the idea of circular flow is again completely disregarded: demand adjusts passively to the development of supply. The same is true for neo-neoclassical distribution theory — relative income shares are determined by (relative) aggregate marginal productivities. This view contrasts sharply with post Keynesian distribution theory à la Kaldor and Pasinetti, in which the circular flow of income and expenditure forms the very basis of the analysis.

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Economics extends beyond the market

Keynes' basic theme was that the market economy, steered by the price system, has a tendency to lead to unemployment and/or inflation. His great achievement was in making clear to both his profession and politicians that government can assume a stabilizing role with regard to the (market) economy. By proposing this mission, he took a decisive step beyond the market and introduced government as an actor in the economic sphere.

Obviously, this idea is not original to Keynes; it can be traced far back in the history of economics. What was significant was that Keynes extended economics beyond the market at a time when thought was dominated by neoclassical economics — which is concerned solely with the market, and basically holds that the market is self-regulating and will readjust within an acceptable period of time. This older conviction is strongly resurgent today, as seen in the great importance attached to the work of Friedman and the monetarists.

CONSEQUENCES OF KEYNESIANISM

The general adoption of Keynesian theory into official government policy after the Second World War has had two results: (a) government intervention has increased; (b) voters have (increasingly) held the government responsible for the state of the economy as the electorate has come to realize that government *can* influence the economic process by acting on Keynesian principles. It therefore withdraws its support from the governing party when it is dissatisfied with the state of the economy and casts its vote for the opposition. Democratic governments, which depend on the voters' support in order to survive, are thus forced to maintain the economy in good condition. The government has become an *endogenous* part of the economic system.

The very success of Keynesian thinking has thus led to a transformation of the social system. The concept of circular flow consequently must be widened further to include the government, and economics must extend its analytic reach beyond the market.

THE NEW CIRCULAR FLOW

The basic model

The new circular flow which is the result of Keynesian thinking and policy may be represented in a simplified way as shown in Figure 1.

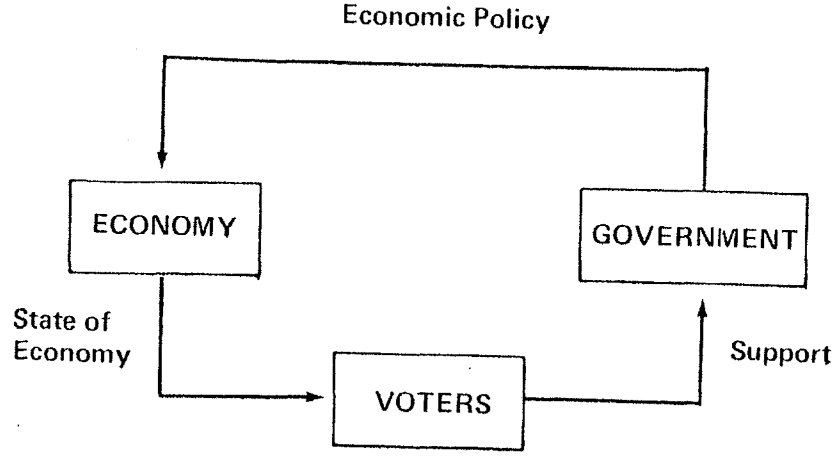

Figure 1

Basic outline of the politico-economic system.

In the simplest model, as depicted here, the circular flow goes from the economy, whose condition constitutes the basis for the voters' evaluation of government policy, back to the economy. Depending on the level of support given by the electorate, the government uses its policy instruments to influence the economy. Only part of the circular flow belongs to the market sphere. This corresponds to the Keynesian income-expenditure circular flow where government's consumption is measured by the value of the inputs instead of that of the output. Though "government support" is a noneconomic magnitude, it is quantitatively measurable.

Politico-economic models such as the one sketched above may be tested econometrically (or rather "politometrically"). The "new" circular flow thus follows the lead of the original Keynesian system that forms the basis of early, and even of most of the recent, econometric models. There are quite a number of different politico-economic models depicting the complete economic system or parts of it (in particular, the Phillips trade-off).[1] No account of the various approaches is intended here;[2] the objective is rather to give a taste of the underlying theoretical ideas and of some quantitative results, as well as of possible further developments.

[1] The best-known examples are the models by Nordhaus (1975) and MacRae (1977).
[2] A survey is provided elsewhere. See Bruno S. Frey (1978).

Theory and empirical estimates

The circular flow of politico-economic interdependence is composed of two main functional relationships. The first describes the influence of the economy on the polity by way of voters' evaluation of government policy ("evaluation function"); the second describes the way government uses its economic policy instruments to influence its reelection chances or to pursue its own goals ("policy function").

Evaluation function. The extent of support given the government by the electorate may be measured quantitatively either by actual election results ("vote function") or by regular sample popularity surveys such as those undertaken by Gallup-type opinion polls ("popularity function").

A great number of empirical studies suggest that, in the postwar period, the three main macroeconomic indicators (rate of unemployment, rate of inflation, and rate of growth of income) have had a significant effect on vote outcome and government popularity.[3] There are, of course, other influences on voting and popularity besides economic factors, such as the basic support the government party (or the president) receives from the voters independently of short-run economic fluctuations, or the typical popularity loss most governments seem to experience over their term in

Table 1

The Influence of Economic Variables on Government Popularity in Three Countries (quarterly data, in percent)

Economic variables	USA (1953-75)	UK (1959-74)	West Germany (1951-75)
Rate of unemployment	-4.2	-6.0	-0.9
Rate of inflation	-1.0	-0.6	-0.7
Growth rate of real disposable income	+0.4	+0.8	+0.4

Source: Frey and Schneider (1978a, 1978b, 1978c), Frey (1978). These studies give an exact definition of the variables and the specification of the equation, as well as the statistical significance.

[3]Due to differences in specification of the estimation equation, period and country considered, type of data used, and number of economic and noneconomic variables included, the results reached by various studies differ. Some major studies on popularity functions are Mueller (1970), Goodhart and Bhansali (1970); on election functions, Kramer (1971), Stigler (1973), Tufte (1975), Fair (1975), Bloom and Price (1975), Meltzer and Vellrath (1975), Goodman and Kramer (1975).

office. These influences are explicitly accounted for in the econometric estimates referred to here.

Foreign policy influences, scandals, etc., also affect votes and popularity, but empirical tests have generally shown that such influences may be subsumed under the stochastic error term.

Table 1 shows the (approximate) size of the influence on government popularity in three countries of the three economic variables indicated above. According to this table, in the United States an increase in the rate of unemployment of 1 percentage point (e.g., from 4 to 5 percent) leads, on the average, to a popularity decline for the president of approximately 4.2 percentage points (e.g., from 54.2 to 50 percent). A rise in the rate of inflation of 1 percentage point has a smaller effect: presidential popularity falls by about 1 percentage point. An increase in the growth rate of real disposable income makes voters more satisfied with the government, and a 1 percentage point income gain leads to a rise of 0.4 percentage point in the president's popularity.

A cross-country comparison shows that the results are similar for all three nations considered. Unemployment always has the largest (negative) effect on government popularity; the magnitudes for the influence of changes in the rate of inflation (or of growth) are also analogous in all three countries. The fact that the rate of unemployment has by far the largest effect on government popularity (at least for the United States and the United Kingdom) suggests that the preoccupation with unemployment typical of Keynesian economists (compared to, for example, the monetarists, who pay more attention to the rate of inflation) reflects the sentiments of most of the voters.

Policy function. The government is thus keenly aware that economic conditions must be favorable to the voters in order for it to survive. The politicians in power recognize that high unemployment is a major impediment to their reelection chances, but they do not fully realize the importance of the other two economic factors relative to unemployment. If they surmise that they will not be reelected, they are apt to undertake expansionary policies (i.e., increase public expenditures and decrease taxes) to reduce the rate of unemployment and to increase the rate of growth of real income. They expect that any accompanying induced increase in the rate of inflation will be so low that it will not greatly diminish their reelection prospects.[4] Moreover, the rise in inflation may occur (at least partly) in a subsequent election period so that the present government will discount its importance.

[4]It can be shown empirically that the typical combination of decreases in unemployment, increases in the growth of income, and increases in inflation in the United States leads to a rise in government popularity. See Frey and Schneider (1978a).

Table 2

Policy Function in Three Countries During the Postwar Period (Qualitative Results Based on Econometric Estimates with Quarterly Data)

	USA (1953-75)			UK (1962-74)			West Germany (1951-75)		
	Reelection expectations			Reelection expectations			Reelection expectations		
	Low	High		Low	High		Low	High	
Policy instruments		Democratic presidents	Republican presidents		Labour	Conservatives		Social Democrat dominated	Christian Democrat dominated
Government expenditures									
Exhaustive	+	?	-	+	(+)	(-)	+	+	-
Transfers	+	?	-	+	(+)	(-)	+	+	(-)
Taxes				-	(+)	(-)	-	-	-
Public employment	+	(+)	(-)		(+)	(-)	+	(+)	(-)

If a government is confident of winning the forthcoming election, it can indulge itself in pursuing a policy that conforms to its own ideological goals. Usually, it may be expected that "left-wing" governments then tend to increase, and "conservative" governments to decrease, public expenditures and taxes.

The specification of government policy functions not only distinguishes two states of the world (i.e., a state in which the party in power expects to be defeated, and a state in which it expects to win in the forthcoming election); it also takes into account a number of economic constraints that influence government behavior, such as the budget or balance-of-payments constraints.

Table 2 shows that these theoretical hypotheses are not refuted by the empirical evidence collected for the three countries over the postwar period. The empirical tests summarized in Table 2 suggest that when the government feels that its reelection chances are *low*:

— government expenditures (exhaustive and transfers) are invariably increased in all countries;

— taxes are reduced (this applies to the United Kingdom and Germany);

— public employment is increased.

The table also presents evidence that when the government feels that its reelection chances are *high*:

— "left-wing" governments (English Labour and German Social Democratic governments) tend to increase public outlays, taxes, and public employment (for U.S. Democratic presidents, the tests are inconclusive);

— "conservative" governments (U.S. Republican presidents, English Tory and German Christian Democratic governments) tend to decrease expenditures, taxes, and public employment (here the evidence is weak for the United Kingdom and Germany).

On the whole, the "new" post Keynesian circular flow of politico-economic interaction is strongly supported by the empirical evidence. The evaluation and policy functions both indicate that the government has become an endogenous part of the economic system.

EXTENSIONS OF THE BASIC MODEL

The circular flow model of the interdependence between the economy and polity sketched above covers only the most basic elements. It is in no way a full and accurate description of the many types of interaction taking place between the economic and political sectors. Such a highly simplified view may suffice for the analysis of some problems, but for others the model may have to be extended. Such extensions may be made in various directions. Again, no full account of all the possibilities is intended here; the objective is rather to demonstrate that such extensions are indeed feasible and

Source: See Table 1. + sign indicates that the respective economic policy instrument is increased; - sign, that it is decreased. (+) or (-) indicates that the corresponding parameter estimates are not statistically significant at the 95 percent level. ? indicates inconclusive results.

empirically testable, to provide an idea of how one might proceed, and to show the relationship of such extended models to Keynesian thinking.

One obvious direction is to differentiate the analysis of the two decision makers included in the model, i.e., the voters and the government.

The voters

It has always been an element of Keynesian thinking that, in order to understand the working of the economy and society, differences in behavior among income groups or "classes" must be taken into account. This idea stands, for example, behind Kaldor's and Pasinetti's breakdown of the savings propensities of wage earners and capital income recipients.

There have indeed been several studies (Thurow, 1972; Hollister and Palmer, 1972; Hibbs, 1975) that have attempted to measure the differential impact of changes in economic conditions upon various income groups. They have generally come to the conclusion that low income groups are particularly affected by rising unemployment, and high income groups by rising inflation. Government popularity among upper income groups may therefore be expected to fall more when the rate of inflation increases than when the rate of unemployment rises. The opposite can be expected to hold for lower income groups.

Table 3

The Influence of Unemployment and Inflation on Presidential Popularity for Six Income Groups, United States, 1969-75 (quarterly data)

		Percentage change in presidential popularity	
Income class	Annual income	Per 1% rise in unemployment rate	Per 1% rise in inflation rate
1	\$0 - \$2,999	-4.4	-1.0
2	\$3,000 - \$4,999	-4.7	-1.2
3	\$5,000 - \$6,999	-4.3	-1.4
4	\$7,000 - \$9,999	-3.6	-2.3
5	\$10,000 - \$14,999	-2.6	-2.3
6	\$15,000 and over	-1.8	-2.6

Source: See Schneider (1977) for information concerning data estimation and statistical tests.

This hypothesis has been tested for the United States using monthly popularity data for six different income groups. The differential influence of unemployment and inflation is presented in Table 3. This table shows that presidential popularity falls more heavily among low income receivers than among high income receivers when unemployment rises. A 1 percentage point increase in the rate of unemployment decreases the president's popularity by, for example, 4.7 percentage points in the case of income receivers earning \$3,000–\$4,999 (group 2), while the corresponding popularity loss is only 2.6 percentage points in the case of people earning \$10,000–\$14,999 (group 5). The reverse holds true in the case of inflation. When the rate of inflation rises by 1 percentage point, the low income receivers of group 2 react with a popularity decline of 1.2 percentage points, while the high income receivers of group 5 react with a popularity fall of 2.3 percentage points. The hypotheses derived above are thus supported by the empirical evidence, at least for the United States.

Government

The simple model presented here does not differentiate between the various actors within the public sector. For some purposes it may be important to analyze the behavior of the government (narrowly defined — that is, as a team of party politicians) separately from that of the public bureaucracy. The latter has goals of its own and acts quite independently of popular support. So far, no really satisfactory analysis of the behavior of the bureaucracy in the context of aggregate politico-economic models has been achieved.[5]

Another direction in which the "new" circular flow may be extended is to take into account additional decision makers, such as the central bank and interest groups. Such attempts are only in their very beginning stages. It has turned out to be extremely difficult to analyze the aggregate behavior of pressure groups, but some progress has been made in modeling and empirically testing the differential behavior of labor unions with respect to wage demands when there is either a "left-wing" or a "conservative" party in power (Hibbs, 1976; Gaertner, 1977).

Somewhat more progress has been made with respect to introducing the central bank into politico-economic models. Using data for Germany, it has been possible to show that the central bank (*Bundesbank*) cannot afford serious conflicts with the government even if it is formally independent. Rather, it chooses to follow government fiscal policy in cases of conflict, and otherwise pursues a policy that agrees with its "ideology," that is, an anti-inflationary, restrictive one (Frey and Schneider, 1977).

[5] The existing economic models of bureaucracy either are concerned exclusively with its internal functioning (e.g., Downs, 1967; Tullock, 1964) or deal with the relationship of particular bureaucratic entities with parliament (Congress) and government (e.g., Niskanen, 1975).

CONCLUDING REMARKS

In sum, the very success of Keynesian theory and policy has led to a new, extended circular flow with government as an endogenous element. The basic outline and some extensions of the resulting politico-economic model have been discussed, and it has been shown that the model may be tested quantitatively.

The endogenization of government policy in fact and theory also requires a new approach to the theory of economic policy. If government is an element of a closed loop of interdependence, pursuing its own goals and subject to a reelection constraint, it may no longer simply be told by outside observers (i.e., by professional government advisers) what it should do. Government advising must assume a more modest role, helping the decision makers — in particular, the voters — to exploit fully their right to express their wishes in the democratic process, and to propose arrangements favorable to all decision makers, with the hope that they will then be accepted in the political process.

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