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Economic Stabilization in Planned Economies:
Towards an Analytical Framework

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I. Introduction

This paper seeks to advance the development of an analytical framework for understanding and monitoring macroeconomic stabilization programs in planned economies. It builds on the comprehensive review of adjustment in planned economies by Allen (1982) and on other recent research. The paper does not elaborate a formal macroeconomic model of a planned economy. The intention is rather to highlight the key differences between planned and market economies regarding: (1) the sources of macroeconomic disequilibrium, (2) the transformation and propagation of such imbalances, and (3) the instruments available to the authorities for achieving internal and external balance.

The term "planned economies" in this paper essentially refers to those European countries that are members of the Council for Mutual Economic Assistance (CMEA). 1/ It is likely, however, that many and possibly most of the key characteristics of the CMEA members' economic systems are shared by other economies that might be generally regarded as "planned." The paper argues that economic activity in all the "planned economies" considered here can only be properly understood in the specific historical and institutional context in which they have developed. Specifically, each of these economies has evolved to a greater or lesser degree over the past 25 years from a "classical" centrally planned economy (CPE). As a stylized model, the CPE continues to be appropriate in understanding perhaps the majority of the European CMEA countries. The stylized CPE is analyzed in some detail in Sections II through IV.

In other planned economies certain key characteristics of the CPE have been altered, and for that reason these countries are referred to here as "modified" planned economies (MPEs). Because these economies retain certain essential features of the CPE, however, and because the functioning of even the modified mechanisms is usually deeply influenced by the institutions, policies and practices developed earlier in the CPE context, the MPE as a stylized model is not considered until Section V. A summary and conclusions and some suggestions for future research are presented in Section VI.

II. Distinctive Features of the Centrally Planned Economy

The CPE economic system is characterized by: (1) state ownership of the means of production; (2) detailed central plans (which may or may not be exactly met) for enterprise inputs and outputs and for foreign trade;

1/ Those countries are Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania, and the Soviet Union.

(3) financial plans that mirror the physical flows embodied in the quantitative plans; (4) information flows and bargaining, over plans and actual access to resources, which occur mainly in a bureaucratic (vertical) rather than market (horizontal) setting; (5) rigid prices set by the center so as to facilitate quantitative planning and evaluation; (6) plan fulfillment rather than profits as the main enterprise evaluative criterion; (7) a relatively free labor market, but wages that are (in principle) regulated closely from the center; (8) a monolithic state banking system ("monobank") with no fractional-reserve banking; and (9) a dichotomized money supply, whereby household and enterprise money stocks are strictly separated.

Major policy goals in a CPE have typically included rapid economic growth fueled by high rates of industrial capital accumulation and growth in the industrial labor force, retail price stability, downward stickiness in money wages, job security, and severe limits on earnings differentials. Given the various systemic and policy factors in CPEs that imply relative rigidity of prices (including wages, interest rates, and both producers' and retail commodity prices), it would be expected that the authorities' short-run responses to demand or supply-side disturbances would tend to stress quantity adjustments. Because of the investment good priority and the strong bargaining position of enterprises (relative to that of consumers) in dealing with the government, these quantity adjustments are likely to impinge, at least in the early stages, mainly on households and the balance of trade.

1. The money supply

An oft-cited distinctive characteristic of the CPE is the dichotomized money supply. One aspect of this separation refers to the form in which money is held. On the one hand, inter-enterprise payments are made almost exclusively on the basis of drafts drawn on deposits at the monobank. Net enterprise deposits may increase by virtue of net subsidies from the government, credits from the monobank, an increase in the trade balance denominated in domestic prices, and net sales to the household sector. 1/ In the latter case currency is received which, except for enterprise currency holdings required for the payment of wages and salaries, must be exchanged at the monobank in return for an increase in enterprise deposits. Households, on the other hand, are permitted to hold financial assets only in the form of currency or savings deposits at branches of the monobank. These deposits normally bear only a very low nominal rate of interest. Other interest-bearing financial assets are usually of negligible importance. Household financial transactions are mainly carried out in currency.

1/ So-called "enterprise reserve funds" are considered here, for simplicity, as a form of enterprise "deposit".

The money supply is further dichotomized in the sense that although excessive liquidity among enterprises can spill over into excess household holdings of money, lending between the enterprise and household sectors is largely prohibited. There is no mechanism by which, say, an excess supply of money holdings in the household sector can be eliminated by lending directly or indirectly to enterprises. In a market economy excess household money can be eliminated through some combination of a reduction in the labor supplied (thus lower incomes), increased expenditure on goods and services, and purchases of bonds (issued in part by enterprises) with an accompanying fall in the nominal interest rate, which in turn lowers the opportunity cost of holding money and hence raises the demand for money balances. In the CPE, households are restricted either to reducing their incomes or increasing expenditure on goods and services.

Close bank monitoring of enterprise deposits in the classical CPE is normally thought to ensure that excess enterprise liquidity is kept to a minimum. 1/ It shall be seen later, however, that if enterprises face a "soft" budget constraint, the consequences for macroeconomic disequilibrium may be similar to those encountered when enterprises initially have an excess supply of money. The conventional wisdom, among many CPE economists and most "western" analysts of these economies, is that households in CPEs typically do have an excess flow supply of money, which is the counterpart to a chronic excess demand for consumer goods. This presumption has been most significantly debated by Portes, in a series of theoretical and empirical articles. 2/ Using various disequilibrium estimation techniques, Portes and his collaborators reject the hypothesis of sustained excess demand in the market for consumption goods in four planned econmies (Czechoslovakia, the German Democratic Republic, Hungary, and Poland) and indeed claim to find evidence of excess supply regimes prevailing in a number of years (Portes and Winter (1980)). Until now, however, these results have met a rather skeptical audience among most other analysts of planned economies.

Although the presumption of a chronic excess flow supply of household money in CPEs remains debatable, it is noteworthy that Portes' own work does detect a number of periods of excess household liquidity alternating with some years of excess household money demand (as well as with many "equilibrium" periods). At a minimum the implication is that the common assumption made for market economies, that the money market tends to be in flow equilibrium, may not in general be appropriate for the CPEs.

1/ This control over enterprise liquidity is clearly less stringent in other planned economies, such as Yugoslavia.
2/ See, for example, Portes and Winter (1978, 1980) and Portes (1979).

Thus a typical assumption in financial programming, that the ex post change in the money supply will be related systematically to changes in real income and the price level, cannot safely be made for the CPE. [1]

To say that households in the CPE may frequently be in disequilibrium does not necessarily mean, however, that the household demand for money is not a stable function in these economies. Portes (1981) argues that if anything velocity may be more stable in CPEs than in market economies because of the insignificant role played in the former by interest-bearing financial assets as substitutes for money. But the probability or at least the possibility of frequent household disequilibrium does raise the question of how to specify correctly the household money demand function in a CPE.

Equation (1) relates the flow supply of household money (ΔM_h) to the household financial flows associated with incomes, net transfers, borrowing and retail expenditures:

$$(1) \quad \Delta M_h = WN + T + \Delta DC_h - P_c Q_c$$

Here W is the average nominal wage rate, N represents the level of employment, T denotes net government transfers to households, ΔDC_h is the change in gross credit extended to households, P_c is the (composite) price of consumption goods and Q_c is the quantity of goods actually purchased by households from the socialized enterprise sector.

Most academic literature dealing with the determinants of household money holdings in CPEs concentrates on the flow variables on the right-hand-side of equation (1). In most analytical models, net budgetary transfers and bank credits to households are ignored for simplicity, and attention is focused on the relationship between money wages and nominal consumption spending, or on the real wage relative to the growth of real consumption. In the most elaborate analytical macro-model of a CPE, Portes (1979) indeed selects the real wage as one of the two main "instruments" which the authorities use to maintain external and internal balance.

While it seems reasonable to regard net government transfers and mono-bank credits to households as "instruments" available to the macro-economic authorities in a CPE, wages and consumption must be more realistically

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[1] Of course this assumption may be unwarranted for many market econo-mies as well.

envisioned as <u>intermediate targets</u>. Aggregate money wages are a function of both the average money wage and the level of employment, and nominal consumption has both real and price components. Only the schedules of (official) prices and wage rates can really be considered as instruments under the direct control of the center.

With respect to wages, enterprise wage bill plans and/or planned average wage rates are assigned directly by the center to enterprises in the CPE. Typically the wage bill is related to the planned growth in productivity and to the degree of plan fulfillment. But slippage may occur in a number of ways, including above-plan wage payments to piece-rate workers who overfulfill the plan, enterprise manipulation of performance or efficiency norms in order to inflate bonuses, unplanned "upgrading" of individual job descriptions to justify higher wage rates, and bank accommodation of above-plan wage payments by enterprises that must "storm" to meet production goals. <u>1</u>/ Given differential wage-rates across industries, short-run shifts in production priorities or over the longer-term in the mix between producers and consumption goods can also have an important impact on the average wage and on the growth of the real wage relative to real consumption opportunities (Kucharski (1983)).

The planners attempt to control enterprise employment through employment plans, the enterprise wage bill and various efficiency norms, but endemic excess demand pressures in the enterprise sector (more on this later) and the tendency to hoard labor may lead to aggregate employment growth that exceeds the plan. Adam (1980) argues that the planners' inability to contain employment growth has historically been a more important source of excessive growth in wages than has the inability of the center to limit the average wage.

Retail prices in state stores and cooperatives are typically tightly controlled and held rigid for long periods in most CPEs. Prices on the collective farm markets for agricultural products and some other markets are not centrally fixed, however, and within the socialized sector many price increases take place that are not reflected in official price statistics. <u>2</u>/ Typically, many products will also be resold at higher prices on the black market. To the extent that retail prices are in general increasing more rapidly than the official retail price index, real consumption and real money balances may, of course, be growing at a slower rate than suggested by official statistics. At the same time, relatively rapid growth of real transactions in the unreported "second economy" would give a downward bias to official statistics on real consumption growth.

1/. See Adam (1980).
2/ See Winiecki (1982) for some examples.

Although the output of consumer goods is nominally under the control of the planners, it is ultimately decided at the enterprise level. Enterprise decisions will, of course, be heavily influenced by the higher authorities, who determine the incentive rules regarding plan fulfillment, have the power to directly intervene to ensure that certain enterprises receive scarce inputs, and control real foreign trade flows. These rules and directives are the real "instruments" here; the quantity and assortment of consumer goods supplied are essentially targets.

In sum, the flow variables on the right-hand side of equation (1) in effect determine the so-called "balance of money incomes and expenditures of the population" in CPEs. The authorities' control over this balance, however, is at best indirect and incomplete, and is based on manipulation of a number of instruments, ranging from wage rates and price schedules to performance norms, detailed wage bill plans and direct supply interventions.

The "monetary approach" to the balance of payments reminds us, however, that all the price and quantity adjustments associated with the right-hand side of equation (1) also have their monetary counterparts. This is seen by rearranging the standard monetary definition of the balance of payments so that the change in household money holdings is set equal to the sum of the change in the banking system's net claims on (or change in net credit extended to) the government and enterprise sectors (ΔNDC_g and ΔNDC_e, respectively), the change in gross claims on (change in gross credit extended to) households (ΔDC_h) and the change in the banking system's holdings of net international reserves (ΔR): [1]

$$(2) \quad \Delta M_h = \Delta NDC_g + \Delta NDC_e + \Delta DC_h + \Delta R$$

The complexity of instruments and targets implicit in equation (1) seems to disappear here, as the problem of controlling changes in household liquidity appears to be only a matter of establishing a ceiling on the domestic banking system's net accumulation of claims. In effect, net household hoarding ($\Delta M_h - \Delta DC_h$) is equal to the combined dishoarding of government and enterprises plus the net accumulation of claims on the rest of the world. This identity conceals, however, a somewhat more complicated real world, as will be illustrated in Section III.

2. The foreign trade sector

In the CPE there is effectively a state monopoly of foreign trade. The planners' direct controls over trade are buttressed by exchange

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[1] Net domestic assets, as conventionally defined, would equal ΔNDC_g plus ($\Delta DC_e + \Delta DC_h$).

control. The authorities therefore have complete control over ΔR,
the change in net international reserves, subject to the foreign currency
prices of tradeables, foreign quantitative restrictions on either exports
or imports, and the supply of credit available abroad.

The official exchange rate typically has little economic function in
the classical CPE, because real trade flows are usually administratively
determined independently of domestic prices. Even were domestic relative
prices, which often do not correspond to real scarcities, to affect
foreign trade decisions, a change in the exchange rate would still have
little effect because in the classical CPE there is no direct link between
the exchange rate and domestic prices. (The exchange rate therefore has
no impact on domestic real balances, the real wage, or relative prices,
all of which serve as potential means by which changes in the exchange-
rate may affect internal and external balance in a market economy.)

This is not to deny that the official exchange rate in the CPE may
have some small impact on real trade flows. Zakharov and Shagalov (1982)
in effect suggest that in the Soviet Union, for example, the state-owned
foreign trade organizations (FTOs) take an interest in the prices that
enter into their profit calculations and that these calculations may well
affect real trade flows. This is because the emergent real foreign trade
plan is in part determined by the information provided and proposals sub-
mitted by the FTOs. That the profit interests of the FTOs have only a
negligible, if any, effect on Soviet real trade flows, however, is sug-
gested by evidence in Wolf (1982) that Soviet real exports to the West
in the 1970-78 period were reduced ceteris paribus as export prices in
valuta (i.e., foreign currency prices converted at the official exchange
rate) increased. As will be discussed at some length in Section V,
whether changes in the exchange rate can play an adjustment role in
planned economies depends on the broader context of price formation and
enterprise decision-making in such economies.

Although employee bonuses in FTOs may be at least partially based on
FTO "profits," their profits (losses) are essentially taxed away (subsi-
dized) by the financial authorities by a process called "price equaliza-
tion." The net price equalization tax (subsidy) in a CPE may be substan-
tial because of significant distortions between domestic and foreign
relative price structures. As shown in Wolf (1980a), the difference be-
tween the trade balance denominated in foreign currency prices converted
at the official exchange rate (i.e., the so-called valuta balance) and
the trade balance denominated in actually prevailing domestic prices, is
accounted for by the net profits of the FTOs:

(3) $\quad B_T' = B_T + F$

where B_T' and B_T are the <u>valuta</u> and domestic-price trade balances, respectively and F is the net foreign trade profit of the FTOs.

If there are no net capital flows with the rest of the world other than those accommodating a trade imbalance, equation (3) will also equal the CPE's change in net international reserves (ΔR). As with a market economy, a change in net international reserves need not imply net hoarding or dishoarding in either the enterprise or household sectors. 1/ For example, a loss of reserves could be just equal to government subsidization of FTO losses in foreign trade. In terms of equation (3), in this case $B_T = F$ (<0); and this would be equal to the increase in the banking system's credit to the government to finance subsidization of the FTO losses. Put still differently, in this case enterprise plus household hoarding would be zero, and the decline in reserves would be equivalent to net government dishoarding.

Special care should be exercised in calculating the ratio of a CPE's trade balance to its national product and making implicit comparisons with such ratios calculated for market economies. One problem is that the Net Material Product (NMP) concept used by most CPEs will typically yield a lower figure for national product, and therefore a higher calculated normalized trade surplus (deficit), than would GNP calculations according to the United Nations' System of National Accounts (SNA) methodology. 2/ Furthermore, some CPEs account for foreign trade according to the so-called "Soviet" methodology, which departs from the standard SNA approach, and which under certain circumstances could bias the calculation of GNP from the SNA standpoint. 3/

III. Sources and Symptoms of Disequilibrium

1. Supply-side disturbances

By way of illustrating the complexity of the adjustment problem faced by CPE authorities in the event of an exogenous disturbance, consider the case in which they have worked out with the enterprises physical and financial plans that establish, inter alia, a planned growth in

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1/ See Wolf (1978).
2/ This issue is explored in depth in Marer (1984).
3/ See Wolf (1984) for details.

household liquidity.. By equation (2) we see that the planned increase in net household liquidity ($\Delta M_h - \Delta DC_h$) will be equal to the combined planned change in net credit extended to the government and enterprise sectors plus the planned increase in net international reserves ($\Delta NDC_g + \Delta NDC_e + \Delta R$).

Now consider an adverse supply shock that reduces the domestic supply of an important intermediate input.. Assume that this input is widely used in the production of both producer and consumer goods. A brief taxonomy of the basic options facing the authorities will be instructive. One way of classifying these options is to ask whether enterprises will be subject to what Kornai (1979) has called "hard" or "soft" budget constraints. A "hard" constraint in this case means that the authorities will not accommodate increased above-plan enterprise demands for credit or subsidies. If the constraint is "soft," and Kornai argues that this is typical of planned economies, such accommodation will be forthcoming.

The taxonomy of policy options can be best envisaged by defining equations (1) and (2) for both actual and planned values of each variable, subtracting the latter from the former and indicating the difference with a prime, and finally setting equal the right-hand sides of the resulting equations and simplifying:

$$(4) \quad \Delta NDC_g' + \Delta NDC_e' = (WN)' + T' - (P_c Q_c)' - \Delta R'$$

Here a primed value for a variable greater (less) than zero reflects an actual value above (below) that in the plan. For simplicity, we shall for the time being assume that inter-enterprise credits are either prohibited or not possible because all enterprises are constrained to maintain deposits at a bare minimum. 1/

The "hard" budget constraint means that equation (4) is equal to zero. Enterprises in effect are forced to manipulate the prices and quantities under their control so as not to exceed their planned levels of borrowing and subsidies and to maintain their planned level of deposits at the monobank. In this case household liquidity will also not expand by more than the planned amount. Essentially three possibilities exist, but all three responses could be partially pursued in combination.

First, the planned output of consumer goods could be produced ($Q_c'=0$), with the full output effect of the reduced inputs falling on investment. Second, consumption goods output could bear the full amount of the cutback

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1/ Actual net transfers to households are also assumed to be equal to their planned value, for simplicity.

$(Q'_c < 0)$, but a buildup in household liquidity and decline in enterprise deposits could be avoided by consumer goods producers cutting back their wage bills by the full value of the shortfall in production $(WN)' = (P_c Q_c)'$. This would involve a reduction in average wages, employment, or both. Third, these same producers could instead be permitted to increase prices on their actual output by an amount necessary to maintain their revenues at the planned level despite the fall in real deliveries of consumer goods $P'_c Q_c = - P^p_c Q'_c$, where subscript "p" refers to the planned level.

Basically three possibilities exist in the "soft" constraint case as well. The first two involve permitting enterprises to expand imports of intermediates and/or finished goods above, or to reduce exports of these products below, planned levels. In terms of equation (4) this involves above-plan deterioration in the _valuta_ trade balance $(\Delta R' < 0)$ that is just offset by some combination of above-plan government subsidies or bank credits to enterprises $(\Delta NDC_g + \Delta NDC_e) > 0$. The net result is no change from the planned increase in the household money supply. Only in the third case does an above-planned increase in household liquidity occur. Here the entire output decline takes place in consumer goods $(Q_c < 0)$. Money wages and employment are maintained at the planned level, prices remain fixed, and households accumulate a greater than planned amount of money. Enterprises are able to replenish their deposits, which are below planned because of reduced revenue from the sale of consumer goods, by increasing their borrowing from the monobank or receiving higher subsidies from the government $(\Delta NDC'_g + \Delta NDC'_e > 0)$.

We have heretofore assumed that enterprise deposits at the monobank will be maintained at their planned level regardless of the particular pattern of adjustment to the disturbance. There is the possibility, however, that enterprise deposit velocity may increase, as can easily be seen by rearranging equation (4) as (4a):

$$(4a) \quad (\Delta NDC'_g + \Delta DC'_e) - \Delta M'_e = (WN)' + T' - (P_c Q_c)' - \Delta R'$$

Here $\Delta DC'_e$ and $\Delta M'_e$ refer to unplanned increases in monobank credits to enterprises and in enterprise deposits, respectively.

Suppose that in response to the supply disturbance it is determined that resources will be directed from consumption goods output without accompanying increases in retail prices and/or wage reductions designed to prevent the accumulation of excess household liquidity. Rather than being financed by above-plan bank credits, as earlier, enterprises as a group might be able to finance the diversion by reducing their gross

deposits ($\Delta NDC_g' + \Delta DC_e' = 0$, and $\Delta M_e' = (P_c Q_c)' < 0$). This could occur through a general economizing on enterprise deposits or by means of increased interenterprise credits extended by firms happening to have excess liquidity to those faced with cutbacks in domestic sales of consumption goods. Clearly, then, above-plan gross credit extension by the banking system is not a necessary precondition for an above-plan increase in household saving and/or deterioration of the trade balance.

Several observations would appear to be in order. First, the distribution of adjustment among the different right-hand side variables in equation (4) will depend on a complex of economic and institutional factors as well as policy considerations. For example, whether actual wages deviate from planned will depend on the degree of slack inherent in the system of wage regulation, the scope for changing levels of employment, and policy judgments made by both the center and enterprises with respect to the average wage and job security. Whether net government transfers to households can be permitted to differ from planned levels is again a policy judgment, and one with significant distributional implications. The scope for deviations from the planned value of sales of consumption goods is a function of the precise system for the setting of retail prices, judgments as to the extent of disequilibrium existing in this market and its political consequences, and the substitutability of the particular intermediate input in question as between the production of investment and consumer goods. The latitude for above-plan deterioration in the country's international reserve position will be determined, inter alia, by the substitutability of foreign and domestic sources of the intermediate input and, possibly, by the availability of foreign credits.

Second, a policy of holding to planned net credit ceilings in the face of adverse supply shocks may well be incompatible with historic CPE policies regarding the priority of investment, downward stickiness in money wages, job security, and maintenance of retail price stability. In the event of such shocks the accommodation of above-plan subsidies or credits to enterprises may not reflect so much a lack of toughmindedness on the part of the financial authorities in their individual negotiations with enterprises, as a sober recognition of the political reality that certain socio-economic policies have to be accommodated.

Third, if a "hard budget constraint" stance is to be followed in such circumstances, a number of difficult decisions must be made by the enterprises, in close collaboration with the authorities, regarding the distribution of adjustments as between cutbacks in real investment and consumption spending, lowered money wage rates, employment reductions and price increases. Given the complexity and time involved in making such decisions in the context of classical central planning and hierarchical bargaining, a tendency to avoid the problem (at least temporarily) by accommodating the subsidy and credit demands of enterprises and

permitting the development of imbalances in the consumer and foreign trade sectors is understandable. We might therefore expect market economies to reach a new general equilibrium following a supply shock much more quickly than do CPEs, although whether they in fact do is an empirical question.

2. The investment cycle

It is demand-side rather than supply-side disturbances, however, that are probably most qualitatively different as between market and planned economies. In this connection it is noteworthy that while Western analysts of CPEs have tended to examine the implications of and instruments for eliminating disequilibrium on the market for consumption goods (see the next section), many contemporary CPE economists have focused on the sources and perpetuation of disequilibrium within the enterprise sector. In particular, there is now an abundant literature regarding so-called "investment cycles" in these economies, and many believe that such cycles are the primary cause of changing degrees of imbalance in the consumer and foreign trade sectors.

Giving a major role to investment in seeking to explain macroeconomic fluctuations in CPEs is certainly consistent with the historical priority which planners have attributed to investment in these economies. It is not obvious, however, why there should be investment "cycles" in a planned economy. But just as it is important when studying, say, the causes of inflation in market economies, to understand why the authorities may feel compelled to increase the money supply at excessive rates, so it is critical to our understanding of macroeconomic fluctuations in CPEs to attempt to comprehend why and how excess demand pressures may originate in those economies. There are a number of theories regarding investment cycles in CPEs; 1/ our discussion must be brief and therefore will be rather eclectic.

Consider a planned economy with two composite goods--an investment (I) and a consumption good (C). In Figure 1 is drawn the production possibilities frontier for this economy, with operation on the frontier assuming both full employment of resources and their most efficient utilization. Imagine that this economy, a price-taker, faces external terms of trade equal to q*. Were it to trade so as to equalize the domestic rate of product transformation and the terms of trade, it would produce at point P*. With production at P* the real wage in terms of the consumption good would be equal to OW* on the C-axis.

1/ Important discussions of the investment process and cycles in planned economies include Bauer (1978), Goldman and Kouba (1969), Kornai (1982), Tyson (1983), and Winiecki (1982).

Figure 1.

C^d (w, M_h/P)
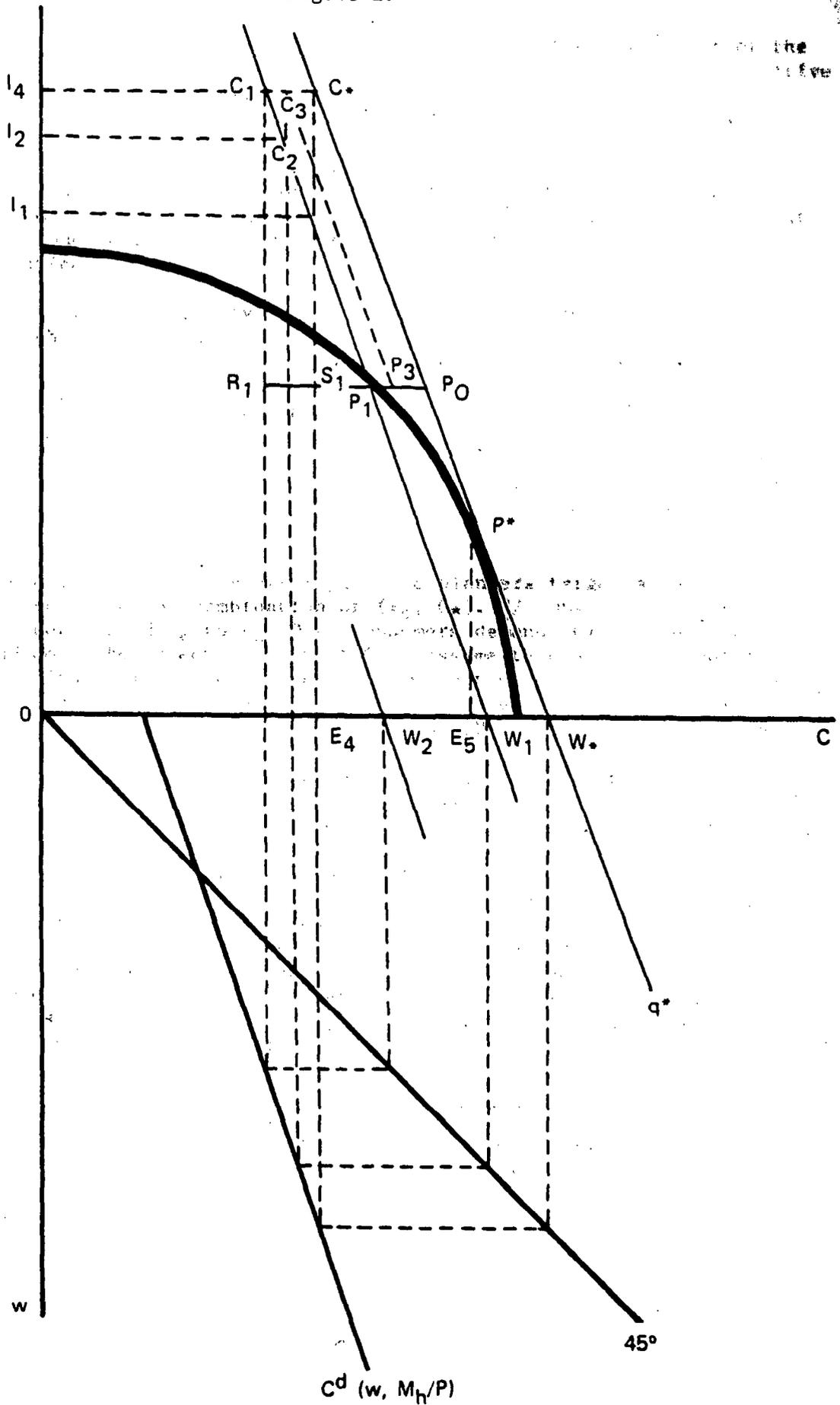
Using the simple consumption function drawn in the lower part of the diagram, where the demand for consumption goods is assumed to be a positive function of both the real wage (w) and real money balances (M_h/P), we can find the amount of the consumption good demanded at each real wage. Thus at real wage OW_*, OE_4 of the consumption good is demanded. The balance of domestic production of this good (E_4E_5) would be exported at terms of trade $q*$ for imports of the investment good, with the domestic consumption mix of the two goods (OE_4 and OI_4) indicated by point C_*. In this case consumers are in equilibrium and trade is balanced in foreign currency prices.

Imagine that in reality the planners pursue an import substitution policy which causes production to take place on or within the production frontier to the northwest of P_*. We will now consider two types of plausible investment cycles. The first might be associated with the phenomenon of "over-full employment planning." This is a way of describing the perceived tendency of planners in many CPEs, particularly in the 1950s, consciously to set overly-taut plans with the belief that in this way, although all sectoral plans would not be fulfilled, aggregate output would be maximized and plans in the priority sectors might even be fulfilled or over-fulfilled. 1/

Assume that in the five-year plan the planners target an annual production-consumption combination of (P_0, C_*). 2/ Observe that at the real wage corresponding to P_0, OW_*, consumers demand OE_4 of the consumption good, and would be in equilibrium at C_*. Assume that actual output in the first plan period takes place at P_1, with the full output shortfall affecting the consumption good. The planners are still intent upon fulfilling the investment plan, however, so R_1P_1 of the consumption good is exported for C_1R_1 of the I-good, leaving excess demand for the C-good equal to C_1C_*. The basic alternative to disequilibrium in the household sector in this case would be to maintain consumption at the planned level by exporting only S_1P_1 of the C-good and incurring a trade deficit of P_1P_0.

Assuming for simplicity of exposition a stationary economy, consider that production in the second year of the plan also takes place at P_1. If balanced foreign trade were achieved in the first period at the expense of consumer disequilibrium, presumably consumer demand in the second period would be even greater than the amount indicated at the real wage OW_*, as households attempt to unload part of their excess holdings of money. Thus the function $C^d(w, M_h/P)$ would shift to the right and the new desired consumption point would be to the right of C_* in the upper part

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1/ See Hunter (1961) and Holzman (1966).
2/ Chung (1976) illustrates over-full employment planning by an (imagined) outward shift in the production possibilities frontier.

of the diagram. In effect, consumer excess demand would now be greater than C_1C_*. At the same time, if the supply of labor were positively related to actual consumption in a period of excess consumer demand, the production point would shift inside the frontier, reinforcing the disequilibrium situation. 1/

At some point the planners might be moved to reduce investment spending so as to eliminate all or most of the excess demand for consumption goods. We could imagine them allowing investment to decline to OI_1 (or even further), in order to eliminate the household liquidity overhang. This could be (but historically was seldom) accompanied by some combination of wage reductions and price increases which would lower the real wage and shift in the household budget line, which in turn would move consumption demand to the left. Although the authorities might scale down investment enough in the following periods so as effectively to eliminate the household disequilibrium, it is difficult to imagine them significantly "overshooting" in this respect, given the clear priority attributed to investment goods. Yet it is precisely this type of overshooting that must occur, at least in the context of an "investment cycle" explanation of disequilibrium, in order to produce the "excess supply" periods empirically identified by Portes and Winter (1980). Once essential balance (or a tolerable imbalance) is reestablished in the household and foreign sectors, the authorities might be willing to reembark on an over-full employment strategy.

Most close observers of planned economies view the phenomenon of over-full employment planning as a historical curiosity symptomatic of the earliest years of central planning and the rapid drive towards industrialization in these countries. But while many CPE economists might now dismiss the relevance of over-full employment planning as such, they find little if any evidence for the disappearance of investment cycles. The more contemporary explanations of investment cycles are not inconsistent with the overly taut planning approach. Indeed, it is likely that even in the earlier periods of central planning the same basic forces said to determine contemporary investment booms in CPEs were at work. Advocates of the investment cycle approach in fact argue that it is precisely the lack of fundamental change in these systems over the past two decades that explains the persistence of CPE investment cycles.

The newer approaches emphasize the continued importance of rapid economic growth as a goal of the planners, and their continuing implicit preference for investment goods. At the same time, the planners may be more sensitive now to the problems created by excessive liquidity in the household sector and they are more reluctant than before (with some notable exceptions) to overheat the domestic economy. It is argued that

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1/ See the discussion of household disequilibrium in the next section.

enterprises clearly recognize the preferences of the leadership, as well as its intention to formulate less taut plans. Because they perceive that output growth in general and plan overfulfillment in particular continue to the the main de facto criteria for evaluating enterprises, managers and their supervisory ministries will behave in effect like output maximizers. They will hoard labor and other inputs and will seek to expand output, not through product or process innovations that might slow or temporarily halt production, but by relatively low-risk new investment projects. The enterprises are seen as having an excess demand for investment goods (and intermediates) that is accommodated financially by the authorities to some extent (the "soft" budget constraint), but which is never satiated because there are limits (essentially, the imbalance that is tolerable in the household and foreign trade sectors) to this accommodation. In this view, the source of this enterprise excess demand for investment is not an excess supply of enterprise liquidity but the implicit criterion of output maximization. 1/

There is an insidious aspect to the investment cycle under these conditions because the enterprises, recognizing the reluctance of the planners to overheat the economy, but having in mind principally their own interests, may consciously understate the full cost (to be spread over several years) of individual investment projects. The object is to get each of the projects approved and the necessary sums appropriated for their commencement. The assumption is that once the projects are approved the authorities will increasingly find it difficult to stop annual appropriations before they are completed. 1/

We may imagine a five-year plan in effect being negotiated between the center and the enterprises whereby annual output is set at P_1 in Figure 1. At the real wage OW_1 corresponding to P_1, consumers will be in equilibrium at C_2, which is the planned consumption point. Planned trade is also balanced.

The plan might be essentially met in the first period, but the "investment cycle" proponents argue that by the second period the excessive nature of the enterprise investment needs emerge. Rather than being content with investment of OI_2, enterprises press the authorities to accommodate investment of OI_4. The authorities have essentially three choices (or combinations of them). One is to combine the refusal to extend above-plan credits or subsidies to the enterprises with a prohibition against wage reduction or price increases on consumer goods. Assuming for the time being that enterprises have no initial excess liquidity, this policy.

1/ For significantly more detailed and nuanced presentations of such views, see Bauer (1978) and Kornai (1982).
2/ See Bauer (1978) and Winiecki (1982).

in effect keeps them from diverting resources from consumption into invest-
ment or from applying for above-plan import licenses. In equation (4),
$(\Delta NDC_g + \Delta NDC_e) = 0$, and the economy remains at C_2.

A second policy would be to refuse new credits or subsidies but to
permit enterprises to finance the diversion of resources by means of wage
reductions and price increases $((WN)' < 0$ and $P_c > 0)$. The real wage would
decline, but in our diagram observe that it must fall to OW_2 to induce
enough of a decline in consumption demand to put households in equilibrium
at C_1. Finally, the authorities could simply permit the budget constraint
to be "soft" and finance some combination of increased imports $(\Delta R' < 0)$
and diversion of resources from consumption $(Q_c < 0)$ while adhering to
the wage plan and fixed retail prices. Extreme versions of this third
case would be consumption at C_1 with balanced trade but excess household
demand for the consumption good of C_1C_3, or consumption at C_3 (thus no
household disequilibrium) with the entire disequilibrium falling on
foreign trade (a deficit equal to P_1P_3). Bauer (1978) and others have
found considerable evidence of what he calls the "consumption or foreign
trade symmetry" with respect to CPE investment cycles of the type suggested
by this third case. 1/

As the effects of disequilibrium discussed earlier multiply in later
periods, one would expect the accommodation of this investment demand to
be reduced. The stock of unfinished construction would presumably peak
and, as investment is cut back, both the household and external disequi-
librium could be diminished. But while the "accommodated" excess demand
for investment will have been lessened, the proponents of the cycle
theories suggest that the underlying excess demand will persist. For
Kornai (1982), such investment cycles merely represent fluctuations
around what must be considered a normal state of "chronic shortage."

As noted, not all analysts would agree with this particular depiction
of the investment cycle. Some, such as Goldman and Kouba (1969), would
also stress the constraining nature of the trade balance which, for
countries relatively poorly endowed in raw materials, causes imports of
materials to "lead" the fluctuations in investment. A recent study of
growth cycles in the GDR by Boot (1984) suggests that energy and raw
material shortages can be an important factor leading to a slowdown in
investment.

Some observers even doubt the existence of investment cycles in CPEs,
or in any event that they are any more explainable by economic than politi-
cal factors. This is the position of Wiles (1982), who collected annual
investment growth figures for all the European CMEA members as well as
Mongolia, for the period 1950-80. A tabulation by this writer of peak

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1/ Also see Hewett (1983) for recent evidence with respect to Hungary.

investment growth years for each of these countries for each Five-Year-Plan period beginning in 1961 shows, however, that investment growth peaked in the second and third years of the plan 32 and 21 percent of the time respectively. This is suggestive of frequent investment cycles of the type outlined above, although such evidence is certainly less than definitive. 1/

That investment often gets "out of control" in most CPEs is disputed by few. The main disagreement concerns the causes of these booms and the degree to which they may exhibit "regular" or cyclical features. The causes of investment spurts would appear to be both policy and systemic. Past policies of overfull employment planning and a legacy of priority given to rapid industrialization undoubtedly have helped create an output maximization psychology on the part of enterprise managers and their immediate ministry supervisors. At the same time, despite the introduction of at least nominal "capital charges" in enterprise profit calculations in many CPEs in the past 20 years, investment in these countries is typically still not evaluated according to a consistent set of standards. As suggested by Tyson (1983), successful investment reforms depend on a combination of an effective capital price-rationing standard and the enforcement of hard budget constraints, or financial discipline, at the enterprise level.

3. Disequilibrium in the consumption goods market

As suggested in Section II, changes in household liquidity will reflect specific policies and actions by both the authorities and the enterprises in respect to average wages, employment, retail prices and the real output of consumption goods. Furthermore, personal money holdings will be directly influenced by net transfers received from the government and the change in household credit made available by the banking system.

To achieve zero excess flow supply of household money, the authorities must ensure that this change in household liquidity is identical to the increase in liquidity desired by households. We might postulate the latter by the following simple equation:

$$(5) \quad (\Delta M_h^*)_t = \lambda[(M_h^d)_t - (M_h)_{t-1}]$$

1/ Wiles' (1982) investment growth rate figures were used for this tabulation. Kemme and Winiecki (1984) also note that changes in net material product in the CPEs are statistically more highly correlated with concurrent than with lagged values of investment. This raises questions of the efficiency of investment spending in these economies.

where $(\Delta M_h^*)_t$ is the flow demand for money in period t, $(M_h^d)_t$ is the stock demand for money at the end of the same period, $(M_h)_{t-1}$ is the supply of household money at the end of the preceding period, and λ is an adjustment parameter, where $0 < \lambda < 1$. In the event of a household liquidity overhang (i.e., $(M_h^d)_t < (M_h)_{t-1}$), the flow demand for household money would be negative and achieving zero excess flow supply of money in period t would actually require a reduction in household liquidity.

There is very little agreement as to the form or the stability of the stock demand for money function in the CPE. Ofer and Pickersgill (1980) list a number of plausible factors motivating household saving in planned economies, including the possibility, in an economy of frequent micro- and macro-level disequilibrium, that the accumulation of household liquidity may be positively related to the perceived uncertainty of consumer good availability, because households "must have liquid assets to take advantage of unexpected opportunities." In a disequilibrium setting, it could be argued that household demand for money will be a function of actual consumption expenditure rather than income, although this formulation is questioned by some. 1/ Other than manipulating retail prices (and possibly supplies of consumption goods, if actual consumption is an argument of the money demand function), the authorities would appear to be limited, in attempting to raise the household demand for liquidity, to inducing increased flows into savings deposits (here included in the definition of money) through raising interest rates (a practice historically eschewed in most CPEs), or announcing future increases in the production of consumer durables which require cash payment.

Excess demand in the market for consumption goods (C_t^e) may be defined as the difference, in period t, between (1) aggregate household demand for consumer goods (C_t^d), and (2) actual consumption goods output (defined here to include net imports), C_t^o, minus the planned increase in enterprise inventories of these goods (ΔINV_t^p): 2/

$$(6) \quad C_t^e = C_t^d - (C_t^o - \Delta INV_t^p)$$

1/ See, for example, Kemme and Winiecki (1984).
2/ To define excess demand as the difference between notional consumption and either (a) actual consumption goods output or (b) output minus the actual change in inventories would mean, respectively, that either (a) any increase (decrease) in inventories, whether planned or not, would be considered as an increase in excess supply (demand), or (b) that excess supply would be impossible, because output less inventory accumulation could never be greater than notional consumption.

Actual consumption (C_t) is equal, on the one hand, to the current output of consumption goods less the actual change in inventories (ΔINV_t), and on the other hand to the difference between aggregate demand for consumption goods and the excess flow supply of money: [1]

$$(7) \quad C_t = (C_t^O - \Delta INV_t) = C_t^d - ((\Delta M_h)_t - (\Delta M_h^*)_t)$$

Solving equation (7) for C_t^O and substituting into (6) and simplifying yields:

$$(6a) \quad C_t^e = ((\Delta M_h)_t - (\Delta M_h^*)_t) - \Delta INV_t'$$

where $\Delta INV_t'$ is the unplanned change in inventories of consumption goods.

Ignoring for the moment the possibility of micro-level disequilibrium, observe that actual consumption will take place on the effective supply curve when there is aggregate excess demand. If enterprises were to respond to excess demand by reducing inventories below planned levels, actual consumption would exceed the "supply" ($C_t^O - \Delta INV_t^p$) as defined by equation (6). When there is excess supply, consumption will occur on the demand curve. Unplanned inventory accumulation by enterprises in this case, however, will not be reflected in an outward shift of the demand curve. This suggests that to estimate excess demand from estimated demand and supply functions based on fitted values for actual consumption, [2] may bias the empirical results away from findings of positive excess demand. Expressing excess demand for consumption goods in terms of (6) and (6a) suggests, therefore, that empirical work in this area should probably take unplanned inventory changes more explicitly into account.

As noted earlier, the conventional wisdom that the CPEs are subject for long periods to "repressed inflation," or "involuntary saving" on the part of households, is not accepted by everyone. Portes (1981), for instance, suggests that "many phenomena usually attributed to monetary disequilibrium, such as shortages and the 'second economy'..., are in good part due to distorted relative prices and deficiencies of the

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[1] This expression is consistent with the observation of Portes and Winter (1980), that in the event of disequilibrium on one or more consumer goods markets, aggregate actual consumption will always be less than either aggregate demand or aggregate supply "unless either all markets are in excess demand or all in excess supply."

[2] See Portes and Winter (1980), for such estimates.

distributive network." Indeed, while the basic distinction between micro-
and macroeconomic disequilibrium may be clear, the interaction between
them and the variety of possible adjustments to both states have heretofore
received inadequate attention in the literature on CPEs. [1]/

The complexity shrouding this issue may be illustrated using the
simple two-commodity diagram in Figure 2. Consider two consumption goods,
A and B. Assume that planned production of the two goods is at P on the
socialized sector's production possibilities frontier, and that actual
is equal to planned output. For simplicity of exposition it is also
assumed that initial inventories of both goods are equal to zero and that
no accumulation of inventories is planned. Foreign trade in the two
goods is also ruled out, by assumption. The relative retail price of the
two products sold at state retail outlets is set by the authorities at q.
The line from the origin, OH_q, is the income-consumption path corresponding
to this relative price. With production assumed fixed at P and the rela-
tive price fixed at q, households will have excess demand for the A good
and there will be an excess of the B good for each case of macroeconomic
equilibrum or disequilibrium considered below.

Household budget lines q_0, q_1, and q_2 represent respectively states
of zero, positive and negative macro excess demand in the consumption
goods market. Thus with budget line q_0, excess demand for the A good of
C_0R_0 is exactly offset, at relative price q, by unplanned inventory accu-
umulation of the B good of R_0P. With budget line q_1, excess demand for
the A good of C_1R_1 exceeds, at the same relative price, unplanned B good
inventory accumulation of R_1P. The tighter household budget indicated by
q_2, however, results in unplanned B good inventory accumulation of R_2P,
which exceeds the value of excess demand for the A good, C_2R_2. Observe
that in each of these cases, in which consumption takes place inside the
budget constraint, there is an unplanned buildup in inventories as well
as "excessive" accumulation of household liquidity, yet the macro-level
situation in each case is fundamentally different.

In general, however, the response of households in each case will
not be limited to the "excessive" or "involuntary" saving suggested in
the diagram. At least several other responses are possible and, in many
instances, likely. Virtually all of the "disequilibrum" literature in
the West has heretofore stressed the possibility that households, faced
with the prospect of involuntary saving, will opt instead for increased
leisure and/or will devote a greater share of their nominal working time
to searching out consumption opportunities, particularly with respect to

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[1]/ Some preliminary work in this direction may be found, however, in
Howard (1979), Portes and Winter (1980), and Kohn (1980).

Figure 2.
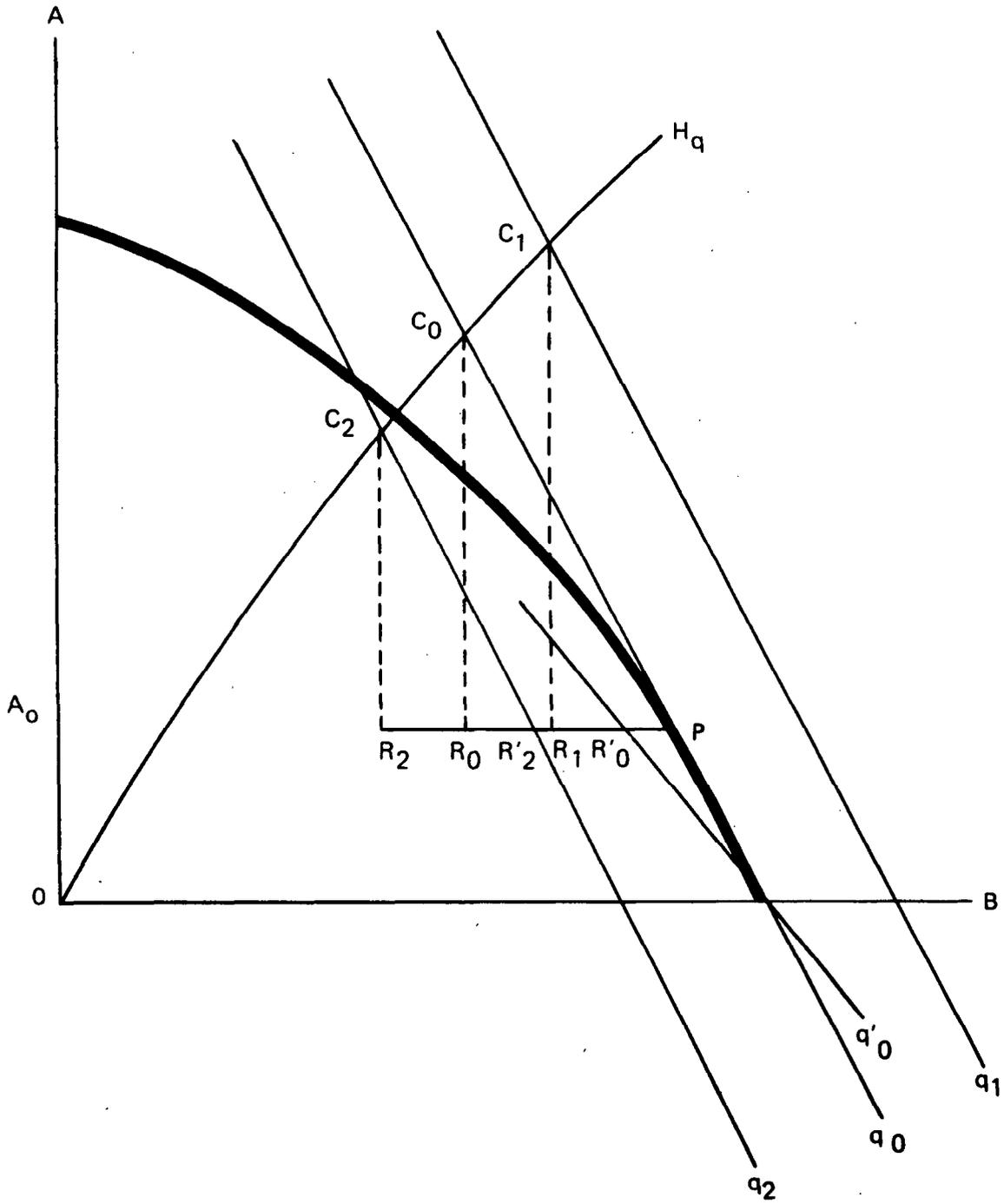
the A good. 1/ This is usually assumed to result in a decline in employment, which induces a shifting of the production point within the production frontier (or alternatively, a collapse of the frontier). A multiplier process ensues, characterized by declining output (including of consumer goods) and further reductions in employment. Presumably aggregate wages fall too, and the economy moves towards a constrained equilibrium at a lower level of income and employment. Whether this process should be modelled in terms of declining supplies of labor with an attendant lower wage bill, or simply lower levels of labor effort (which might not involve a decline in employee money incomes), or some combination of the two, is not at all clear. 2/

A second possibility, emphasized by Kornai (1979, 1980) and other East European economists, is "forced substitution" of the B good for the A good, at the existing relative price. At each of the consumption points corresponding to maximum involuntary household hoarding (R_0, R_1, and R_2 respectively) consumers are, of course, in a state of micro-disequilibrium, in that the rate of commodity substitution in consumption is not equal to the existing relative price. Households might consider themselves better off consuming more of the unconstrained product and moving to the right from those respective points along line segment $R_2 P$. 3/ Indeed, in each case we could imagine them moving to the right even as far as their budget constraints or production permitted (i.e., to P when $C_t^e > 0$, and to R_2' when $C_t^e < 0$.) According to equation (6a), however, this would have no impact on the state of excess demand at the macro level since the reduction in involuntary saving would be exactly offset by the decline in unplanned inventory accumulation.

A third alternative is to engage in various "second economy" activities designed to expand consumption in the aggregate and eliminate the micro-disequilibrium. One possibility is the production of additional units of the A good outside the socialized sector. For simplicity of exposition, however, we shall confine the ensuing discussion to the retrading by consumers or shop clerks of some portion of the A good produced by the state sector (OA_0) on the black market at a price higher than that set by the authorities. 4/ This phenomenon cannot really be adequately analyzed in Figure 2, however, because the existence of the black market presupposes

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1/ See, for example, Barro and Grossman (1976), Howard (1976), Portes (1979), and Brada (1982).

2/ Kemme and Winiecki (1984) discuss these issues.

3/ Howard (1979) has shown that, holding prices and income constant, a decrease in the ration of a good in excess demand will lead to an increase in quantity demanded of "unconstrained" substitutes, including other commodities, leisure, and money.

4/ For a useful classification of "second economy" markets in a CPE, see Katzenelinboigen (1977).

different initial consumption possibilities and/or different relative marginal utilities among individuals as between the two goods and between these goods and money. It is clear, however, that if a black market is tolerated by the authorities, the price of the A good will be bid up and the average price at which this product is actually consumed will be higher than the state-administered price. The effective relative price of the B good will fall, and the actual price level will rise.

In the figure, the (average) relative price line in each case will become flatter. Arbitraging of the A good, outside the socialized sector, will increase household incomes and also household final expenditure on the A good. If either income or expenditure is an argument of the money demand function, black market activities will increase the quantity of money demanded (i.e., ΔM^*_{ht} will be greater than otherwise). 1/ In this event, the relative price line will actually pivot inwards at the point of intersection of the original price line and the B axis. For example, in the zero excess demand case the new price line might be q'_0.

The demand for consumption goods will now be subject to both expenditure and substitution effects. Aggregate consumption demand should fall because of the increase in money demanded. At the same time, the lower relative price of the B good should stimulate increased demand for this product. Increased consumption of the B good would, of course, simultaneously reduce excessive money accumulation by households and unplanned inventory accumulation by enterprises. By equation (6a), however, the increase in ΔM^*_h in the initial zero excess demand case would result in $C^e_t < 0$ (i.e., excess supply on the consumption goods market). It is possible, although by no means certain, that black market activities could eliminate the involuntary money accumulation by households. In that event, the flow supply of money and unplanned inventory accumulation of the B good would be reduced from the initial values by, say, $R_0R'_0$ in Figure 2, but at the same time the flow demand for money in terms of the B good would be increased by R'_0P. The net result would be $\Delta M_{ht} = \Delta M^*_{ht}$, but $\Delta INV'_t$ equal to R'_0P, or excess supply. This same reasoning suggests that it may be possible, although less likely, that black market price increases and induced effects in the B good and money markets could even transform an initial excess demand situation, as defined by equation (6a), into one of macrolevel excess supply.

The foregoing analysis is only suggestive and by no means definitive. There is a need for more extensive formal modelling of the choices that households make in such situations among increased saving, increased leisure, "forced substitution" of one product for another, and engaging

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1/ Hartwig (1983) emphasizes the impact that black market activities could have on the household demand for money.

in black market and other second economy activities as either sellers-
producers or buyers. 1/ What this cursory look does suggest, however, is
the difficulty of distinguishing empirically between micro- and macro-level
disequilibrium. Furthermore, even if we could satisfactorily measure the
extent of ex post excess demand.in the consumption goods market as a
whole, a finding that there was overall zero or negative excess demand in
a given period, combined with essential stability of the official retail
price index, would not necessarily mean that positive or zero excess
demand conditions had not initially prevailed and been alleviated by some
combination of a decline in labor supplied to the socialized sector and
various "second economy" activities. To ignore these spillover effects
in econometric estimation conceivably could bias empirical studies towards
findings of negligible excess demand or even negative aggregate excess
supply. Moreover, this analysis suggests that even if there were initially
zero aggregate excess demand for consumption goods, the existence of micro-
disequilibrium might result in spillover effects involving macroeconomic
variables such as the aggregate quantity of labor supplied, aggregate
saving and the de facto price level.

We have just seen that a given net unplanned accumulation or decumu-
lation of enterprise inventories of consumption goods may in general be
associated with zero, positive or negative excess demand on the consump-
tion goods market. It should be noted that this also makes it more dif-
ficult to make simple inferences from above-plan domestic credit creation
concerning the existence of generalized excess demand in the economy.
Recall from equation (4) that the sum of above-plan net credit extended
to the government and enterprises by the domestic banking system
$(\Delta NDC_g' + \Delta NDC_e')$ is equal to the unplanned increase in net household
liquidity $((WN)' + T' - (P_cQ_c)')$ minus the above-plan increase in net
international reserves $(\Delta R')$. Now consider the case of zero macro-level
excess demand on the consumption goods market combined with micro-level dis-
equilibrium (budget line q_0 in figure 2). Assume that after the black market
activities discussed earlier take place, enterprises are left with unplanned
inventory accumulation of the B good. In equation (4), sales revenue from
the sale of consumer goods is below plan $((P_cQ_c)'<0)$, and provided the wage
bill has not fallen commensurately, enterprises will require some combi-
nation of above-plan net credits or government subsidies $((\Delta NDC_g' + \Delta NDC_e')>0)$
to maintain their planned liquidity.

Above-plan credits, then, are associated here neither with an above-
plan balance of payments deficit, excessive enterprise demand for invest-
ment and associated inputs (the investment cycle), nor with accommodation

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1/ The most ambitious attempt to-date to deal with consumption goods
market disequilibrium in a choice-theoretic framework is Howard (1979).
Black market activities per se, however, are not included in Howard's
model.

of enterprise demands in the event of an adverse supply disturbance. In this case, they arise from the accommodation of enterprise liquidity needs associated with a planning error--an "incorrect" output mix of consumption goods given existing consumer preferences and the administered relative price. Whether the planners or the enterprises or both are responsible for the error is of course an open question. This "error" will be reflected, in the national accounts, in above-plan growth in investment (an unplanned increase in inventories) at the expense of consumption, but observe that the cause of the "excessive" investment in this case is the lack of enterprise adjustments to micro-disequilibrium within the consumption goods sector rather than excessive aggregate demand.

IV. Internal and External Balance

The foregoing discussion of the sources and symptoms of disequi-
librium suggests that the tradeoff between internal and external balance
is fundamentally the same in market and planned economies. Unlike the
(stylized) market economy, however, the classical planned economy lacks a
mechanism by which the myriad price and quantity adjustments necessary to
move the economy to a new general equlibrium can be made relatively
swiftly and efficiently. Because of the complexity involved in attempting
to manage the enterprise sector from the center, and because the main
socio-economic goals of CPEs historically have biased policies away from
adjustments of wages, employment and consumer prices, we might expect
that the authorities would place a greater burden of short- and medium-
term adjustment on the consumption goods and foreign trade sectors.

Attempts by "western" economists to more or less formally model the
macroeconomic balance problems of CPEs have tended to focus on balance in
the consumption goods market (Brada (1982)), the foreign trade sector
(Wolf (1980)), or these two sectors together (Portes (1979)). The latter
model represents the most ambitious attempt to-date to analyze the internal-
external balance tradeoff and warrants some discussion.

Portes' approach is strongly influenced by the macroeconomics of dis-
equilibrium and quantity rationing associated with the work of Barro and
Grossman (1971, 1976). Unlike most other applications of disequilibrium
economics and econometric techniques to the CPEs, however, Portes refrains
from assuming that households will be typically quantity-constrained in
consumption. 1/ Excess demand for consumption goods therefore becomes
just one of several possible disequilibrium regimes in Portes' model.
Household demand for consumption goods and supply of labor functions
therefore differ depending on what types of disequilibrium (or equilibrium)
regime happens to prevail.

1/ For examples of models in which household excess demand for con-
sumer goods is essentially assumed, see Howard (1976) and Brada (1982).

Household demand for consumer goods is assumed to be a positive function of the real wage and real household money balances, and, in the event of an excess supply of labor, of the quantity of labor actually supplied. Household supply of labor is assumed to be a function of the real wage (with the partial derivative permitted to be positive, negative or zero), a negative function of real household money balances and, in the event of an excess demand for consumer goods, a positive function of the quantity of consumption goods supplied. Thus the negative feedback or "spillover" effect of excess demand in the consumer goods sector on output in general, a fundamental characteristic of the disequilibrium models, is incorporated here. In general, of course, the partial derivatives with respect to each argument in all these equations are different depending on which disequilibrium or equilibrium regime is assumed to hold.

The economy's gross output is assumed to be a positive function, inter alia, of an imported intermediate good, and for simplicity this is assumed to be the only import. Exports to pay for these imports are made from final output. The CPE is assumed to be a "small country" in world trade. Government spending and enterprise investment are in effect lumped together as the "flow of goods purchased by government."

Portes focuses on the planners' problem of maximizing a utility function, with real consumption and government purchases as arguments, subject to the attainment of balance in the markets for consumption goods and labor, and the achievement of some balance of trade target. According to Portes, the planners' policy instruments are the real wage, real exports, and government spending. He focuses on the first two in his detailed analysis of internal and external balance, however, on the grounds of both analytical tractability and the assertion that government expenditure (including investment) is of higher priority and relatively inflexible (compared to consumption spending) in the CPE. In real wage/real exports space, Portes derives quite complex internal (CC) and external (BB) balance curves representing the locus of real wage/real export combinations necessary to maintain balance (he notes that "equilibrium" would probably be a misnomer here) in each sector respectively. The interpretation of these curves is significantly more complex than in the Mundell-Swan type diagrams of external-internal balance for market economies, because the possibility of sustained disequilibrium in the consumption market means that shifts in the CC curve can affect the shape of the external balance curve.

Portes' internal-external balance model yields a number of valuable insights regarding the macroeconomic processes of the CPE. Its problems reside largely in its relative neglect of the household demand for money, the sources of disequilibrium, and the choice of instruments which the planners allegedly use to maintain an acceptable degree of imbalance in the economy.

As noted, one of these instruments is the level of real exports. Technically speaking, real exports are not an instrument, although the assumption that planners have direct control over these flows makes them a de facto policy instrument. The main problem with choosing real exports as an instrument is that they have not played the major role in foreign trade adjustment of most real-world planned economies in recent years.

In reality, real imports have borne the burden of adjustment in these economies, for two reasons. First, it is probably easier for the authorities to decree that real imports be reduced than to induce or direct that domestic enterprises increase the quantity of exportables to be supplied abroad. This would be particularly true in the context of domestic macroeconomic policies which continued to accommodate internal excess demand pressures. Second, while most of the CPEs appear at first glance to satisfy the requirements of Portes' stylized "small country" assumption, in reality their foreign trade position is somewhat more complex. In trade with other CPEs, undertaken largely on the basis of bilateral negotiations, these countries are typically not price-takers. In exports to the convertible currency area, CPEs frequently have market access problems and have encountered increased de facto quantitative restrictions in recent years. Consequently the expansion of real exports, without significant further deterioration in their terms of trade, has been very difficult for most of the planned economies.

It would also appear that choice of real exports rather than real imports as a policy instrument was strongly influenced by Portes' assumption that while output in his model clearly depends on the level of (intermediate) imports, changes in output tend to drive foreign trade decisions, rather than vice versa, and therefore the authorities would not use imports as a balancing item. While this approach has some appeal as a description of the authorities' view of foreign trade in the past ("exports as a necessary evil to pay for imports"), it would seem less apt today and appears to be directly contradicted by the experience of some planned economies. 1/

The other main policy instrument in the Portes model is the real wage. As we have seen, however, the real wage is less a policy instrument than an intermediate target. On the one hand, the average nominal wage is determined by enterprises which may have considerable leeway in practice in manipulating wages within the framework of a complex system of wage regulation. On the other hand, by decreeing changes in turnover taxes the authorities may directly manipulate retail prices, but in practice this is only done after careful and usually lengthy weighing of the income distributional consequences of changes in nominal and relative prices. (Clearly, many of the distributional aspects of stabilization programs in

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1/ See, for example, the discusion of the Hungarian experience in Hewett (1983).

market-oriented developing countries, as discussed by Johnson and Salop (1980), apply as well to planned economies. Indeed, policymakers in the latter have tended to show great concern about the distributional implications of virtually every economic policy.)

It might be contended, however, that the authorities have greater control over the average money wage than suggested above. And undoubtedly the extent of control varies across CPEs and over time for a given planned economy. Furthermore, we could choose to see the designation of the real wage as a policy "instrument" not in the narrow sense but indeed as a proximate instrument in the way that in a developed market economy we often refer to the money supply (rather than, say, open market operations per se) as the instrument of monetary policy.

Even if we were to accept, for the sake of argument, that the real wage is a policy instrument in a CPE, there are still problems in making it one of the cornerstones of an internal-external balance framework. This is because historically the real wage does not appear to have been used in an active way as a short- and medium-term balancing tool in CPEs. This is particularly the case for instances of excess demand for consumption goods. Only recently (and mainly in "modified" planned economies) have authorities actively used increases in administered retail prices as a balancing instrument. Instances of using reductions in the average money wage to eliminate household excess demand pressures would be even more difficult to detect. This is not to deny, however, that in a growth context a slowing of the rate of growth of nominal wages might not have been undertaken to reduce the growth and even the level of excess demand pressures.

Aside from directly reducing the demand for consumption goods, a reduction in the real wage in Portes' model also may (if the partial derivative has a negative sign) lead to an increased quantity of labor supplied with a corresponding positive impact on output and the quantity of consumer goods supplied. While this effect would tend to reinforce the power of the real wage as a stabilization instrument, it would probably be of rather negligible importance in the short term and possibly even in the long run. 1/

Several of the planned economies that have recently pursued more active wage and price policies have in fact combined consumer price increases with roughly offsetting increases in money wage rates. Although

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1/ Also see Holzman (1980) for criticisms of Portes' choice of policy instruments. In an empirical study of the Soviet Union, Howard (1976) found that the labor supply response to assumed excess demand for consumption goods was minor relative to the measured spillover effects in the collective farm market and the buildup in household liquidity.

the roughly proportional increases in wages and prices had little effect on the real wage, the price increases alone reduced the real value of money balances and other wealth holdings. 1/ In Portes' own model such a reduction in real balances leads to both a fall in household demand for consumption goods and an increase in labor supplied, as presumably households seek to rebuild their real wealth. The burden such a policy places on those with relatively large wealth holdings may make it even more attractive from the standpoint of policymakers who must worry about distributional consequences. 2/ Such a policy has enabled the authorities simultaneously to achieve some diminution in excess demand, possibly to reduce some distortions in the relative price structure, and to avoid some of the negative political consequences of a decline in the real wage. As a practical matter, then, real money balances rather than the real wage might be seen by CPE authorities as an important intermediate target of their wage and price policies.

Finally, Portes' model tends to ignore changes in real output of consumption goods as an important means to alleviate excess demand in that market. Consumer goods output is no more of an "instrument" than is the real wage, but clearly it is a target that can be strongly influenced by the planners. In Portes' model a diversion of output from "government" to consumers would involve a shift in his CC (or internal balance) curve. He does not rule out such a shift, but by relegating this policy instrument to third-variable, or "shift" status, Portes leaves the impression that such a policy response is less likely than either a change in real exports or in the real wage. The impression is further created that investment will tend to be as planned and that developments in that sector may not be a major source of disequilibrium. Indeed, rather than viewing the relationship between governmental planners and the enterprises as a potentially significant source of disequilibrium, Portes, as noted earlier, lumps the two together and portrays disequilibrium as emerging from the interaction between "socialist central planners" and households "in the process of plan construction and implementation." 3/

1/ Equi-proportionate increases in the average money wage and the retail price level need not reduce real household money balances. Much depends on what happens to net government transfers and household credit extensions to households. In the simplest case, if wages, the price level, net transfers and new credits all increase by the same proportion, real household money balances will decrease if the percentage increase in the above variables is greater than the rate of growth of nominal household money in the previous period.

2/ This focus on real balances as opposed to the real wage as the intermediate target is noted by Brada (1982).

3/ Portes (1979).

This implied dominance in Portes' model of price (the real wage) over quantity adjustments, in societies which historically have made retail price rigidity and downward stickiness in money wages virtually an article of faith, seems a bit incongruous to many students of the "classical" planned economies. It should be noted, however, that in more recent empirical work Portes and his collaborators have focused on the supply of consumption goods as an important equilibrating variable to be manipulated by planners in the CPE. 1/

In order to briefly examine some basic implications of the particular systemic and policy characteristics of CPEs for stabilization programs, equation (2) may be rewritten in a more conventional form:

$$(8) \quad \Delta R = \Delta M - \Delta D$$

This "monetary" identity of the balance of payments indicates that for any economy the change in net international reserves equals the ex post change in the domestic money supply minus the increase in domestic credit extended by the banking system.

In the simplest models of stabilization programs it is typically assumed that in the market economy the change in money balances will equal the flow demand ($\Delta M = \Delta M^*$), that the latter is a stable function of the excess stock demand for money (see equation (5)), and that the stock demand for money is a stable function of such variables as real income, the price level, interest rates and possibly the expected rate of inflation. Given projections for these variables, which of course are actually not independent of the stabilization policies followed by the government, one can estimate the increase in money holdings which will take place in a given period. Having in this way "exogenously" determined ΔM, and with a targeted floor for the change in net international reserves ΔR, it would remain only to solve for the required ceiling on domestic credit (ΔD). 2/

Equation (2) for the CPE may also be rearranged in the same form as (8):

$$(9) \quad \Delta R = \Delta M_h - \Delta D''$$

1/ See Portes, et al (1983).
2/ The real world is of course more complex than the simple monetary model would suggest. Several of the assumed "exogenous" variables are indeed endogenous, and some behaviorial relationships that are typically assumed may be at least seemingly contradictory.

Here ΔR and ΔM_h are as defined earlier, and $\Delta D''$ refers to the change in net domestic credit extended to government and enterprises ($\Delta NDC_g + \Delta NDC_e$) plus the change in gross credit extended to households (ΔDC_h). Using equation (7) we can substitute for ΔM_h in (9), obtaining:

$$(9a) \quad \Delta R = (\Delta M_h^* + C^d - C) - \Delta D''$$

where, as before, ΔM_h^* is the flow household demand for money, C^d is the aggregate demand for consumption goods and C represents actual consumption.

While actual consumption may be fairly accurately measured, at least insofar as socialized sector retail sales are concerned, both the demand for money and the demand for consumption goods can only be estimated. Whether ΔM_h^* and C^d are stable functions of some set of macroeconomic variables in CPEs remains to be seen. Portes and Winter (1978, 1980) have estimated such functions for four planned economies, using both implicitly equilibrium and disequilibrium models. It is not clear, however, that these are really identified demand functions. Moreover, a major implication of their results, that chronic excess demand is not a feature of consumption goods markets in these countries, has, as noted, received a quite skeptical audience among most other close observers of planned economies. Clearly, further modelling and econometric work is necessary in this area.

The main implication of equation (9a) is that credit ceilings alone may not be an adequate means to achieve both internal and external balance in a CPE, even if the household money demand and consumption functions were to be stable. This is because there is no assurance that the market for consumption goods will be in equilibrium. [1/]

As noted in Section II, such monetary identities also present a disarmingly simple picture of macroeconomic adjustment. In the foreign trade sector, for example, authorities are forced to make numerous decisions regarding the relative importance of various importables and the relative saleability of and domestic demand for exportables. The foreign trade system is usually not designed to permit trade flows to respond to changes in relative prices, and domestic price levels tend also to be insulated from foreign prices. Where, however, FTOs are given the incentive to respond to changes in valuta foreign trade prices induced by exchange-rate changes, there could be scope for the exchange rate to play an important role in CPE stabilization programs.

1/ Some examples of policy dilemmas in this context appear in Salop (1982).

Equation (1) also reminds us of the complex wage, price, employment, tax, transfer, and output decisions that must be made to achieve some targeted change in the household money supply. In the stylized market economy with a stable demand for money, the imposition of a credit ceiling will in theory also set into motion a multitude of such decisions, but within an essentially decentralized framework. Given the microeconomic complexity implicit in the task of macroeconomic adjustment, one wonders whether the stabilization programs initiated by virtually all CPEs in recent years will actually provide a new impetus to economic reform.

V.   The Modified Planned Economy

All of the European members of the CMEA have experimented with economic reform over the past two decades or more. In very few cases, however, could such reforms be said to have been "comprehensive," and in still fewer instances have such thoroughgoing reforms attained a more or less permanent character. At various times in the past 15 years Poland initiated major modifications in the system of central planning, but more often than not these were relatively short-lived. Various changes have also been evident in such countries as Bulgaria, the German Democratic Republic, and Romania. Nevertheless, of all the CMEA countries, probably only Hungary can be said to have so comprehensively reformed the economic system as to be considered a "modified" planned economy (MPE). Because other countries have initiated certain important changes in the system of central planning, however, it should be kept in mind that some of the observations made below regarding the stylized MPE may well apply to several of the planned economies.

A "modified" planned economy may be characterized by the following changes in the classical system. First, detailed plans regarding enterprise inputs and outputs are no longer developed in close consultation with the central authorities. While detailed central planning may still characterize many infrastructural activities (energy, transportation, etc.), enterprises in the rest of industry (and possibly in agriculture, too) are encouraged to develop their own plans and to even move away from plan fulfillment as the major evaluative criterion. Indeed, a second important characteristic of the MPE is that enterprise profitability is meant to supplant plan fulfillment in this function. The predominance of profitability as a maximand is significantly tempered, however, by the recognition on the part of enterprise managers that the firm's workers and the higher authorities remain as important "constituents." Thus higher profits may have to be balanced against the need to ensure satisfactory increases in average wages and job security, as well as to retain the confidence of the branch ministry and higher authorities that the firm's investment plans and activities are consonant with the broader goals of the leadership.

A third feature of the MPE, and one that is integrally related to the first two, is the encouragement given to significantly increased horizontal bargaining among enterprises and to the market as an allocator of resources. Thus the "comprehensive" nature of the reforms characterizing the MPE is evidenced by the recognition by the reformers that the profitability criterion, increased enterprise initiative and increased scope for market forces are inextricably related. In practice, however, this emphasis on market relationships and horizontal bargaining is weakened by the heavy residue of mutually supportive hierarchical relationships and by the unwillingness of the government and Party to give up their ability to determine the main directions of the economy.

Fourth, the system of wage regulation is modified so as to give the enterprises much greater leeway in determining the distribution and growth of wages among their employees. Instead of the enterprise's wage bill being assigned from the center as a function of planned increases in employment, labor productivity and plan overfulfillment (the so-called "direct" system), or possibly as a function of the increase over the previous year in the degree of fulfillment of a particular evaluation indicator (the "mixed" system), the enterprise now determines its own wage bill and/or average wage, subject to various centrally-determined parameters, including tax rates related to the size or increase of the wage bill (the "indirect system"). A similar degree of decentralization also applies to the determination of worker and manager bonuses. While central regulation of wages remains, it is now more parametric in character. 1/

The reduced scope for governmental price controls is an important fifth characteristic of the MPE, and an obvious corollary to the intention to expand the allocative role of the market. Greater price flexibility is permitted for a number of producer and consumer goods, although typically enterprises are limited as to the frequency and the amount by which they can change even the "flexible" prices. These restrictions (imposed in part to limit price increases by the domestic monopolies inherited from the CPE), as well as maintenance of fixed prices on many other goods, means that serious price distortions will persist.

The intention gradually to reduce and indeed virtually eliminate price distortions, however, also leads to a sixth key feature of the MPE-- encouragement of more direct, export-oriented linkages between domestic production enterprises and foreign markets, and the development of organic linkages between domestic and foreign currency prices for a wide-range of products.

1/ See Adam (1980). Marrese (1981) discusses the Hungarian system of wage regulation in some detail.

Seventh, bank credits and enterprise self-financing are meant to take on a much more important role in the financing of investment in the MPE. Moreover, banks are instructed to use the interest rate as a much more significant credit-rationing device than in the classical planned economy. Finally, there may be some movement towards ending the dichotomization of the enterprise and household money markets.

There are other distinctive features of the MPE, too, such as increased "privatization" of economic activity, particularly in the handicraft and service sectors, but these shall not be considered here. It is rather our intention to consider briefly the impact that the major systemic modifications noted above may have on the attainment of internal and external macro-balance in the planned economy.

A significant difference between the CPE and the modified planned economy is the greater scope for and greater variety of sources of price changes in the latter. The planner's interest in producer and retail price stability for planning and control purposes is significantly reduced in the MPE, with the general elimination of detailed central planning. At the same time, as mentioned, the market is permitted a much larger role for price determination as part of the general design to encourage more decentralized decisionmaking and more efficient allocation of resources.

In the MPE prices may now change as the result of administered modifications of prices designed to reflect increased producer costs or to ameliorate some of the more egregious cases of consumer excess demand for fixed price goods. In the case of products with "flexible" prices, these may change without direct intervention because of changing domestic cost conditions, shifts in domestic demand, a modification of the official exchange rate, or changes in world market prices.

Through the indirect "parametric" system of wage regulation, the authorities can still strongly affect movements in wages. The authorities are not always able to predict enterprise reactions to changes in the "levers" of wage regulation, however, and it would seem erroneous to attribute to them complete control over nominal wages. 1/ Nevertheless, their influence is considerable and it can now be executed more generally and simply through changes in such parameters as permissable maximum increases in the average wage and the progressive rates of taxation levied on enterprises' wage bills.

This presumed greater flexibility for the authorities with respect to wage regulation and a lessened reluctance frequently to change administered prices and the exchange rate may make the real wage a more malleable inter-

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1/ See Adam (1980) and Marrese (1981).

mediate target for the MPE planner than for his CPE counterpart. But
while the real wage thus becomes in principle more malleable, it may also
become less controllable and more variable, particularly as a result of
permitted unadministered price changes.

An important problem for the MPE planner in respect of wage regulation,
as well as in other areas of the economy, is the tradeoff between efficiency
on the one hand and price stability and equity on the other. One of the
purposes of the less direct form of wage regulation is to encourage enter-
prises to use labor in the most productive way. This involves viewing
labor as a scarce resource and using wage and bonus differentials as an
incentive device. Aggressive firms may have an interest in a rapid expan-
sion of the average wage, widening worker income differentials and possibly
letting off certain workers; each of these policies may be resisted by
authorities concerned with relative price stability and particularly
sensitive to unemployment and income distribution issues.

As noted earlier, the fairly strict dichotomy between the two types
of money in the CPE may be relaxed somewhat in the modified planned
economy. Heretofore, however, such relaxation has been minor. Enterprise
and household money is still created in essentially the same way as in
the CPE, and households are basically still kept from lending directly or
through intermediaries to enterprises. Granting the banking system an
intermediation function and permitting its borrowing and lending rates to
be determined by the market might, in a MPE, help to ease the problem of
frequent (if not chronic) excess demand in the consumption goods market.
But without essential freedom of both interest rates and the prices of
consumer goods, it is difficult to see how household consumption/saving
preferences and enterprise profitability calculations could in effect be
brought together so as to yield equilibria in both the consumption and
investment goods markets. 1/

Given the policy goals inherited from the CPE, it is not difficult
to understand why the basic dichotomization of the money supply is main-
tained. Providing for intermediation between households and enterprises
through the banking system, at market-clearing interest rates, would
significantly lessen the authorities' control over the basic "proportions"
of the economy. Furthermore, the development of a capital market would
effectively widen income differentials, as "unearned income" from the owner-
ship of financial assets assumed a more enhanced role. Moreover, allowing
the banking system to relend accumulating household deposits to enterprises
might only fuel excess demand pressures in the economy if market-clearing
prices and interest rates were not also in general permitted.

1/ Tardos (1983) gives an insightful discussion of the obstacles to
fuller integration of markets in the Hungarian context.

With enterprises in the MPE expected and free to respond within limits to market forces, foreign trade with the convertible currency area will no longer be under the firm control of the authorities. 1/ In theory there is now no way the planners can force enterprises to export (import) certain bundles of goods to (from) convertible currency markets. Clearly, however, both exports and imports may be <u>limited</u> by the authorities by means of specific quantitative restrictions or, in the case of imports, by exchange controls. To the extent that such quantitative restrictions are eschewed, the MPE authorities are then effectively limited to the same mix of subsidies and taxes that market economy governments may use to influence foreign trade.

Although the intention of the economic reform may be to eliminate or at least minimize quantitative controls on trade, it is difficult to see how exchange controls can be totally avoided. Persistence of direct price controls and attendant distortions between domestic and foreign currency prices of tradeables will provide innumerable opportunities for arbitrage which could result in a net resource loss for the economy. 2/ This aspect of foreign trade in the MPE has received only scant attention.

If we ignore this issue and assume that the authorities permit relatively free trade (for enterprises), the official exchange rate now assumes more than just the accounting function it tends to have in the CPE. With some domestic prices now being "linked" through the exchange rate to foreign currency prices of tradeables, changes in the latter prices or in the exchange rate itself can now affect the domestic price level. This gives the exchange rate a potential effect on the real wage and real wealth not possible in the "classical" planned economy. By the same token changes in the exchange rate may affect domestic relative prices, inducing potential substitution effects in both production and consumption not witnessed in the CPE. 3/ In general, the exchange rate becomes a potentially significant instrument for macroeconomic stabilization in the MPE and in theory its use would relieve somewhat the stabilization burden placed on credit and fiscal policies, just as in the market economy.

Although the addition of another instrument to the authorities' portfolio may at first sight be welcomed, an exchange rate that directly links many domestic and foreign prices, in an economy in which planners and managers retain many of the habits developed in the CPE and in which

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1/ To the extent that a high percentage of trade with other planned economies continues to be undertaken according to bilateral trade agreements, however, this portion of the MPE's foreign trade may be said to still fall more or less under the control of the central authorities.

2/ See Holzman (1966) and Wolf (1980b).

3/ For more detail, see Wolf (1978).

significant price controls persist, could introduce unwanted elements of complexity. The foreign trade sector now becomes a much more significant source of uncertainty for the authorities. Given the quasi-market nature of the economy, enterprises' responses to changes in world-market prices or in the exchange rate will not be fully predictable. The exchange rate, unless revalued in line with the world inflation rate, now also becomes a direct transmission belt for imported inflation. Furthermore, given the domestic price distortions and continued "price-equalization" on some tradeables, exchange rate and external terms of trade changes could under certain conditions have undesired effects on the foreign currency denom- inated trade balance ($B_t^!$ in equation (3) divided by the official exchange rate). 1/

It is therefore not surprising that although "organic linkages" between domestic and world market prices are often cited as a hallmark of the MPE, such linkages have until now usually been exceptional or only indirect. Thus despite the popular impression, the linkage between foreign and domestic prices was rather indirect in Hungary under both the "prime cost" system of the 1970s and (although to a lesser degree) the so-called "competitive" price system introduced in 1980. Reasons for this included the authorities' fear of imported inflation and their interest in maintaining certain distortions in the domestic relative price structure. The impact of official exchange rate changes on the domestic price level and the structure of domestic relative prices, the main channels by which changes in the exchange rate may affect the trade balance in the short- and medium-run, has therefore usually been indirect and muted. Moreover, even when the linkage is direct for some products, the fact that it is not universal means that exchange rate changes may have the perverse effects noted above.

Even when a significant linkage of tradeable prices is achieved, the sensitivity of enterprises to price changes is still open to question. Among the reasons cited for relative price insensitivity (and therefore, low trade elasticities) are enterprise incentive systems which encourage only monotonically increasing profits (Tardos (1980)), the sanctity of individual job security and the unwillingness of authorities to allow firms to go bankrupt (the "soft" budget constraint of Kornai (1980)), obligatory deliveries to CPE trade partners under long-term bilaterally negotiated trade protocols, and informal pressures on enterprises from the authorities regarding the provision of adequate supplies of various products to domestic markets at artifically low prices (Kornai (1981)).

1/ Wolf (1978), for example, shows in a two-good model that a devaluation designed to improve the convertible currency trade balance could, if the domestic price of the exportable were linked to the exchange rate but the domestic price of the importable were fixed, have a positive effect on the domestic currency balance of trade (B_t) but actually cause a deteriora- tion in the balance in foreign currency. Also see Wolf (1980b).

In sum, calculations of the extent of real depreciation of a MPE's currency may be a very misleading indicator of its expected export performance on hard currency markets. The extent of effective price linkage and constraints on enterprise price sensitivity will be critical determinants of the response of the trade balance to changes in the real exchange rate.

The supply of and demand for foreign exchange in the MPE will be directly affected by conditions on the producer goods market and to some extent affected by conditions on the market for consumption goods. These demands and supplies will also be affected in general by the exchange rate. Reformers in MPEs have typically argued that the exchange rate should be a <u>uniform</u> one (applying to both commercial and non-commercial transactions), and that it should essentially be a "marginal" rate based on estimates of the full real costs of import substitutes and exportables. 1/ In practice, however, a lower exchange rate, closer to the average domestic cost of earning foreign exchange, has been selected by the authorities. There are several reasons for this, including the habitual aversion to marginalism inherited from the CPE context, the desire to avoid domestic inflation, and the reluctance to reward intra-marginal firms with abnormally high profits on foreign trade. Selection of the sub-marginal rate means that in the absence of government intervention a trade deficit in terms of foreign currency is virtually certain. 2/ The existence of significant price distortions also reduces the value of the exchange rate as an equilibrating device, as noted earlier.

Despite the intentions of many reformers, therefore, significant government intervention in trade persists in MPEs, although it is now typified by production or export subsidies for high cost exportables and various subsidies and quantitative restrictions on the import side. As suggested earlier, it is also difficult to imagine a MPE without some form of exchange control, at least as long as significant price controls persist. In general, external balance in a MPE may only be possible through the application of at least some direct controls.

Because of possibly limited enterprise sensitivity to price changes, the income and real balance effects of a devaluation may dominate the substitution effects induced by the change in relative prices. But while the rising price level may reduce domestic excess demand pressure, relatively low substitutability in both consumption and production among exportables, importables and nontradeables may mean a somewhat delayed expansion of exports. In this way MPEs may be similar to many developing

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1/ See Trzeciakowski (1978).
2/ Marer (1982) and Böhm (1983) discuss the Hungarian and Polish cases respectively.

countries (Crockett (1981)), although the difficulty that enterprises have in letting go workers in MPEs suggests that their slackened demand may be reflected in increases in (reduced depletion of) inventories, rather than in rising unemployment.

The usual perception is that excess demand on the market for consumption goods will be less endemic in the MPE than in the classical planned economy. 1/ This may be so, but it may be due less to systemic differences than to the policy choice to give consumption a higher priority in such economies. Nevertheless, the possibly more malleable system of wage regulation and the variety of mechanisms for price flexibility in the MPE do give the authorities a somewhat greater potential for making short- and medium-term price adjustments to correct perceived imbalances in the household sector. Relatively "automatic" price increases for flexibly-priced goods will also tend to reduce excess demand pressures. Direct intervention with respect to the supply of consumption goods is in general less probable in the MPE than in the CPE, although it is by no means unknown. 2/

Although in principle the profit criterion has an enhanced importance in the MPE, many economists in these countries argue that the problem of the "soft" budget constraint has not been eliminated. In practice, it is argued, enterprise managers perceive that profit maximization is not expected of them, and that they still exist in an economy of chronic shortage. They continue to devote significant time to vertical bargaining with the higher authorities to obtain special subsidies and tax relief, which permit their enterprises to remain "profitable," while at the same time allowing them to acquire the additional resources. 3/ Some argue that the "enterprise excess demand" theory of investment cycles (the second-mentioned of Section III.2) is equally applicable to MPEs, in which the habitual behavior learned under "classical" planning dominates and where the higher authorities are not strong enough to impose hard budget constraints on the enterprises. 4/

Emergent disequilibria in the MPE will in general be reflected in greater short-run price and wage flexibility than in the classical planned economy. Given the likely persistence of significant price distortions, however, combined with greater enterprise autonomy than in the CPE, the possibilities of "perverse" enterprise responses, from the standpoint of

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1/ See, for example, Adam (1980).
2/ Kornai (1981) emphasizes the continuing importance of "quantity signals" given by the authorities to enterprises in the MPE.
3/ See Kornai (1980) and Hare (1982).
4/ See Bauer (1978), Kornai (1982), and Winiecki (1982).

the national economy as a whole, may be heightened. Economic authorities and even reformers in the MPE may underestimate the motivation and ability of managers operating in a more decentralized environment to use the system efficiently to their own advantage. Hence the importance of "correct" financial parameters, while frequently espoused, may not always be fully appreciated.

The nature of the instruments by which the authorities will attempt to move the economy back towards internal and external balance will be different in the modified planned economy from those in the CPE. "Parametric" approaches are now possible, but given their less direct nature and possibly ambiguous effects in the quasi-market environment of the MPE, the authorities may be tempted, at least temporarily, to revert to more direct and interventionist quantity-oriented instruments characterizing the CPE.

Formal modelling of internal-external balance in the MPE is challenging, if not intractable. This is because in a modified planned economy we can assume increased profit "orientation," but not necessarily a tendency towards maximization; some but by no means complete price flexibility; effectively joint wage regulation by the center and the enterprises, and so on. The dilemma in modelling is that the institutional reality of the MPE may be too complex to model effectively in an insightful way, but if one abstracts from these institutional complexities, the resulting analytical model will tend to look very much like that of a standard market economy with some price distortions (etc.) and therefore will not be very insightful regarding the real-world MPE.

VI.   Summary and Conclusions

This paper has sought to contribute to the analytical framework within which macroeconomic disequilibrium and stabilization programs in planned economies might be better understood. Two types of stylized planned economies have been considered: a "classical" planned economy (CPE) in which the basic institutions and practices of central planning are initially established, and a "modified" planned economy (MPE) which in some countries has evolved out of the CPE. Rather than elaborate formal macroeconomic models of these economies, the paper has concentrated on analyzing the relatively distinctive ways in which macroeconomic disequilibrium may be generated, transformed and finally brought under control in the context of classical or "modified" central planning.

The "classical" planned economy discussed here is a stylized version of the economic system of all the European members of the CMEA in the 1950s and probably is an appropriate characterization, in fundamental outline, of the majority of these economies today. The basic macroeconomic

relationships distinctive to the CPE were analyzed in some detail in Sections II and III. Most pertinent, for our purposes, are the following characteristics of the CPE-macro economy.

First, foreign trade and the balance of payments are controlled by the planners through a system of direct controls. Second, household and enterprise liquidity holdings are fairly rigidly segregated and dichotomized, in that there is virtually no lending nor financial intermediation between the two sectors. Third, while enterprise liquidity can be directly controlled by the authorities, changes in household money balances are determined by wage rates, employment levels, the quantity of consumption goods supplied by the enterprises, administered retail prices, net budgetary transfers to households and new credits made available by the banking system. Central control over average wages, employment and the quantity of consumption goods is at best indirect and incomplete.

Fourth, long-standing socio-economic policies of the CPE as well as the nature of the centralized planning system bias policymakers towards quantity rather than price adjustments to disequilibrating supply- or demand-side disturbances, at least in the short- and medium-run. These shorter-run quantity adjustments are likely to be focused on the consumption goods market and, under propitious foreign credit conditions, to be reflected in a deterioration of the balance of payments. In part this is because the priorities of the planners and the relative bargaining strength of the enterprises and their immediate supervisory organs lead the higher authorities to "accommodate" the buffering of investment spending from the disturbance. Moreover, policies ensuring the downward inflexibility of the money wage, job security and retail price stability, combined with the center's difficulty in rapidly making the necessary changes in wages, employment and prices, place the burden of adjustment on the supply of consumption goods.

Fifth, it is believed by many that the main source of demand-side disturbances in contemporary CPEs (and MPEs) is not excessive wage growth per se but investment cycles which develop from a fundamental enterprise excess demand for investment and current inputs in an environment of perceived "chronic shortage."

In this context, the eventual reestablishment of internal and external balance by the CPE authorities, once disequilibrium has developed, will inevitably require downward quantity adjustments in the market for producer goods, possibly combined with wage and price adjustments in the household sector designed to reduce the real wage and/or the real money balances of households. The extent to which derivative excess demand on the market for consumption goods is characteristic of the CPE, and the degree to which adjustment to excess demand when it does occur is made by quantity versus price adjustments remains, however, a subject of dispute among analysts of the classical planned economies.

The presumption that excess household liquidity may occur quite frequently, if not chronically, in the classical planned economy suggests that policies for economic stailization may have to proceed on a somewhat different basis for the CPE. Specifically, as discussed in Section IV, a ceiling on net domestic credit creation cannot necessarily be relied upon to generate simultaneously some minimum improvement in the balance of payments <u>and</u> equilibrium in the household sector. By the same token, merely setting a floor on the balance of payments would not ensure equilibrium in the market for consumption goods. Because of the general absence of direct linkages between foreign currency and domestic prices, as well as the predominance of the quantity plan in foreign trade, the official exchange-rate will usually not play an important stabilization role in the CPE.

The "modified" planned economy (MPE) is examined somewhat more briefly in Section V. The MPE is a stylized version of an economy that has experienced reform of many of the basic institutions of the classical planned economy. Among the most important distinguishing characteristics of the MPE are: (1) the elimination of detailed central planning in most sectors of the economy, (2) a general upgrading of profitability as an enterprise evaluative criterion, (3) an expanded scope for market forces and increased price flexibility, (4) the establishment of many direct linkages to foreign markets and prices, and (5) the change from direct to more parametric forms of wage regulation. Many CPE institutions are left intact, however, and many of the patterns of enterprise behavior developed under years of classical central planning survive in the MPE. It is argued here that macroeconomic problems and stablization programs in MPEs can only satisfactorily be understood and monitored if these economies' specific policy and systemic antecedents in the classical planned econmy are clearly understood.

Given the new linkages to foreign trade prices in the MPE, the exchange rate now takes on a potentially significant role that is absent in the CPE. In practice, however, patterns of informal intervention and continued subsidization from the center, together with the maintenance of price controls on a wide range of products, may reduce the effectiveness of the exchange rate as a stabilization instrument and in some cases may even lead to devaluation having perverse effects on the trade balance.

The expanded role for price flexibility and the shift to more indirect forms of wage regulation would seem to enhance the MPE authorities' ability to respond rapidly to disturbances with changes in the real wage. Because of the increased scope for enterprise-initiated price changes and sometimes unpredictable enterprise responses to changes in the parameters of wage regulation, however, the real wage as an intermediate target could conceivably become even more difficult to fine-tune in the MPE than in the classical planned econmy.

The basic dichotomization of the money supply may not be eliminated in the MPE nor, according to many analysts, is the endemic excess demand thought to be so characteristic of the enterprise sector in the CPEs. This suggests that investment cycles and at least periods of induced excess demand on the consumption goods market will continue to be problems in the MPE, although possibly on a reduced scale.

Very few of the assertions made in this paper can at this time be backed up with rigorous empirical evidence. There are clearly a number of areas in which more intensive research, of an institutional, analytical, and empirical nature, needs to be done. Several of the more important areas will be briefly mentioned.

Clearly a stabilization program for a CPE or MPE can only ensure equilibrium on the consumption goods market if the household money supply growth target is set realistically. This requires a much better under-standing than we have now of the household money stock demand function and the flow adjustment function for the planned economies. Related to this issue is the need to examine more rigorously the variety of responses by households to excessive accumulation of liquidity and to develop improved methods for effectively distinguishing between macro- and micro-level disequilibrium in the consumption goods market. These issues are discussed in Section III.3. Despite considerable empirical work in recent years, the debate over the existence of chronic excess demand in the market for consumer goods continues unabated.

Another area of debate is the source of inflationary disturbances in the classical and modified planned econmies, respectively. As we discussed in Section III.2, economists in the planned economies themselves have been increasingly stressing so-called "investment cycles" as an explanation for periodic disequilibrium. These theories have as yet not been subjected to rigorous econometric tests. As with attempts to measure disequilbrium in the household sector, part of the problem in this area arises from the lack of adequate data, but there is also a need for more rigorous conceptua-lization of the processes by which imbalances are actually generated.

Inadequate wage regulation per se is sometimes cited as an important source of excess demand pressure in the market for consumption goods. Although there is a rapidly growing literature regarding the wage regula-tion process in several planned economies, it is difficult to assess with any precision the impact that moving to more parametric systems of wage control may have on the authorities' ability to control and to manipulate wages. This is an area that requires a great deal more analytical work to supplement the often quite detailed descriptive studies now available.

It would also be useful to refine our understanding of the various indicators of disequilibrium in both "classical" and "modified planned

economies, 1/ and to explore the potential for quantification of such indicators with a view to their possible incorporation into more formal models of the stabilization process.

The role of exchange rates in modified planned economies has received some attention in recent years, but most of the literature is either mainly institutional-descriptive or overly stylized. There is clearly a need for additional analytical work that would explore the diversity of exchange rate systems among the planned economies and the role that exchange rate policy may have in the different systems in respect of macroeconomic stabilization and structural adjustment. There now exists a history of more or less "active exchange rate policies" in Poland and Hungary in the 1970s and early 1980s which might provide the basis for empirical work in this area. Other issues would include the necessary and sufficient conditions for removing exchange control in the modified planned economy.

1/ See Allen (1982) for a list of such indicators.

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