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PLANNING REFINEMENTS
AND COMBINE FORMATION
IN EAST GERMAN ECONOMIC
"INTENSIFICATION"

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INTRODUCTION

In recent years, the formation of industrial combines (*Kombinate*) and the introduction of economic planning innovations appear to have been responsible for a surprisingly strong economic performance on the part of the German Democratic Republic (GDR). The positive recent record seems to have convinced the GDR political and intellectual elite (and given them courage to suggest in private) that their country, rather than Hungary, for example, has become the model for further socialist development.

Since the energy crisis, East Germany has experienced a number of distressing problems and setbacks: after the mid-1970s there was a significant deterioration in its international terms of trade and the GDR was constrained to carry out an export drive while drastically curtailing imports; and after having become enmeshed in the international credit crisis of the early 1980s, East Germany experienced a monotonic annual reduction of investments. In spite of these difficulties, the GDR achieved its objective of sustained growth into the 1980s.[1]

This achievement did not go unobserved by the Soviet Union, for it was not the result of economic reform via market decentralization (envisioned by many western economists to be the solution for the persistent difficulties of the centrally planned economies). Such reforms have been undertaken by Hungary and China, and they are of great interest to scholars because of their possibilities. At the same time, the ultimate outcomes of the Chinese and Hungarian reform attempts remain uncertain.

Since 1970, with the termination of a seven-year reform attempt (the "New Economic System"), East Germany has been unwilling further to experiment with economic reforms. The measures undertaken since 1980 are not regarded by the GDR as reform, but simply as plan "perfecting" (*Planvervollkommnung*). The Soviet Union has shown interest in the East German system because the Soviet approach to improved economic performance is philosophically identical to that of the GDR. The

Soviet version of plan "perfecting" (Sovershenstvovaniye) has been less progressive than the East Germans' in the development and introduction of planning innovations. But the USSR likes what it sees in the East German planning amelioration endeavor.

The Chinese have undertaken what is probably the most spectacular social revolution in the second half of our century, but it would be very difficult for the Soviets seriously to consider pursuing anything like a similar course. They would not only have to feel "upstaged" by Chinese innovation, but their following suit would be tantamount to an admission that China has become the model of socialist economic development. A comparison of recent economic developments in Hungary and East Germany provides further reason for the Soviets to pursue the path that remains ideologically and psychologically closest to their traditional inclinations.

Some observers in the West have also been impressed with the apparently strong performance of the GDR. This may be based more on the general impression of strong economic performance in East Germany than on the statistical evidence,[2] or it may be based on the conviction of the East Germans themselves that they are succeeding. At the recent 11th party congress, General Secretary Honecker painted the portrait of GDR economic achievements in radiant shades and the visiting General Secretary Gorbachev (1986) congratulated the East Germans for the "remarkable results" achieved, and observed that "intensive methods" had ensured the sustained growth of their economy.[3]

It is the purpose of this paper to investigate the proposition that East German combine formation and plan "perfecting" have been at least partly responsible for weathering a stormy five-year period and achieving a higher performance level. This has been a significant achievement for the Honecker regime, the legitimacy of which is a somewhat fragile thing; East German citizens are in close proximity to the high living standards to the west as well as to the east of the Berlin wall, which constrains freedom of travel and continually invites reevaluation of the regime's progress. We wish to find what has apparently convinced many of the East German elite that they now have important solutions to some of the nagging

problems of central economic planning. To do so, it will be instructive to review in some detail the development of the East German planning system and the significance of combine formation.

**PLAN "PERFECTING" VS. ECONOMIC REFORM:
THE MISSING PRICES**

At one time the East German establishment felt that more dramatic and sweeping economic reforms were necessary to overcome central planning's difficulties, particularly that of "extensive growth," (i.e., achieving industrial growth strictly through the replication of obsolete industrial facilities). An effort was made in the 1960s to implement a "genuine" reform, i.e., to decentralize economic activity in such a way as to give greater decision autonomy (especially in investments and foreign economic activity) to the enterprise. It also attempted to modify pricing practices so that something closer to scarcity prices (reflecting supply and demand conditions) could be generated.

Unfortunately, the endeavor in the 1960s to craft and implement effective and acceptable reforms was a failure. The policy and intellectual establishments of the GDR now publicly regard the reform effort as a mistake. Since 1970 there has been no inclination even to resume a discussion of economic reform.

That does not mean, of course, that all the systemic difficulties motivating the original reform effort have been overcome. For more than two decades since the inception of the reforms, the GDR has continued to grapple with systemic problems (as well as those stemming from the international economic environment). Efforts of the post-reform period to rationalize the system are regarded by many western analysts as ineffective. It is widely agreed that the implementation of mere planning amelioration or plan "perfecting" (Planvervollkommnung) cannot succeed because it does not solve the traditional pricing problem.

We are certainly in agreement with the view that perfect efficiency cannot be achieved in the absence of rational pricing, but one should not lose sight of the fact that socialist planning reflects more than just pricing inadequacies. A list of some of central planning's principal difficulties would also have to include:

- 1) organizational problems which distort incentives, garble information transmission, and constrain improvement;
- 2) social- and job-security arrangements, the subsidization of basic goods, and the existence of the second economy, all of which generate an environment conducive to "socialist shirking" and poorly motivated workers; and
- 3) insufficiently developed managerial talent and an environment hostile to creativity and risk taking, which contribute to inadequate productivity growth and sluggish innovative activity.

The adoption of markets would substitute scarcity pricing and decentralized decision-making for the inflexible, centralized organization of classical central planning. Socialist directors would then need merely to join Western economists and policy-makers in searching for solutions to the problems of market failure. But it is not likely that the socialist preference for resource allocation by central administration will be amenable to change in the near future.

Western economists generally contend (as do the present authors) that the information and incentive properties of markets are more efficient than the organizations socialists generally substitute for markets. In terms of analysis, organizations are rather uncharted territory for neoclassical economists; they are also subject to bureaucratization, politicization, and so on. But where (better or poorer) organization is substituted for markets, the quality of organizational arrangements can just as surely make a difference in performance as, for example, the prevalent degree of competition in a market system, or the frequency, extent, and quality of central intervention in such a system.

The GDR encountered some extremely difficult problems after the 1973 energy crisis, but was not tempted to return to the path of economic reform. Worsening terms of international trade, the world credit crisis, an aging capital stock, and continuing central planning distortions merely convinced planners to undertake a reorganization of industry which was completed by 1984.[4] The combine formation process was complemented by a "flood" (Cornelsen, 1983) of new regulations, planning normatives, and directives. Indirect steering instruments were improved in order to encourage savings of materials and more rational use of capital and labor. The problem of price formation, however, has been left for later resolution. Price revisions have occurred periodically since the reform era, and a major one has been promised for the near future. But the lack of price reform (with some quasi-spontaneous generation of scarcity prices) will continue to impact negatively on efficiency.[5]

THE GDR REFORM EXPERIMENT : THE "NEW ECONOMIC SYSTEM"

After a fairly protracted public discussion of the Liberman reform proposals emanating from the USSR, in 1963 the GDR adopted the "New Economic System" (NES), the first reform experiment undertaken in the Soviet bloc. There is hardly uniform agreement (and little hard evidence), but some have speculated that the GDR acted at the behest of Moscow in implementing the reforms (Thalheim, 1975, p. 124).

Today's GDR is no less well suited for executing pilot reorganization experiments that, if successful, could be adopted by the Soviet Union. Given the reluctance of previous Soviet regimes to introduce change on more than a limited, sectoral basis, so that the general equilibrium effects of such changes are not readily discernible, it would make sense to monitor the effects of prospective reform measures in a country such as the GDR. This small, compact economy is easily observed, and it favors the kinds of (non-market) reform efforts that appeal to the Soviet Union. Some observers attribute the GDR's willing-

ness to serve as a Soviet laboratory to "responsiveness to Soviet direction" (Bryson, 1976, p. 88.). The observation of more recent experience may justify the belief that the East Germans themselves not only distrust market allocation, but also (precisely because of the unsatisfactory reform experience) reject processes of decentralization that unduly restrict the influence of central planning in general.

It was hoped that the 1963 "New Economic System" (NES) would effectively address the chronic difficulties of central economic planning, e.g., organizational and informational insufficiencies, incentive incompatibilities, and distorted allocation patterns resulting at least in part from the lack of scarcity prices. The basic conception was that reform should be a process rather than an event, and the NES was launched as a series of individual actions designed to decentralize decision-making (Beyer, 1967; Krol, 1972; Leptin, 1968; Ulbricht, 1968). It was intended that central planning continue to rely on direct instruments (e.g., mandated coefficients, targets, and directives) in pursuing long-term resource allocation objectives. All other ends were to be achieved strictly through financial or indirect instruments (e.g., imposing interest charges on capital equipment, adopting measures to dynamize administrative pricing techniques, giving enterprises access to credits beyond the pale of the plan, providing bonuses and other pecuniary incentives for plan-promoting behavior). Emphasizing enterprise profitability and permitting successful production units to exercise some choice in the selection of their own investment projects were the heart of the reform effort.

The reforms were ultimately stopped, primarily because of the foreseeable conflict between the new enterprise prerogatives and the traditional interest domain of the central planners. The enterprise managers' choice of investment projects appropriately reflected their perception of the efficient use of resources given prevailing prices. These choices did not correspond to those of the central planners, who found that the available indirect control levers gave them insufficient control over the structural development of the economy.

The planners were convinced that this development was being misdirected under the "chaos" of decentralization. A redirection of economic development was essential if desired technical progress and coordination of long-term objectives with partner states in CMEA were to be achieved. It had become apparent by 1968 that a structural policy capable of achieving these objectives could not be successful merely on the basis of indirect control mechanisms. Therefore, the Council of Ministers established a "conception of structural policy" addressing the planners' long-term development objectives and formulated "structure-determining tasks" to achieve them. Key industries, often those with more sophisticated technologies, were given priority status, i.e., they were largely freed from NES regulations and given favored access to investments (Leptin and Melzer, 1978, p. 66).

Although combines were already extant, [6] it was a 1966 decision of the politburo that initiated a more systematic process of combine formation (Rossmann et al., 1978). The undertaking was initially viewed as a means to cope with the growing complexity of inter-industrial relations. As the process proceeded, it came to be viewed as a part of structural policy. To this point, of course, combine formation had never been conceived of as an alternative to economic reform. The East Germans had already demonstrated some taste for large-scale organization, but industrial concentration was still limited; it amounted to little more than forming some associations of nationally owned enterprises (*Vereinigungen volkseigener Betriebe* or VVB) and linking Kombinat management more closely to the center. It was not until well after the 1970 return to centralized controls that the Kombinat came to be viewed as a vehicle to overcome some of the incompatible incentives and decisions of the upper and lower tiers of the industrial/planning hierarchy.

East German directors ultimately recognized that the re-centralization of 1970 could not offer long-term solutions to chronic planning problems in the hostile economic environment of the 1970s. Rigid centralization was hardly suited to carrying out an export drive, achieving raw materials economies, stimulating production efficiencies and cost-saving innova-

tions, or assuring more efficient use of labor. Yet for reasons we wish to show, there was no temptation to re-embark on a path of decentralization and reform.

It is true that ideological positions alone can constitute a barrier to reform (Betz, 1984), but it may also be true that ideological opposition is a reflection rather than a cause of East European reform aversion. Of the forces militating against reform, the pricing problem is one of greater significance. Even if one could count on enjoying the approbation of the center in the transfer of significant shares of power to the periphery, it would be required further to undertake a massive restructuring of prices, and to develop mechanisms and techniques to dynamize their formation in response to changing conditions over time (Melzer, 1983; Bryson, 1975). To this point the socialist world has scarcely addressed these ponderous tasks.

PRICING UNDER CENTRAL PLANNING REGIMES

Just before and during the reform era, when pricing and profitability were being discussed in the socialist bloc, it was admitted that "the planning of prices is the main bottleneck in the organization of the socialist economy" (Novozhilov, 1966), largely because prices at that time included "much less information than is required both by the law of value and by the theory of optimal planning." It was even conceded that marginal-- rather than average-- cost pricing was essential to efficiency.

As was the case in the 1960s, launching a new round of economic reforms today would require both price revisions and price reform. Another revaluation of capital equipment would also be a necessary condition for pricing processes properly to account for capital depreciation. These tasks are very costly and time-consuming in central planning; GDR central agents evaluating alternative development strategies in the second quinquennium of the 1970s apparently considered them more costly than beneficial, given prevailing price uncertainties in world energy and raw materials markets in that period.

Price reform might also endanger the traditional policy of maintaining consumer goods prices at constant levels for necessities such as basic foodstuffs, children's clothing, housing rents, public transport fares, etc. Honecker and Mittag (the SED's leading economics expert) committed themselves in 1971 and again in 1975 to price stability, and the regime's prestige has seemed to be connected to that commitment. Given the extensive subsidization that requires, a significantly more flexible price policy has seemed "unthinkable" (Boot, 1983, p.339). Nevertheless, the determination to maintain constant consumer goods prices has been modified in the face of hard reality since late in 1979 (Melzer, 1983, p. 67). Basic goods are still subsidized and their prices have remained relatively constant, but for goods of slightly higher quality, prices have increased since that time.

Disillusionment with the price reform attempts of the 1960s also militates against renewed reform initiatives. After repeated attempts to rationalize the price structure in the 1960s, for the five reasons (cited by Leptin and Melzer, 1978, pp. 83, 84 and Melzer, 1983, p. 55) it remained seriously defective as of the time the reforms were aborted:

- 1) The attempt to base prices on actual costs of production did not include the prices of consumer goods. Producers of products with arbitrarily high prices enjoyed profits and could undertake investment projects of their own choosing. These projects distorted the structural development favored by the planners and the plan.

- 2) An improper calculation of costs resulted in unplanned profit-taking in particular industries. This emitted unintended impulses affecting the selection of enterprise product mixes and investment projects.

- 3) Attempts to dynamize prices in individual industries were insufficient and nothing was undertaken to dynamize the price system as a whole. It is true that price reductions derived from diminishing production costs were anticipated for products far into their life cycle, but such reductions never materialized.

4) A new set of prices was formulated to reflect the capital costs of production more accurately, but its delayed and uneven introduction only resulted in price distortions. Some industries required immediate subsidization as a result of the introduction of these prices, and general (mostly disguised) price increases were soon experienced.

5) Part of the prices the GDR wished to introduce during the reform were of the capital-related type.[7] Since there was no uniform basis of valuation of the capital stock, there was also no uniform basis for the calculation of prices. Because price increases were to be avoided, capital-related prices could not be introduced in capital-intensive industries. They were, therefore, merely introduced piecemeal in other industries, which also contributed to the distortion of the GDR price structure.

When the reforms were aborted in 1970, a price stop abruptly terminated the process of shifting to capital-related pricing. To that point, only a third or so of GDR industrial prices had been adjusted, so the tremendous effort of the 1960s to revise and reform prices remained incomplete, inconsistent, and, not surprisingly, unrewarding.

From 1976 to 1985, the GDR faced the necessity of accommodating domestic prices to the impulses of more expensive raw materials and energy imports. Periodic price revisions were carried out (Erdmann, 1982, pp. 30-32), but not on the basis of theoretical models or ex-ante concepts (Melzer, 1983, p. 57). Arbitrary upward adjustments were made where substantive cost changes were encountered. During this period, however, the GDR undertook an interesting experiment in which price adjustments were to reflect the use-value improvement of new products to the purchaser. The objective was to compare the use-value characteristics of such products to similar, but "older" products. The relationship of the price to the new use-value characteristics was referred to as the "price-performance relationship" (Preis-Leistungs-Verhaeltnis). The inability systematically to evaluate and quantify demand-side characteristics (and the attempt by enterprises to overstate them) led to the abandonment of the experiment in 1983.

The cumulative effect of these innovations and pricing adjustments has been to erase any reform period progress in reducing price distortions and pricing inadequacies. At the present, separate groups of prices enjoy a parallel existence: capital-related prices and prices not capital related. Some new product prices are based on the price-performance relationship (i.e., to a certain extent on use values), while others are just based on costs with some profit markup. A serious difficulty is that the scarcities of the factors of production are not sufficiently taken into account in pricing (Melzer, 1985, pp. 1042, 1043). The current structure of prices is, therefore, in need of more than mere revisions in response to the changing economic environment. It is doubtful that efficiency could be achieved by any other approach than through substantive economic reform that would address the basic task of price formation and the achievement of dynamic, scarcity pricing. Without scarcity prices to serve as instruments of plan achievement (to enable the measurement and enhancement of enterprise efficiency in production), substantive reform is impossible.

Consider the reasons, then, why substantive reform was not given serious consideration beyond 1970: 1) Decentralization without price reform would scarcely guarantee greater efficiency anyway. 2) Combined with liberalized investment choices, decentralization would also result in a disparity between the planners' preferred development and the actual development of the economy. Obviously, the planners remain unwilling to permit East German industry free pursuit of objectives potentially in conflict with those of the planners. 3) Concern about losing control of the price structure (and experiencing inflation, especially for currently subsidized necessities), also guaranteed that genuine reform ceased to be a palatable option. It was, therefore, imperative that other kinds of improvements be developed and implemented.

BEYOND THE TERMINATION OF THE REFORM: ADVENT OF THE HONECKER REGIME

The New Economic System (1963-1970) was succeeded by a set of centrally administered controls for which no articulated theory of recentralization had been developed. Naturally, the deficiencies of central planning had been officially discussed both before and after the inception of the reforms (*Gesetzblatt der DDR*, 1963; Ulbricht, 1968). It would have been embarrassing simply to revert to a system formally pronounced flawed. Thus, when Erich Honecker replaced Walter Ulbricht as General Secretary of the party in May of 1971 after the demise of the NES, some guiding conceptions and appropriate slogans were needed to legitimize the party. Overcoming the disproportionalities developed during the reform era promised to be a demanding task.

The strategy developed by the Honecker regime for these purposes was articulated at a party congress in June. It consisted of three principal objectives (*Direktive*, 1971):

- 1) the "primary task" (*Hauptaufgabe*) of improving private and public consumption;
- 2) the "intensification" of production (raising industrial productivity rather than achieving growth through an extension of current production capacities); and, somewhat later,
- 3) implementing an active social policy of which a major housing construction program became the core feature a few years later.

The basic plan could almost be described as supply-side economics: the expansion of consumer supplies and social services had the express objective of stimulating the labor force to greater productivity. The strategy implied a reduction in the volume of resources available for investments, but it was hoped that the modernization and rational use of the existing capital stock could sustain growth. The guiding conception of the Honecker era thus became "the unity of economic and social policy," which has been characterized as the "mutually interde-

pendent relationships among intensification, productivity improvement and higher living standards" (Koziolok, 1978, p. 3).

The objective of the "primary task" of the Honecker era, the "unity of economic and social policy," was appropriate for the first half of the 1970s, but not completely so thereafter. In order to overcome its international indebtedness, the provision of improvements in public and private consumer goods became a lower priority. At the tenth party congress in April of 1981, the Honecker regime reaffirmed the "primary task" (Honecker, 1981), but the actual objective was no longer the provision of greater consumer abundance. It was, instead, a drastic expansion of exports combined with import restraints. At that party congress, Honecker (*Ibid.*) also announced a 10-point economic strategy for the 1980s which emphasized more efficient use of resources. The 10 points can be subsumed in three main operational objectives, none of which betrays any consideration of economic reform: 1) an increase in the tempo of scientific-technical progress (for a treatment of the technology issue, also see Buck, 1983); 2) better quality products, especially for export; and 3) a strengthening of intensification. The latter objective inspired a spelling out of more economical use of fuels and raw materials, improved labor utilization, concentrating investments more effectively in high technology products, rationalizing given plants, and so on. To achieve these objectives planning amelioration and combine formation were undertaken.

ORIGINS OF THE KOMBINAT

Up to the present decade there existed a middle rung in the hierarchy of GDR industrial organization, viz., the Association of National Enterprises (*Vereinigung Volkseigener Betriebe*, or VVB). Standing between the ministry and the individual enterprises, the VVB were assigned to carry out central directives and structural-political measures. Since their decision authority extended only to directly subordinated enterprises, the increasing complexity of industrial interaction rendered intersectoral or inter-industrial communication and overall

coordination of the economy increasingly difficult. Product planning and actual production decisions were more frequently carried out by different state organs (Burian, 1978). To reduce the divisions of decision authorization and enhance coordination, the *Kombinat* was created.

By 1984 combine formation had been completed with 133 combines in national, centrally directed industry, each employing an average of approximately 25,000 workers in from 20 to 40 individual enterprises. In regionally-directed industry there were 93 combines of smaller size (Hensel and Kuciak, 1984). At the time of the 11th party congress there were 127 combines in centrally directed and 94 in regionally directed industry. The number of combines can be expected also to vary little over the next years, although some organizational realignments will occur as seem desirable.

Each of these huge production organizations is directed by a single decision agent, the director general. With intersectoral powers beyond those of the former association, the *Kombinat* represents both the horizontal and vertical union of enterprises.

OBJECTIVES OF COMBINE FORMATION

The GDR derived some of its inspiration for early combine formation from the Soviet *Obyedinyeniye*, or production association, a term which is sometimes used to describe a merger of several small enterprises in a particular region.[8] Nove (1977) ascribes the development of Soviet combines to the pursuit of efficiency, i.e., to the attempt to reduce the number of links in communications processes, to free ministries and departments from a multitude of detailed functional responsibilities, to achieve economies of scale, to facilitate technical progress by centralizing applied research, to concentrate managerial powers in the hands of the director general, and to consolidate sectors whose outputs had been subject to overlapping ministerial jurisdictions.

The achievement of scale economies through increased industrial concentration is frequently mentioned in both the

western and socialist literatures. Closely related is the fact that production is difficult to manage when it is split into numerous, diverse partial processes utilizing complex technologies (Friedrichs et al., 1983). It is much easier for central planners to communicate with and coordinate the smaller number of combines with which they now interface.

An additional anticipated benefit is the enhancing of foreign trade effectiveness by integrating international economic decisions into the unified planning process at the combine level (Kratk, 1980). Formerly excessive organizational distance between industrial associations and the state foreign-trade monopolies tended to isolate production units from the impulses of world markets. Lacking the incentive to produce for such markets had a negative impact on product quality.

Other objectives include the utilization of available industrial capacities through more meaningful division of labor (Melzer, Scherzinger, and Schwartau, 1979), and the attempt to achieve full vertical integration (Boot, 1983), i.e., a forward and backward linkage of related enterprises in the generation of an end product.

Finally, the goal of rationalizing planned investments needs to be added (Melzer, 1981b). In the second half of the 1970s, there was a notable increase in unplanned investment projects. Approved projects of small scale would too often expand in scope after their inception. Better coordination and communication, together with greater concentration of investment responsibility at the *Kombinat* level, should result in reduced waste.

Kombinat formation in the Soviet Union has been described as the Soviet leaders' "chosen alternative to market-type decentralization" (Nove, 1977, p. 82). It resulted in no substantive change in Soviet industry, and the process was not carried through to completion as in East Germany. Although the development of both the Soviet and East German economic systems has been the same in their general thrust, the technical organization of industry differs between the two (Haffner, 1980). In both countries the combine formation movement began as a part of the effort to shift from extensive to intensive industrial production.

Western observers have often criticized the Soviet/East German attempt to ameliorate classical planning organization and planning mechanism for lacking a "unified theory of reform" (Haffner, 1980). The Soviet economy has experienced two decades of continual if rather fruitless reorganizational experiments since 1965; that economy has appropriately been characterized as on a treadmill (Schroeder, 1979). For the student of Soviet economics, *deja vu* has become a way of life.

GENERAL EFFECTS OF COMBINE ORGANIZATION

The most important effect of the GDR's combine formation movement has been the strengthening of the middle level of the planning hierarchy. It would be an oversimplification to consider the ministries and *Kombinate* a self-contained two-level system; the enterprise has scarcely disappeared as an independent organizational unit, although the combine has assumed some of its former responsibilities and prerogatives (Haffner, pp. 21, 22). The enterprises have maintained legal and accounting independence.

It appears to be the intent of combine formation architects that production units function both as actors and objects of economic policy. They are to function as policy objects in their implementation of central imperatives. They are actors both in 1) providing informational inputs from the production level and 2) in taking actions and decisions necessitated by planning errors, gaps, and inconsistencies.

For all enterprises and combines some extra-plan activities and decisions are appropriate. Some of these are technically illegal though not officially opposed, some are legal and tolerated, some are legal and officially encouraged. Within the scope of acceptable extra-plan action, production units pursue their own objectives. The center, of course, tries to influence activity through the use of indirect instruments, so that enterprise objectives will correspond with their own. Since East German economic leadership has failed to establish rational prices (those which serve both as a measure of enterprise performance and as a means to realize plan objectives;

see Beyer et al., 1980), it has been necessary to seek other measures permissive of rational central decisions. In order to achieve this, some accommodation had to be made with production units, for they are the repositories of the detailed information required for effective planning and centralized decision-making. Kombinat formation can, in a sense, be viewed simply as a means of reducing the divergent objectives of combines and enterprises (Melzer and Erdmann, 1979; Melzer; 1981a, Hamel, 1981; Klein, 1983).

The director general (DG) of the combine is expected to exercise planning and management functions; he is to follow the plan, harmonize enterprise and central planning objectives, and overcome any bureaucratic constraints blocking technical or production initiatives. By delegating planning responsibilities to the DG (e.g., material balancing of certain goods, some structural investment planning for the branch, certain international transactions, etc.), central planning organs were to be relieved of some of their former burdens. In spite of pricing deficiencies, the Kombinat makes more rational decision-making possible (at both the higher and lower levels) simply because the combine can provide the center with information which existing prices fail to convey.

In a certain sense, the Kombinat is also capable of insuring more rapid implementation of central decisions. If director generals suggest or even experiment with production improvements later recognized and adopted in the plan, the Kombinate have strong motivation to commit subordinated enterprises to such procedures.

In sum, the DG shares such broad powers with the center that western observers have considered his organizational advent symbolic of increased economic centralization. The totality of combine prerogatives and responsibilities include (Richard, 1981):

- 1) the industry's R & D program;
- 2) the acquisition of required capital equipment;
- 3) the construction of facilities and equipment (Rationalisierungsmittelbau) required in the development of innovations (Wenzel, 1984);

- 4) the production of intermediate goods;
- 5) the production of final goods; and
- 6) the marketing of the commodity, both domestic and international.

In short, the combine is responsible for all the functions of industrial production. Previously, R & D activities were subordinated to a separate ministry, and work desired by an industrial association or large enterprise had essentially to be contracted out to specialized units. These units, detached from the practical needs of production and marketing, would often "solve" assigned tasks in counterproductive ways. Techniques or equipment would be developed, for example, that required imports from hard currency areas when the client production unit had no access to such hard currencies.

By the same token, the marketing of final products beyond national frontiers had never really been undertaken by production units before combine formation. Enterprises were inclined under earlier organizational forms to ignore marketing needs confronted by the separate and distant foreign trade enterprises. The latter had the responsibility to "unload" the commodities produced by the disinterested producers in external markets. Now, commodity development, production and marketing functions are all joined in the hands of the director general.

It should not be expected, of course, that industrial reorganization could solve the entire catalog of central planning problems, even the organizational ones. The reorganization has even created some new difficulties (Melzer, Scherzinger, and Schwartau, 1979, pp. 370 and 371), including the following examples:

- 1) When an enterprise is reassigned from industry A to industry B, communications and coordination with industry B are clearly improved. But in a system weak in horizontal communication links (and in the GDR some messages must still be transmitted up through the industrial/planning hierarchy from one enterprise and down again to another), the enterprise can no longer interact as conveniently with industry A.

2) As concentration increases in an industry, the Kombinat perceives that its buyers become more dependent, and it may face less potent incentives for product improvement, etc.

3) Because the Kombinat has greater jurisdiction than the former industrial associations, it is more directly responsible for inadequate performance, even when such inadequacy is due to systemic rather than managerial failure. Sensitivity to increased responsibility can cause the director general and his staff to be insufficiently aggressive in a system already rather hostile to vigorous entrepreneurship and creative innovation.

It has been recognized in the GDR that excessive regional dispersion of individual enterprises or plants within the Kombinat will have a negative impact on performance. Furthermore, continued expansion of the size of enterprises and combines is not likely to produce significant additional effects on production (Hensel and Kuciak, 1984). Rather, enterprises of all sizes should be arranged organizationally and geographically in meaningful relationships with other enterprises and the Kombinat (Liehmann, 1984). This is especially important in consumer goods production.

Clearly, the internal management and planning of the Kombinat is challenging in spite of the benefits of reorganization. It is not surprising that the combine era has thus far been characterized by extensive experimentation and an ongoing effort to refine the planning organization.

ORGANIZATIONAL FORMS OF THE COMBINE

The intent of industrial reorganization was to make the Kombinat a partner "of new quality for the central state organs" in its production and planning responsibilities (Thiele, et al., 1982, p. 28). The combines are now important participants in the planning of technological developments, investments and modernization projects, and the development of new and improved (preferably exportable) products.

The reorganization simply disbanded the former VVBs (industrial associations) and left their successor organization, the Kombinat, with greater decision maneuverability. The directive prerogatives of the VVBs now belong to the combine, and the DG has additional powers with regard to the internal organizational structure of the combine and its subordinated enterprises. Decisions taken in the context of delegated state powers often require, of course, the confirmation of the appropriate minister. Original combine formation countenanced four basic organizational forms suggested by the specific conditions prevailing in divergent industries (Kratk, 1980 and Melzer, 1981a).

1) Some enterprises were united under the direction of an independent management body, much as was the case under the former industrial associations.

2) Some enterprises were joined in several small clusters of a product group, each cluster being directed by a "leading enterprise" (*Leitbetrieb*). A small group of leading enterprises jointly direct the industry as a whole.

3) Some already very large enterprises with diverse and large enterprise divisions were simply adorned with the appropriate combine title.

4) Some enterprises were unified under the leadership of a dominating "parent enterprise" (*Stammbetrieb*).

It should be noted that in spite of the great diversity possible under these organizational types, the objective in each was that the combine be under the direction of a single decision agent, the director general.

From organizational forms depicted schematically (Author's *Collective*, 1979, pp. 344ff), and from the organizational charts of some of the leading combines in East German industry (Kratk, 1980), it is evident that they pursue diverse production agendas and are geographically widely dispersed. Director generals will, therefore, not always have command of all the relevant information available to the enterprise managers, regardless of the particular form of *Kombinat* organization prevailing.

Whereas the former industrial associations joined enterprises strictly along industrial lines, the combines attempt to take account of organic relationships among enterprises. Their formation and also the anticipated occasional reorganization of combines does and will consider the individual enterprises' profitability, efficiency, and sales turnover (Melzer, 1981b). Important suppliers not clearly falling into an industrial grouping are absorbed in what appears to be the most suitable combine. The objective of organizational grouping is the creation of a more clearly defined and streamlined economic-administrative and managerial system-- one permissive of better and more rapid information flows and less time-consuming and costly intersectoral coordination.

The anticipated benefits of combine formation have not always been as abundant as hoped, and certain problems were encountered by each of the organizational types (Erdmann and Melzer, 1980, part II, pp. 1048-1051). Not too long after the combine movement had gotten off the ground, it began to grow apparent that in the long run only the organizational form featuring the *Stammbetrieb* or "parent enterprise" (listed as number 4 above) would be favored by party and planning authorities. Guenter Mittag (1983, p. 45), Secretary for Economics of the Central Committee of the Socialist Unity Party, indicated that the parent enterprise managerial form had proved most effective and should be adopted in most industries. Mittag referred to the managerial rationality and reduced administrative costs achieved by those branches of the *Stammbetrieb* type. Other organizational forms in GDR industry should be considered "transitional solutions" (*Uebergangslösungen*), and were only suitable under (hopefully changeable) conditions in which the *Stammbetrieb* could not be adopted.

This viewpoint was reiterated somewhat later when Mittag (1985, p. 73) announced that progress toward universal adoption of the system was being made. He emphasized that capable leadership of the parent enterprise was the *sine qua non* of effective combine organization, and that the party is determined that industrial branches will with few exceptions be organized under *Stammbetrieb* leadership. Some earlier Western criticism of GDR industrial reorganization may be due to a lack of

perception of the adoption of this organizational form as the general rule. The highest echelon of combine leadership, the director general and his staff, are now actively engaged in the leadership not only of the industry as a whole, but also of the major enterprise of that industry. They know and share the problems and difficulties of functioning within the industry, they have firsthand access to information (real opportunity costs, production possibilities and constraints, etc.) available to other enterprise managers in the branch.[9] Previously, the information available to enterprise managers at the production level was not accessed by central organs. Combine formation can be viewed as an attempt to reduce the scope of the information problem arising from the divergent objectives of center and periphery (Melzer and Erdmann, 1979; Melzer, 1981a; Hamel, 1981; Klein, 1983). Through the director general, the manager of the parent enterprise, planners can hope to have better information available.

The suggestions and directives communicated to enterprise managers are less likely to be perceived by the latter as strictly academic; they are now much more likely to be perceived as both feasible and appropriate. Under the old hierarchical arrangements, the directors of the industrial associations (VVB) were less likely to be taken seriously. They were removed from actual managerial practice and problems and were not as readily perceived as "colleagues" by enterprise managers. As a result, the managers were often unwilling recipients of the directives, recommendations, wishful thinking, and "petty tutelage" of the VVB directors.

Some of these second-tier managers received their appointments to association directorships on the basis of their earlier performance as enterprise directors. But having left the ranks of their colleagues, and having been relieved of direct responsibility for production success, they were free to engage in wishful thinking, to threaten intervention in enterprise decisions, and to impose a plethora of experimental directives on the industry (Bryson and Melzer, 1986). In short, once they left enterprise ranks they were suspected of forgetting previous attitudes and loyalties. And it is quite natural that an

agent "graduating" to a new rank within a hierarchy gains new organizational perspectives.

Since combine managers are now burdened with the management not only of large parent enterprises, but also of material balancing, planning functions, foreign trade, and research and development for the entire industry, they lack the time and strength to intervene in many of the day-to-day affairs of the juridically independent enterprises subordinated to them. This may permit greater maneuverability and independent decision action for the enterprises than is apparent from the basic Western perception of GDR industrial organization.

The delegation of some of the planning tasks from the central organs to the combines also has the effect of relieving the center of some of their former tasks, so that they can concentrate more effectively on the basic, long-term structural development of the economy. This represents the "most significant step in the perfecting (*Vervollkommnung*) of economic management and planning" (Honecker, 1979).

Some disadvantages of the "parent enterprise" (*Stammbetrieb*) organizational form partly offset the benefits it offers. It is not always simple to choose the best enterprise with the associated director to represent the "parent." The enterprise selected for this honor and responsibility may not be the most efficient producer, in which case it may be a poor measuring stick for evaluating the performance of other enterprises in the *Kombinat*. Moreover the *Stammbetrieb* is in a position to accept beneficial production specialties and advantageous production assignments for its own agenda, passing on disadvantageous ones to subordinated enterprises.

The process of strengthening the combines has necessarily weakened the position of the enterprises and in some instances has a negative effect on enterprise incentives. The result has been the appearance of some significant managerial problems within the *Kombinate* that will require our attention later. Problems are expected, of course, in a hierarchy of multiple tiers with inadequate capacity for accounting, monitoring, and control (Erdmann, 1983).

THE DIRECTOR GENERAL: MINISTERIAL AGENT AND ENTREPRENEUR

As we have seen, the combine director general (DG) is expected to be a leader among his fellow enterprise managers; he is expected as well to function almost as an agent of the ministry. In the latter capacity, he may receive delegated responsibilities from the minister, to whom he generally has ready access. The director general will perform tasks in the interest of the ministry (Gesetzblatt, 1979a), but for many key functions at the industrial and enterprise levels, his responsibility is independent of the ministry. His managerial powers are greater than those enjoyed by the directors of the former industrial associations.

The DG is responsible for current production (from the direction of R & D work to the marketing of the final goods, both domestically and in world markets), and must also determine the combine's general development path and long-term goals (Richter, 1981, p. 100). These decisions will affect the level of industrial concentration and have an impact on the production specialization of individual enterprises as well as the Kombinat as a whole.

To accomplish these tasks, DGs are empowered to transfer functions and tasks from one subordinated enterprise to another, to hire and fire enterprise managers and even middle-level enterprise management. They are authorized to transfer machinery or commodity production sites from one enterprise to another, and to verify that enterprise pricing decisions have been made in accord with centrally mandated rules (Melzer, Scherzinger and Schwartz, 1979).

THE ENTERPRISE DIRECTOR [10]

The linking of industrial supervision and general planning tasks in the hands of the DG can result in complex relationships between the combine and the enterprise. The extensive powers of the director generals, however, do not emasculate the enterprise manager. The enterprise remains a legally indepen-

dent entity; with the approval of the DG, its managerial structure is determined by the enterprise director. Planning coefficients and normatives, together with the legal context within which the enterprise manager must function, determine the parameters of his decision space. Nor are a manager's decisions independent of the relevant party and trade union officials. The enterprise manager is responsible for the organization of the specific production process that will be expected to fulfill the plan, increase labor productivity, and reduce energy and raw materials requirements.

The *Kombinat's* DG provides the enterprise with basic plan indicators, but the manager and his staff must determine the actual commodity assortment that will make up the production menu. When the enterprise is successful in accruing social, cultural, premium and other funds, it allocates those funds independently.

In adopting production techniques the enterprise is enjoined to further the scientific/technological revolution. When the production program has been worked out in some detail, it is implemented at the initiative of the enterprise itself as it enters into contracts with other enterprises. The enterprise director hires his own workers and specifies the appropriate job classifications and the specifics of individual workers' wages (within the guidelines of the centrally-determined wage schedules, of course). The social program administered by the enterprise includes the provision of education and vocational training (for prospective, new, and continuing employees and their families), child-care facilities, and medical and housing facilities.

Basic legal and traditional prerogatives have been retained by the enterprise in spite of the greater centralization implicit in some aspects of combine formation. Moreover, in industries where enterprises are numerous, production agendas diverse, and technologies complex and varying, "planning free zones" and other planning insufficiencies (Haffner, 1980) will continue to give enterprise managers some independence and decision maneuverability.

THE COMBINE AND THE MINISTRIES

As to the division of authority between the minister and the DG, East German law (Gesetzblatt, 1979) is appropriately somewhat ambiguous. The respective rights are somewhat contestable, but have generally been interpreted so as to vouchsafe important prerogatives to the DGs. Honecker (1979) admonished ministries to limit their focus to substantive planning issues such as the preparation of investment programs or the development of new norms or planning indicators. This leaves the door open, of course, for intervention the ministries deem necessary, both at combine and enterprise levels. An example of such intervention was the occasional intervention of the center during the export drive of the early 1980s, during which period perceived opportunities to earn foreign exchange were rigorously pursued at the behest of the ministry. Enterprise managers reluctant to depart from the plan were overruled by the combine directorship or even the ministry.

In normal situations with strong enterprise and industrial leadership, ministries are not as likely to engage in "petty tutelage." Ministries ideally restrict their activities to general planning concerns. Nevertheless, before combine formation was very far along, some ministries were reluctant to relinquish their previous influence. Some combines, for example, began almost immediately to establish their own production agendas quite independently, while others received their production plans as a completed document from the ministry (Gabler and Wichler, 1979). Today, the combine is free to determine the broad outlines of its own development, but ministerial approval must still be secured and retained (Boot, 1983, p. 338).

If proposed alternatives are unacceptable, it is the Kombinat's right to propose new ones. We should not forget, of course, that although the minister has the last word (given his power to hire and fire director generals), the combine has better access to information, i.e., to the real prices and substitute relationships prevailing in the industry. The ministry can solicit any desired information, but the combine can usually manage and prioritize its communications so as to hold its own.

The ministries apparently limit themselves to the activities mentioned above, but two important central agencies, the Ministry of Science and Technology and the Central Planning Commission (*Staatliche Plankommission*), retain the authority to intervene in combine affairs to maintain plan integrity and achieve special objectives.

There is increasing ministry/combine specialization in the area of formal planning. The combines are apparently assuming the responsibility for the more detailed planning tasks, while the ministries concentrate more on balancing the most important product groups (Boot, 1983, p. 339). The combines can now provide more substantial input into the plans they will have to implement. Their increasing participation in central planning tasks probably more than offsets any reduction in the activities of the ministries. The overall scope and detail of GDR economic planning has thus increased in the wake of combine formation.

KOMBINATE IN THE INTERNATIONAL ARENA

In the area of international trade and "socialist economic integration," the combines have been given substantial new powers and responsibilities. The former industrial associations, the VVBs, were not permitted to engage in international transactions directly. Nor were they particularly interested in the marketing problems they inflicted upon the foreign trade organs when they delivered commodities of a quality that could not be guaranteed to sell. As a result of their new international trade responsibilities, the combines have been confronted by the world market with its quality, assortment, and product service demands. Moreover, almost all *Kombinate*, especially those producing final goods, are now expected to export some share of their output.

The state foreign trade monopoly has hardly disappeared and the foreign trade enterprises retain prerogatives in these activities. The combine's second in command, the deputy director general (*Stellvertretender Direktor*) is usually responsible for export. He answers not only to the DG, but also to the

foreign trade ministry. Should the DG attempt to avoid or shortchange his international trade responsibilities, the foreign trade ministry is likely to hear about it.

Organizational changes undertaken in 1981, 1982, and 1984/85 in support of the export drive were designed to affect the foreign trade system. Twenty-three foreign trade enterprises were placed under the joint jurisdiction of the Ministry for Foreign Trade and an appropriate combine. The export assortment of the trade enterprise corresponded to the production profile of the related combine. This arrangement was intended to provide greater flexibility in the generation of final commodities that would prove competitive in world markets. Another twenty foreign trade enterprises could not be subordinated to combines since their export assortments did not correspond to the production menus of any individual combines; at first they remained under the joint jurisdiction of the Foreign Trade Ministry and some appropriate industrial ministry. In recent years, 12 of these have been divided into 61 (juridically dependent) firms designed to fit the production profile of combines to which they have been subordinated. An additional four foreign trade enterprises have been created as consulting firms. Only ten foreign trade enterprises remain under the sole jurisdiction of the Foreign Trade Ministry (Haendcke-Hoppe, 1984 and 1985). A total of 64 foreign trade enterprises and firms are now engaged in independent foreign trade functions.

As previously mentioned, Kombinate are permitted to participate in integration projects within East Europe's regional economic integration effort, the Council for Mutual Economic Assistance (CMEA). It is their privilege to present alternative solutions for economic, scientific and technological cooperation. They may exchange information and experience and enter into specialization and production cooperation contracts with CMEA partners (Klinger, 1980).

REMAINING CHALLENGES OF COMBINE ORGANIZATION

With the basic organization in place, East Germans seem confident that adjustments required to remove remaining deficiencies and to respond to changing technological and environmental conditions can readily be made as needed. It is also recognized, however, that some changes will be required. The creation of some combines amounted to little more than a change of names for the former VVBs (Melzer, 1986, p. 453), and it is probable that additional adjustments will be required. Some industrial groupings will prove unsatisfactory, and reorganizations will be undertaken except where factions in the planning hierarchy preclude change threatening to relevant interest domains.

Of the challenges requiring attention over the next few years, finding an appropriate level of industrial concentration will be a key one. The GDR's periodically reappearing industrial gargantumania has led to increased concentration. At the end of 1972 there were 10,600 enterprises; only 5,000 remained by 1980. Combine formation brought the number down to roughly 3,800 (*Deutsches Institut fuer Wirtschaftsforschung*, 1985, pp. 150ff). These have been joined in extremely large combines of up to 80,000 workers.

The process of combine formation was not attended by any soul-searching discussion about what unit size would represent the optimal degree of industrial concentration.[11] The compelling reason for large production units in central planning systems is actually a simple one. It is impossible to solve communication and coordination problems with huge numbers of small units all requiring monitoring, managing, and auditing from the center.

The disadvantages of large scale units in economic planning include the difficulty of managing large and powerful production units. The monopoly power accruing to a number of combines can dull the incentive to behave competitively by discovering and adopting product innovations and by reducing production costs. Especially damaging would be combine monopolization of information needed for planning purposes. Should

the director general come to perceive himself more strictly as an entrepreneur/producer than as a representative of ministerial interests, his incentive to withhold planning information from the center in pursuit of personal interests would correspond to that of other producers in the combine. Bottesell and Hummel (1984) note that economic legislation alone cannot guarantee a correspondence of combine and general economic interests in society. Only the integrity of economic agents can assure behavior that reflects the general interest. Western observers are less sanguine about the likelihood that agents will be properly motivated (in the absence of competitive forces) to elicit productive and innovative performance from their industry.

The consolidation of DG prerogatives in the *Kombinat* has implied a weakening of the position of the subordinated enterprise. As enterprise integration into the combine proceeds, the decision maneuverability of the enterprise director becomes more limited. Unless enterprise directors enjoy frequent consultation with the director general and consider their input effective, incentives will be impaired. Significant improvement in this area seems both possible and necessary (Melzer, 1986).

The concentration of economic power in the combine suggests an extension of the mechanisms of industrial regulation and control. This has been observable in the GDR as the number of personnel and assignments has increased for the State Auditing Office of the Ministry of Finance, Worker-Farmer Supervision, the Office for Standardization, Measurement and Commodity Inspection, and the National Office for Statistics. Increased monitoring activities have been assigned to the unions, the Free German Youth, and the committees of the National Front (Kinze, Knop, and Seifert, 1983). This is seen by some as a substantial growth of the planning bureaucracy adding to the unwieldiness of the system.

VERVOLLKOMMUNG: GDR PLAN "PERFECTING"

Early in the 1980s East Germany's economic situation called for immediate action. The Soviet Union announced without warning that petroleum deliveries would be reduced from the previously contracted 19 million tons per annum to 17 million tons beginning in 1982. Moreover, the GDR was visited by the international credit crisis as Western banks refused to grant extensions on GDR loans. The policy response of the country's economic leadership was to attempt even more vigorously than had been done earlier to expand net exports as rapidly as possible.

As this occurred it was becoming clear that the ongoing campaign to shift from extensive to intensive production still lagged far behind expectations. Some kind of planning response was desirable to improve effectiveness and raise the productivity of workers. Organizational improvements were well underway and it was time for the next phase, the introduction of a large number of new regulations and directives. The hope was to achieve both greater precision in direct planning and to strengthen cost/benefit thinking in the calculation of combine and enterprise leadership.

The new regulations included: 1) the systematic reduction of production costs on the basis of greater cost discipline; 2) control mechanisms on the use of funds and on financing investments to secure more consistent and expansive technical progress; 3) credits to promote the improvement of enterprise management and finance; 4) the use of Instruments (e.g., "profitability" and the use of retained earnings) to stimulate the "intensification" of production.

It should be emphasized that this effort was implemented and sustained in the confidence that it could bring about permanent change. One observes the partial adoption of tentative experimental measures in Soviet industry, noting that economy's poor integration and inconsistent implementation of such measures (Kapustin, 1984). One also recalls the brief Andropovian "reform through discipline" which caused a dramatic three-month increase in Soviet production at the beginning of 1983 (Goldman, 1983, p. 325) and nothing at all thereafter. The effort in East Germany carried sustained commitment and persistence.

THE RESTRUCTURING OF DIRECT PLANNING "LEVERS"

Combine formation was designed to incorporate the Kombinat into the planning process, i.e., to capture production-level informational and innovational potential available to combines for planning purposes. Because including the combines in the planning process did not achieve the elusive intensification of East German industry, it was deemed necessary to extend the system of planning norms and controls, as well as the number and effectiveness of planning coefficients used to evaluate enterprise performance. Specific intensification tasks would have to be prescribed from the center.

Preparation of the combine's final plan is to be accomplished with the appropriate feedback from the competent minister, but the DG is responsible for disaggregating the prescribed plan targets into differentiated obligatory targets for the enterprises (*Gesetzblatt*, 1979). The influence accorded to the director general in this process varies among combines.

An attempt to improve the enterprises' efficiency efforts led to an abandonment of the perennial nemesis of central planning, the gross output target or "industrial commodity production." Since the 1984 plan, the "main coefficients of enterprise evaluation" have been net production, net profit, production of commodities and services for the populace, and production for export. The use of these coefficients, GDR specialists believe, forces production units to focus not merely on meeting physical targets, but to respond to domestic consumption demands and world markets.

Additional important qualitative coefficients used in GDR economic planning include labor productivity, material costs per 100 Marks of physical product, and production of "economically important and high-quality goods." In fact, there are currently in excess of 100 indicators in force in centrally controlled industry. Two particular measures seem especially symbolic of the center's determination to achieve better cost/effectiveness performance. First, profitability has once again been elevated to high status as a performance measure. This concept has changed slightly over time (Zimmermann, 1985, vol.

2, pp. 1116, 1117), so it is not precisely what it was during the reform era, but profitability is again a key measure of enterprise effectiveness. Second, labor productivity, as measured on the basis of net product, is a key indicator.

A plethora of norms and normatives were introduced to decrease the consumption of raw materials and energy in production processes. A review of the situation in 1982 led to a reduction in the number of normatives in force (Gesetzblatt, 1982b), but increased the proportion of all inputs to which they were to be applied. At the same time, the system of material balances was expanded in its coverage of materials, raw materials and semi-finished goods. Approximately 76 percent of centrally-determined production is encompassed in 2,136 balances, while the remainder is incorporated into 2,400 balances drawn up by authorized combines and confirmed by the responsible directors general (Rost, 1982). In the Spring of 1986 the number of centrally prepared balances was 1,135 (of which 451 were state plan balances and 684 ministerial balances), the number of combine-level balances was 3,400.

In drawing up the material balances, an attempt is made to constrain energy and raw materials use more effectively through the use of quotas and consumption norms. In consumer goods balances, the endeavor is to include more effectively the commodities of various price groups and varying regional supply needs. Balances drawn up for capital equipment are to take account of export requirements and investment priorities. There has been an effort to make the balancing process more responsive to changing market conditions by obligating the balancing committees to be responsive to the short-term decisions planners may pass on to them (Gesetzblatt, 1983g).

Finally, legislation has addressed the problem of high transport costs and the location of industry (Gesetzblatt, 1983b). An act effected in mid-1983 requires Kombinat directors, enterprise managers, and foreign trade enterprise leaders to give an annual accounting of the efficiency of the use of the productive factors under their jurisdiction.

THE RESTRUCTURING OF INDIRECT PLANNING "LEVERS"

The deterioration of the GDR's economic situation in 1982 revealed the gap between the planners' intensification expectations and the actual performance of the economy. The party's introduction of "economic levers" or indirect steering mechanisms appears to be a response to the crisis, but it is possible that this phase of planning amelioration had been under preparation (as a part of the reorganization of GDR industry) even before 1980.

The term "economic levers" came into vogue during the reform era, and refers 1) to financial mechanisms designed to motivate plan fulfillment and 2) to the implementation of "economic accounting" (*wirtschaftliche Rechnungsfuehrung*).^[12] Such levers were to stimulate a reduction of production costs, an expansion of exports and more extensive import substitution (*Gesetzblatt*, 1983c).

Indirect steering mechanisms were restored in order to upgrade the role of enterprise profitability. Net revenues had previously served only to meet the financial needs of production units. Now profitability became the measurement criterion of rational resource use in production (*Gesetzblatt*, 1983c). Even when revenues exceed costs, the enterprise or *Kombinat* retains only a designated portion (not, of course, because of any property rights that would give the production unit a claim on them, but as a reward for achieving a reduction of costs or for expanding production). Unapproved profits stemming from enterprise violations of price or quality regulations are confiscated.

Enterprises and combines are to adhere to planned cost reductions scheduled on a yearly basis (especially for energy). The combines are required to work out medium-term cost-reduction programs, and enterprises to prepare cost analyses as an encouragement to further savings.

If planned profit earnings are achieved, enterprises and combines can pay required production and net revenues levies and also accumulate planned funds for the workers. If revenues fall below targets (because of a failure to perform assigned

tasks or to meet cost norms), the production unit not only encounters financial difficulties and experiences a reduced capacity to raise funds for internal use, it can also suffer the loss of other financial possibilities, e.g., state "achievement" funds (*Leistungsfonds*) and investment funds. If earnings are in excess of plan targets, incentive earnings can yield specified amounts of greater magnitude yet; this is especially true if the improved earnings result from enhanced export earnings.

A "Production-fund levy" (*Produktionsfondsabgabe*) is used to encourage more prompt implementation of planned investment projects. Lower levy rates are intended to provide incentive to complete new projects ahead of schedule, while higher ones are to discourage completion delays (*Gesetzblatt*, 1982f and 1983i). Beginning in 1986 the production-fund levy will be based on net (rather than gross) value of fixed assets, so that there will be an incentive to maintain old capital in use. Levies against old equipment will therefore be lower. The levy is also no longer constant at 6 percent, but can be changed according to perceived need in the annual plan. When new plants are put into operation earlier than scheduled, the levy will not be applied until the originally planned starting date. If completion of a plant is delayed, higher, punitive rates will be levied for a period of time.

Planned net revenues levies (*Nettogewinnabfuhrung*) are to be paid in full, even when revenues fall below plan targets. Previously, earnings shortfalls would have resulted in reduced levies, but combines and enterprises suffering shortfalls must now delete their funds of retained earnings or borrow to meet the law requirement. Such credits are given, of course, only when it can be demonstrated that appropriate measures have been taken to restore sound performance. If the net revenue levy is not submitted promptly and in full, the responsible bank is empowered to withdraw the sum due from the account of the delinquent enterprise or *Kombinat*.

As production units accumulate funds or retained earnings from sales revenues, or have an accrual of financial resources to meet operating costs, these are earmarked for specific purposes. Their expenditure can be made only in strict compliance

with legal prescription and is carefully monitored by the responsible bank. Combine leadership has access to several types of central funds, including: 1) reserve funds, which among other things cover the risks involved in innovation and the reorganization of production processes when domestic raw materials can be substituted for imports; 2) advertising funds; 3) the director general's funds for intensification achievements, which reward special technological achievement; and 4) funds for science and technology, which are generated from cost savings.

For rewardable performance, enterprises are also permitted to accumulate funds of their own, including: 1) maintenance funds, also derived from cost savings; 2) foreign currency funds, accumulated by over-fulfilling export tasks with high profitability, allow the financing of specific imports; it is intended that the latter should make it possible to achieve an immediate expansion of new exports (Finger, Gertich et al., 1982); 3) special funds for fashionable production, which are financed from specified surcharges.

Some funds can be accumulated simultaneously by both enterprises and *Kombinate*, including: 1) investment funds, which are generated from depreciation allowances and accumulated profit shares; 2) risk funds, formed from cost-saving achievements and above-plan profits; 3) social-cultural funds, also financed from cost savings; 4) performance funds, which are awarded for profitability in excess of plan targets and are designed to finance the enterprises' or combines' planned expenditures for "rationalization equipment" (Gesetzblatt, 1983d); 5) incentive funds (*Praemienfonds*), which can accumulate from net earnings when specified performance criteria have been satisfied (Gesetzblatt, 1982d) and which provide bonuses for intensification successes.

The GDR apparently believes that special bonuses targeted at specific workers can provide incentives that will help achieve improved performance. The end-of-the-year bonus, an important general incentive given to nearly all workers, has been strictly frozen at the level of 800 Marks per worker, an amount somewhat less than average monthly earnings.

East German credit policy is used by state banks to monitor and influence enterprise performance. Prevailing interest rates are held at low levels in order to stimulate plan over-fulfillment, export expansion and investments that might promote intensification (Gesetzblatt, 1982c). For production units failing to satisfy established efficiency criteria, higher rates apply.

Probably the most important innovation introduced in the drive for planning amelioration was the "levy for social funds" (Beitrag fuer gesellschaftliche Fonds), which was introduced in manufacturing industry at the beginning of 1984, and in construction at the beginning of 1985. The Beitrag is a sort of tax amounting to a ponderous 70 percent of the total payroll of the enterprise (Gesetzblatt, 1983h). The intent is not so much as officially stated, viz., to extract an indemnity payment to offset state-financed subsidies for education, social security for the elderly, health maintenance, etc., as to provide an incentive for more rational use of labor by raising its cost.

For new products the levy is included in the determination of the new price, but for all products already in production before 1984, the previous prices still apply (Gesetzblatt, 1983f) until they are ultimately adjusted in a centrally administered price revision. GDR planning authorities are now waiting for achievable labor economies to materialize as production units reassess their labor hoarding strategy and attempt to minimize levy payments by using labor more efficiently. Planners have moderated their position temporarily by permitting enterprises to pay a lesser sum from their net proceeds than would actually be required by the levy (Gesetzblatt, 1983e).

Recent regulations have also modified GDR pricing practices, all of which are based on legislated rules. "Step-wise" price revisions occur on a rather continuous basis, but the center has also recently made some alterations in the methods of price formulation.

Price calculation rules currently require a more careful accounting of cost elements than in the past. Restrictions as to what costs may be excluded as "not susceptible to advanced planning" are also much more restrictive (Gesetzblatt, 1983e). For the pricing of new commodities, use-value characteristics

as prescribed in the "price-performance relationship" (*Preis-Leistungs-Verhaeltnis*) are no longer considered. Abandoning allowed, prices may no longer exceed the established limits. They must then be at the level of cost expenditures approved by the state pricing agency.

GDR planners expect the use of these pricing techniques to provide more impetus for innovation. For producers who retain old commodities in their production program beyond a product "lifetime" (specified when the product is introduced), automatic price reductions are mandated.

PLANNING AMELIORATION'S REMAINING CHALLENGES

Combine formation in GDR industry seems to have effected a net diminution of enterprise powers, in spite of the retention of the juridical independence of the enterprise and the persistence of planning gaps. The DG's broad powers displace some of those of the enterprise manager. Nevertheless, given the numerous, challenging tasks of the combine, the potential danger of "petty tutelage" seems reduced, at least until the computerization of combine information processes gives the DG time for more frequent intervention.

A more real concern is that the parent enterprise could simply appropriate to itself the more advantageous assignments in the branch's division of labor, delegating less advantageous ones. It could prove counterproductive to pursue such a policy, of course, since the DG is rewarded not according to the performance of the parent enterprise but of the entire combine. Enterprise production can be generated at minimum cost by assigning quotas such that the associate marginal costs are equal for all firms. To favor the parent enterprise in any manner that would result in higher marginal costs, or to elicit output from a firm of higher costs than other arrangements would permit, would be to guarantee suboptimal performance.

Moreover, should the subordinated enterprises perceive any continuing bias in the specialization assignments favoring the parent enterprise, or suspect combine management of taking ad-

vantage of combine resources to further the interests of the parent enterprise (in order, perhaps, to maintain the credibility in industrial leadership), the goodwill and cooperation of the subordinated units would certainly be lost.

Cooperation between and within combines can also be problematical (Mittag, 1985, p. 72), especially the supply process within and between combines. Units supplying intermediate goods to other enterprises too frequently offer components whose technical level, quality, durability and reliability are unacceptable (Bottesi and Hummel, 1984, p. 79). Input-furnishing Kombinate have been instructed to replace 30% of their total assortment of goods with new ones each year (Mittag, *Ibid.*). The East Germans believe these supplier firms are too infrequently exposed to the competitive quality demands of world markets, and they have been instructed to prepare to export a share of their output in the future.[13]

Internal cooperation and coordination of R & D agendas within combines have also been achieved in insufficient measure. As an example, R & D divisions have sometimes been accused of developing requested components for which it is necessary to import parts or materials. In practice, such items will simply be unattainable. Formal organizational coordination does not automatically solve such difficulties.

Nor has GDR industrial reorganization solved the problem of insufficient reserves in production. Some flexibility is essential for competitive performance in world markets. Enterprises must have the ability to respond to changing conditions in the economic environment, especially to changes in consumer markets. The chronic tautness of central planning, which minimizes the availability of reserves, tends to reduce the capacity of producers to react spontaneously to changes in demand and to shorten delivery times in foreign markets.

Basic pricing inadequacies have persisted through combine formation and planning amelioration endeavors. The new regulations have addressed aspects of the problem without having come to grips with some of the basic dilemmas (Melzer, 1983 and 1985). To this point, none of the CMEA countries have really found a satisfactory resolution to the pricing problem.

Prices that fail to reflect scarcity values cannot convey needed information to decision agents, nor can they provide motivation for the appropriate substitutions in production and consumption. Arbitrary pricing obscures the real contributions of firms and makes it impossible to reward them for their market performance. Rewards distributed on the basis of the net revenue criterion cannot be just when arbitrarily high (low) prices indicate incorrectly that a given enterprise has performed well (poorly). An inaccurate valuation of firms due to non-scarcity prices not only penalizes or rewards unjustly; it can even lead to an unjustified restructuring of production profiles.

A final concern is the decision-making problem in GDR planning. At one time it was hoped that the use of mathematical decision models was the key to effective managerial performance. Such techniques have proved less beneficial than was hoped. Although some types of production, transportation, and other problems are susceptible to quantitative analysis, the methodology proves too restrictive for the solution of many decision challenges.

Effective organization (rather than the use of quantitative tools) is seen as the solution to managerial problems. The attempt is to place decision powers at the level of the industrial hierarchy where the specialized expertise and information exists. This is the "specialized knowledge principle" (Weidauer and Wetzell, 1981, p. 236) which applies to the division of production tasks between combines and enterprises. According to the received doctrine, the decision agent must use his knowledge and information to formulate possible solutions to problems, then make the optimal decision in pursuit of established goals or targets. The quality of the decision will depend on the quality of informational inputs, the pertinent incentives, the clarity of objectives, and so on.

Managerial decisions are the responsibility of a single, authorized individual, but the manager consults with the appropriate resource people before acting. The DG is expected to involve his own staff, the managerial talent of subordinated enterprises, the party representative, and the chairman of the union in combine decisions. It is the DG himself who will

determine the composition and tasks of advisory agents as well as the extent to which he will consider the various collective inputs (Schmidt, 1985, p. 11).

It is to be expected that interest groups will form within this constellation of decision forces, and they will pursue their own interests (Klein, 1983, pp. 84ff). The monitoring authorities, the trade union, the Free German Youth, the work brigades, and the chamber of technology are examples of groups that can exert varying degrees of influence on managerial decision processes.

The East Germans are making a concerted effort to improve the skills of the directors general and the enterprise managers. Training programs offered primarily through institutes of Socialist Economic Management are provided for current and future managers. The selected performers are generally highly motivated and accustomed to tight organization. At the same time, many have received their training and developed their professional outlook during the era of extensive development. When growth is demanded, their instinct is to request more capital and labor rather than to find ways to increase the productivity of resources already on hand. When planners inquire as to production capacity, managers are inclined to favor soft plan targets in their own interest and in the interests of enterprise constituencies. They are disinclined to introduce new production techniques or products that might endanger current plan fulfillment, favoring less risky process improvements that will not improve production enough to make it competitive in world markets. They are inclined to accept the sluggish socialist work pace, which reflects the guaranteed security not only of the worker's job, but also of his basic existence, whether or not he is committed to any personal exertion. Finally, many East German managers fail adequately to reward risk-taking behavior on the part of workers who are innovative and creative (Weidauer and Wetzell, 1981, p. 274).

**PHASE II OF PLANNING AMELIORATION :
THE DRIVE FOR "COMPREHENSIVE INTENSIFICATION"**

Western literature takes the position that the planning adjustments of the early 1980s were not produced on the basis of a theoretical conception and that they cannot achieve the desired effects. The East Germans would argue that they are just as aware of their organizational insufficiencies today as they were in 1962, just before the introduction of the New Economic System, and that the measures introduced as a part of combine formation and plan amelioration are consistent parts of an overall strategy. The ideological groundwork that preceded the NES has certainly been lacking in the introduction of the current measures, and the environmental factors (energy prices, credit obligations, export exigencies) are now much different from those of the 1960s; GDR economists, however, would certainly not agree that they are proceeding without forethought.

Westerners insist that many of the fundamental problems remain: there is sluggishness in the introduction of innovation; effective motivation is still lacking at many levels; and productivity and efficiency are low. East Germans place their hope in organizational improvements, greater cost savings in production, and better use of investment resources. They see continued growth as the vindication of their planning amelioration efforts.

There is still much to do, and a new campaign designed to propel the planning system forward in the second quinquennium of the 1980s has been launched. "Comprehensive intensification" (*umfassende Intensivierung*), a term that obviously antedates the campaign, is designed to extend the reorganizational and planning amelioration efforts of the past five years, so that all industries achieve intensification. "Complex, internal consistency and most effective use of the factors of intensive growth" can be achieved, central GDR authority believes (Wenzel, 1985), through the introduction of additional coefficients, normatives, directives, and other planning instruments.

The rationale for the policy of comprehensive intensification is straightforward. When resource savings are achieved strictly through economy measures rather than technological

change and production innovation, such economies can be of strictly limited effect. New sources of growth (achieved through process and product innovation, more intensive use of productive factors, etc.) must be tapped in order to secure optimal production results with minimal cost (Heinrichs, 1985).

As an example of the regulations associated with the comprehensive intensification drive, enterprises are directed to turn over the assortment of goods produced more rapidly; the 17 to 20 percent rate of accretion of products to assortments of recent years is expected to rise to 30 percent in 1986 (Schmidt, 1985).[14] The productivity of industrial equipment is supposed to increase by more than the cost of such equipment (Hartmann, Moeller, 1984). Machinery and machine systems are to be recycled, and equipment is to be designed so as to be used flexibly in varying production processes (Wenzel, 1985). Materials, too, are to be more economically utilized, with more extensive use of recycling (Guermann and Schreiber, 1984).

The 1986-1990 plan assumes that growth will be induced primarily by technological progress and innovation (Rost, 1985). Refining or upgrading (*Veredlung*) of production processes is to enable the GDR to transform raw materials into larger numbers of high value, exportable final products. The key to the effort is seen as the success of R & D efforts (Haustein, 1984 and Jurk et al., 1985).

Product upgrading is taken seriously. GDR economic planning currently requires each combine to document what progress it expects to achieve over the planning horizon (Rost et al., 1985). It is reported (Jurk et al., 1985) that the planning regulations list the goals of production refinement upgrading as: 1) increased product innovation; 2) more rapid introduction of new techniques; 3) improved product quality and durability; 4) further expansion of exports and import substitution production; 5) increased labor productivity and better vocational training for workers; 6) further energy and raw materials economies; 7) greater efficiency in new investment projects and more effective efforts to modernize existing equipment; 8) more efficient in-house production of the equipment required for the innovative efforts of combines; and 9) more effective efforts to locate new plants and production sites rationally.

The combines and enterprises must conform to approximately 40 indicators and norms, and must also report on their adherence to some basic conditions laid down by the center (Rost et al., 1985): 1) labor productivity is to grow faster than the per worker employment of capital, and also faster than the growth of mean wages; 2) exports of new products are to grow more rapidly than R & D expenditures; 3) the share of new products in exports to the west is to exceed the west's share of total GDR exports.

The mushrooming of planning indicators and norms demonstrates the determination of the center to continue the rationalization of industrial production. But more importantly it demonstrates the problem of incorporating these many policy elements into the already complicated planning processes. The proliferation of directives inevitably leads to paperwork, but does not as certainly guarantee that all the required calculations and production efforts will be given the equal attention and concern of DGs and enterprise managers.

Typically, when control measures become excessive, all levels of the production hierarchy come to focus on those measures deemed most significant, while others are deemphasized. Given these measures, improvements in production efficiency and innovation can still be expected, of course. Most outside observers would agree that such improvements will be less than those one could hope for if the usual incentive and pricing problems of central planning could be reduced.

A positive aspect of this latest phase of the intensification drive is the revaluation of fixed assets initiated in 1985. Planning requires information about the size of existing capacities and about the productivity and profitability of capital in different sectors. But the capital stock had not previously been valued on the basis of a consistent set of prices; fixed assets installed after 1963 had been valued by prices prevailing at the time of their construction, while those previously produced had been based on 1962 NES-reform prices. As production costs for different capital goods had changed considerably since the mid-sixties, essentially homogenous capital goods from different production years had very different val-

ues. The upshot was that reasonable productivity comparisons could not be made. In 1985 over 300 groups of fixed assets were to be revaluated on the basis of capital goods prices that were to pertain from the beginning of 1986 on (Donda, 1985). Only capital goods of value less than 2,000 Marks were not to be included in the undertaking.

Presuming that the new capital values have already been established, they will permit better analysis of the efficiency of equipment and of the prospects of new investments. The revaluation is expected to provide combines and enterprises with incentive to use their machinery and equipment in more efficient ways. With the higher values, capital depreciation will increase, which implies that the capital cost component of final goods prices will now also be greater. This will remove some of the distortion of the pricing structure, which will now more accurately reflect scarcity conditions.

The accomplishment of the revaluation of its capital stock would put the GDR in a position to implement the long-overdue price reform. It may be, however, that the endeavor is being delayed. Given the higher capital costs implied by the revaluation of capital, and given the higher labor costs resulting from the *Beitrag fuer gesellschaftliche Fonds*, prices based on these higher resource costs would be significantly higher. The effects could be devastating for the social welfare policies that the Honecker regime views as its anchor. Stable prices have been proclaimed to be the unassailable right of the socialist consumer for so long that it must be unnerving for GDR central planners even to contemplate change.[15]

Not only would higher prices threaten the social net; they would also render East Germany less competitive in world markets and thus be detrimental to the GDR export drive. A final reason for cautious delay of price change may be that GDR economic leadership is still trying to determine the kinds of production specialties to be developed and new production technologies to be pursued. Current efforts clearly favor development, for example, of lignite products, refined metallurgical products, plastics, specialized microelectronics, and biotechniques. But the precise production structure appropriate for East German development is by no means clear. When price re-

form comes, it should be linked to the new structural development being pursued. Otherwise, production units will react to prices that provide stimulus in the wrong structural directions.

Whatever rational reasons might be given for delaying price reform, it is hard to get around the fact that economic efficiency cannot be achieved without it. Few Westerners would argue that the socialist economies have gained from their failure to achieve price reform in the 1960s (including the adoption of mechanisms which would continually generate scarcity prices). It is striking when one attempts to evaluate the GDR's planning amelioration that a central part of the whole effort has been left for the end rather than undertaken at the beginning.

CONCLUSIONS AND REFLECTIONS

Considering first East Germany's organizational changes of the past half decade, one must be impressed with some of the key innovations. They may prove sufficient to overcome some of the fundamental difficulties of GDR planning. We are unable to share the pessimistic view of some experts who hold that the reorganization efforts centering on combine formation represent a mere continuation of rather ineffective, recurring organizational adjustments that can yield no positive results. We, too, are disinclined to think of the aggregate of the changes of planning amelioration as genuine economic reform, since property relations have not changed and decision-making remains highly centralized.

Nevertheless, the planning organization has improved on the basis of at least two alterations: first, all production activities are now concentrated in the hands of a single decision maker (from R & D, through production, to domestic and foreign marketing). This organizational achievement alone will help to remove a number of incentive incompatibilities formerly imbedded in the system. Second, the *Stammbetrieb*, or "parent enterprise" form of combine leadership is being adopted wherever possible throughout GDR industry. In branches so organi-

zed, the DG must guide the parent enterprise as well as the combine in general, which should improve the DG's information base for planning and diminish his opportunity for "petty tutelage" in the affairs of the individual enterprises.

In spite of the helpful modifications of *Vervollkommnung*, it is clear that serious problems remain. Changes already implemented and other conceivable ones would not guarantee achievement of the necessary level of intensification. And if it is proving possible in the GDR, we cannot be overly optimistic that this success can be transferred to other socialist countries.

It remains to be seen whether the level of concentration established in East German industry will permit both effective central management and combine productivity reflective of some competitive forces in the environment.

Nor is there any guarantee that the hierarchical challenges of combine organization can be overcome. It remains to be seen whether communication, coordination and cooperation within and between combines can be made effective. Nevertheless, it appears on the basis of the substantial improvements of recent years that the East Germans are capable of solving some complex organizational problems.

The attempt to ameliorate planning has also had some positive aspects, providing some important changes in the structure of production incentives. New planning indicators and norms for raw materials and energy usage have achieved some important materials economies, improved the use of capital equipment, and allowed other cost reductions. A good share of these savings may be lost to enterprises through the extraction of the Levy for Social Funds, at least in those cases where significant economies in the use of labor are not achieved. In any case, the use of these measures represents an intensification strategy that seems more promising than any organizational efforts since the reform era of the 1960s. One of the main differences between amelioration and reform is that the former has not yet been (and seems far less likely to be) aborted.

The growth of power accruing to the combines and the system's previous inability to achieve intensification have motivated the center to refine the instruments of the economic

mechanism and to strengthen considerably their monitoring agencies. The intent of these measures is to prevent the successful pursuit of private interests opposed to the plan. The result of their implementation is that the combines now enjoy much greater participation in plan preparation, primarily through the provision of information available only at the production level. In the course of plan fulfillment, detailed regulations and more demanding minimal performance standards apply.

In comparison with the NES reform model of the 1960s, the new planning conception seems less progressive. The measures initiated largely from 1981 to 1983 seemed less conceptually cohesive than were the reforms of the 1960s; they were in any case not announced *ex ante* as the product of a theoretical model of reform. Planning amelioration was created in a relatively short period of time in a period of economic crisis. A number of the regulations involved had been in force in the 1970s; some outsiders feel they were merely reexamined in light of and adapted to the current situation. Nevertheless, if changes and refinements consistent with the organizational improvements of combine formation continue indefinitely to be implemented, perhaps all the component parts of an extensive, coherent system could be achieved piecemeal. Perhaps the designers of planning amelioration simply chose not to pre-announce their grand design so as to avoid awakening unduly optimistic expectations for a system that would take several years to implement.

A number of restrictive factors remain in the planning system and can be expected to reduce the success of the new planning instruments. Investment planning, currently restrictive because of the exigencies of the export drive, does not countenance needed structural change and technological innovation, simply because resources are not available for desirable projects. Enterprises are also not usually in a position to generate their own investment resources. Other challenges remain significant to the present system: innovative activity remains inadequate; efficiency is elusive; and economic agents are inadequately motivated. In spite of the positive achievements, the limited possibilities for decentralized use of

earned revenues fail to produce the modernization and growth achievable with the appropriate incentives.

The adoption of the net revenues criterion for enterprise performance evaluation is a significant improvement in plan "perfection." But that criterion cannot reflect efficient performance as it should, since the explanatory power of any value coefficient is dependent on the prices employed for measurement. Where such prices do not reflect real scarcities, inefficient enterprises may arbitrarily be rewarded with profits, leaving others unjustly without. The attempt to avoid this outcome has resulted in the adoption of additional, supplementary coefficients discussed above. Only genuine price reform could really solve the problem.

It is of interest that East Germany's recent economic performance has been strong (Cornelsen, 1983, 1984, 1985, and 1986). In spite of the lingering effects of the 1980 recession, curtailments of Soviet energy deliveries, and pressure in international credit markets, economic growth has remained relatively robust at an average of 4.4% per year. In 1983 and thereafter, production costs have declined while outputs have increased in important sectors. Reductions in consumer goods supplies in 1982 have been overcome since then. Exports increased 64% for the years 1981 to 1985, which implies an annual growth rate of better than 10%. For this period, imports increased only 37%; the external net debt position of the GDR decreased from \$11 billion to less than \$6 billion.

As new problems of substance arise in the future (such as the coexistence of declining oil prices on international markets with increasing prices in CMEA), GDR economic authorities may make additional cautious attempts to achieve greater flexibility for the planning and production systems. The search for improvements in strategic efforts to cope with external influences and fundamental changes in world markets will continue to occupy attention. The uncertainties attached to change within domestic and international environments and the insufficiencies of socialist policy tools and planning methodologies seem to promise an interesting future for the GDR.

It is too early to predict whether the regulatory process of *Vervollkommnung* (with its combination of strict accounting

controls, the application of more appropriate production targets and the adoption of modified indirect incentives) can function so as to achieve intensification. Positive effects have already been significant and sustained over a quinquennial planning period.

As we pointed out earlier, the amelioration measures achieved to this point do not aggregate to substantive reform. But given the constraints on the East German economic and social system, combine formation and planning amelioration represent substantive change. Although many of us in the West would favor decentralization and scarcity pricing, economics in socialism (as under markets) must relate to the art of the possible. Five years ago, who would have thought the East Germans would do as well as they have done?

NOTES

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1. National income at 1980 prices with 1970=100 was 1980:159, 1981:167, 1982:171, 1983:179, 1984:189. (Central Statistical Board, 1985, p. 25).

2. The statistics appear very favorable, but there are two problems with GDR statistical evidence. To verify that there has in fact been an upward shift of the production function (greater outputs being achieved with constant or declining inputs) one would need to conduct econometric tests of production data for series of years before and after the introduction of the plan "perfecting" measures introduced in 1980 and after. It is still too early to conduct such tests. Additionally, it is difficult to be sure that the data could be trusted. We refer here not only to the possibility that the statistics may be biased upward by producers anxious to demonstrate that they have met plan targets. In the past few years, GDR output increases involve many "new" products, which are priced by planning administrators. Since the new products are not subjected to a market test, the evaluation is strictly subjective and for rather well-known reasons entails a certain upward bias. Multiplying outputs of these products by new prices gives higher national income figures, but this may to some extent reflect "socialist inflation" (higher prices for non-substantive product changes and improvements). This form of economic growth would, of course, be spurious.

3. Neither the Soviets nor the East Germans suppose that the East German planning system could simply be "taken over" by the Soviets, since there are characteristics of the two economies and planning systems (e.g., scale differences, work and organization attitudes), and other such factors (see Bryson, 1986) which limit the relevance of the East German experience for the Soviets. Nevertheless, many individual organizational arrangements and planning techniques are potentially susceptible to generalization.

4. We look back with other Western analysts (see, for example, Keren, 1985) with some nostalgia on the reform period, but the East German economists see no wisdom in repeating the abortive effort. In private they express their disbelief that the Hungarian decentralization experiment can match GDR success with orthodox planning refinements.

5. Of the other two major problems mentioned above, more could be said, but that would be beyond the scope of this paper. Let it suffice to say that "socialist shirking" is a problem of great concern to theoreticians and planners. To the extent that improvement is possible, it is hoped that it will be achieved by providing greater incentives through auspicious increases in the provision of (primarily private) consumer goods.

The GDR has an active program to improve the quality of its stock of managerial talent. There has been no inclination since the reorganization to turn managers over. Rather, various programs have been implemented to upgrade the current stock. One such program is the work of the Institutes for Socialist Economic Management (Richter et al., *Autorenkollektiv*, 1981).

6. Combines were not a creation of the 1970s. As early as 1946 there were a small number of them, and additional ones were formed with the passage of time, especially in 1968. But these earlier units still lacked the fundamental importance *Kombinate* acquired after they became the focal point of industrial organization in 1978. (For more detail on the his-

torical development of the Kombinat see Schneider and Troeder, 1985, pp. 21-67.)

7. Capital-related prices base the "profit" (surplus value) markup on the amount of constant capital (capital equipment and machinery) used by the producer. Previously, markups related to labor costs had encouraged wasteful use of labor under conditions of labor scarcity.

8. In contrast to the Soviet Associations, the legal and economic independence of the enterprises of the Kombinat were retained. They receive their own plan assignments, have their own accounting processes, their own funds, etc. They are, nevertheless, still strictly dependent upon the direction of the Kombinat.

9. Apparently unaware of the growing prevalence of the Stammbetrieb organizational form, Keren (1985, p. 124) asserts that these kinds of information are now basically inaccessible to planning agents because today's combines have less opportunity to observe enterprise behavior than was the case under the organizational arrangements of the old industrial associations! At this point they need not observe it; they can experience it.

10. This section is based largely on Bryson's personal interviews with enterprise and combine managers in the GDR in 1985.

11. The article by Hensel and Kuciak (1984) cited above demonstrates a willingness to address the serious questions usually ignored in GDR discussion of concentration issues. Once size was considered important as a proposition not requiring demonstration. It is more apparent now that different industrial tasks may suggest varying degrees of concentration.

12. "Economic accounting" includes not only bookkeeping, but also the monitoring and evaluation of enterprise performance of centrally specified tasks. Such tasks are to be performed in an efficient manner reflecting economic calculation (Gustmann, Kuhlmann, and Wolff, 1980).

13. This is reminiscent of another directive that all enterprises produce a share of total output (if only of 5 percent) for sale to final consumers. These kinds of measures may have some symbolic value, but one suspects that they will not all contribute equally to efficiency.

14. The renewal rate of 30% is to be for product and process innovations, and in some cases it can be counted for a period of twenty-four months.

15. Prudence dictates some caution here, of course. Many GDR economists unofficially express the sentiment that the subsidization of prices has become excessive and that extremely low prices probably inspire some waste in the economy. At the Soviet Union's Party Congress XXVII in early 1986, there was some open questioning as to whether prices should not be brought into line with costs. This could represent an opportunity for the East Germans to pursue the issue if rational pricing sentiment is strong enough to overcome the considerations presented here.

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