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Working Paper

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Diskussionsbeiträge, No. 95

Provided in Cooperation with:

Department of Economics, University of Konstanz

Suggested Citation: Frey, Bruno S.; Kirchgäßner, Gebhard (1977) : A basic dilemma in democracy, Diskussionsbeiträge, No. 95, Universität Konstanz, Fachbereich Wirtschaftswissenschaften, Konstanz

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A Basic Dilemma in Democracy

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Nr. 95

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Nr. 95

Januar 1977

Ag 788 77
Wirtschaft
Kiel

Diskussionsbeiträge
des Fachbereichs Wirtschaftswissenschaften
der Universität Konstanz

C 76913

A Basic Dilemma in Democracy

In a recent article C. Duncan MacRae (1976) points to a basic dilemma in a democracy: The government is held accountable through periodic elections, but as - according to MacRae - the government's time horizon extends to the next election, only, a vote loss minimizing policy leads to a regular political business cycle of the length of one election period, which is from the electorate's view sub-optimal. It is suggested in the article that the electorate should use "strategic voting" in order to force the government to optimize social welfare by acting as if it were a benevolent dictator with infinite horizon, while still maintaining its period accountability. Optimal "strategic voting" is shown to consist in communicating to the government a preference for deflation and an increased value of this goal (compared to full employment) in the election period.

Though interesting, this approach contains a basic inconsistency. The electorate is assumed to "learn through experience, just as does the government" (p. 18) and to thus adopt (the rather complicated) "strategic voting". However, the model assumes that there is absolutely no learning with respect to inflation expectations. The economic trade-off (extended Phillips Curve) is

$$x_t = ax_t^e - bu_t + c \quad (1)$$

x_t is actual and x_t^e expected inflation, which MacRae assumes to be equal to past inflation x_{t-1} . u_t is the rate of unemployment at time t . This trade-off is left unchanged throughout MacRae's

whole discussion. The government thus minimizes the vote-loss function

$$J = \sum_{t=1}^N W(x_t, u_t) \quad (2)$$

(N are the member of years between elections) subject to (1).

Consistent behaviour would require that the electorate learns from (a) "economic" experience by taking past inflation x_{t-1} as an indicator of likely future inflation; as well as from (b) "political" experience, namely from the fact that the government produces political business cycles. Political experience tells the electorate that the government regularly brings about a particular inflation rate in each year of the election term. The politically based inflation expectation thus is equal to x_{t-4} (for an election period of four years).

An electorate learning at the same time from "economic" and "political" experience may base the "economic" part of its inflation expectations upon last year's inflation rate (x_{t-1}) compared to the corresponding one in the last election period (x_{t-5}).

A rational electorate's inflation expectation can thus be described by

$$x_t^e = \lambda x_{t-4} + \beta(x_{t-1} - \lambda x_{t-5}) ; \quad 0 \leq \lambda, \beta \leq 1 \quad (3)$$

Equation (3) subsumed four special cases:

- (I) exogenously given inflation expectations ($\lambda=0, \beta=0$);
- (II) MacRae's case of purely "economically" based expectations ($\lambda=0, \beta>0$);
- (III) purely "politically" based expectations ($\lambda>0, \beta=0$);
- (IV) both "economic" and "political" expectations ($\lambda>0, \beta>0$).

Table 1 and Fig. 1 show the optimal policies pursued by a vote loss minimizing government for each of these assumptions

about expectation formation. The optimal policies are derived by computer simulation. Fig. 1 presents the results for $\beta \in \{0,1\}$ and $\lambda \in \{0,1\}$. In this case the short and long run trade-off are the same as in MacRae's analysis.

TABLE 1: Government's vote loss minimizing policies

		"Political" Expectations	
		$\lambda=0$	$0 < \lambda \leq 1$
"economic" expectations	$\beta=0$	Long-run socially optimal equilibrium (A)	Equilibrium (C)
	$0 < \beta \leq 1$	MacRae's Political Business Cycle (B)	Modified Political Business Cycle (D)

The long-run socially optimal equilibrium (A) and the steady-state political business cycle (B) are explicitly derived by MacRae (see also the similar models by Nordhaus, 1975, Lindbeck, 1976, and in unspecified form Lau and Frey, 1971). Equilibrium (C) resulting from purely "political" expectations corresponds to MacRae's (and Nordhaus') short-run equilibrium in the election year. Due to the absence of a link between current and one year lagged inflation ($\beta=0$), this combination of (x_t, u_t) will be maintained by the government indefinitely. The political business cycle (D) in the case of consistent expectation formation is similar to the (more naive) cycle as derived by MacRae and Nordhaus - a perhaps somewhat surprising result.

The basic democratic dilemma as posed by MacRae thus cannot be solved just by assuming that the voters include the politically induced inflation cycles into their expectation formation. There

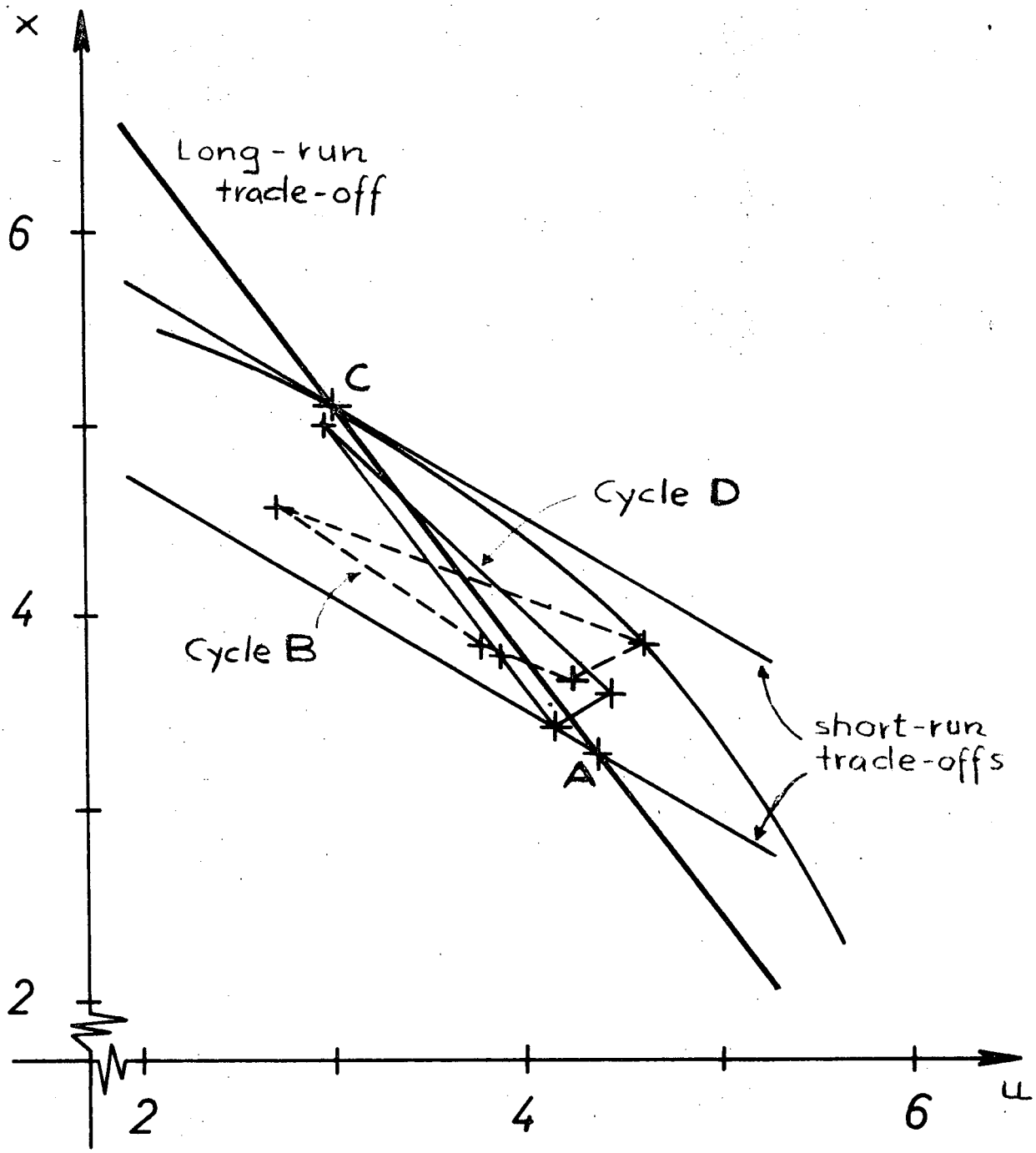


Fig. 1: Equilibria and Cycles Produced by Government Policy

is a need for strategic behaviour by the electorate. The type of sophisticated voting suggested by MacRae, however, has the disadvantage of being extremely complicated and unrealistic. Socially optimal government behaviour can be induced by a much more straight-forward procedure. As the voters are (following MacRae) informed about the trade-off faced by government, they also know the socially optimal values for inflation x^* and unemployment u^* . Instead of negatively evaluating deviation from $x=0$ and $u=0$, they can simply do so for deviations from the optimal values x^* and u^* . A vote maximizing government confronted with the (changed) evaluation function

$$J^* = \sum_{t=1}^N W(x_t - x^*, u_t - u^*) \quad (2)^*$$

will pursue a policy of strictly maintaining the socially optimal values, because any deviation from this position at any point of time during the election period will result in a vote loss at the next election. The generation of a political business cycle is no longer advantageous for the government. Contrary to MacRae's proposition, this type of strategic behaviour does not require a sudden and rather sophisticated shift of the evaluation function in the election year and, therefore, seems to have a better chance of solving the basic dilemma.

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