Command Economy

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A command economy is one in which the coordination of economic activity, so essential to the viability and functioning of a complex social economy[1], is undertaken through administrative means – commands, directives, targets and regulations – rather than by a market mechanism.

Economic agents in a command economy, and in particular production organizations, operate primarily by virtue of specific directives from higher authority in an administrative/political hierarchy, i.e. under the 'command principle'. Thus the life-cycle and activity of enterprises and firms, their production of output and employment of resources, adjustment to disturbances, and the coordination between them, are primarily governed by decisions taken by superior organs responsible for managing those units' role in the economic system. One of the most distinctive features of such an economy is the setting of the firm's production targets by higher directive, often in fine detail. The administrative means used include planning, material balances, quotas, rationing, technical coefficients, budgetary controls and limits, price and wage controls, and other techniques aimed at limiting the discretion of subordinate operational units/firms. The command principle strives to fully and effectively replace the operation of market forces in the key industrial and developmental sectors of the economy, and render the remaining (peripheral) markets manipulable and subordinate to political direction. Thus the command principle is likely to clash with the operation of market forces, yet a command economy may nonetheless contain and rely on the market mechanism in some of its sectors and areas: for example, influencing labour allocation, or stimulating small-scale private production of some consumables.

The phrase 'command economy' comes from the German 'Befehlswirtschaft', and was originally applied to the Nazi economy, which shared many formal similarities with that of Soviet Russia. It has received its fullest development in the analysis of the economic system of the Soviet Union, particularly under Stalin, although it has been applied to war-time administration of the U.S. economy (1942-6; see Higgs, 1992), the Mormon economic system in mid-19th century Utah (Grossman, 2000), and the Inca production system in the 16th century Andes (La Lone, 1987). Synonymous or near-synonymous terms are: 'centrally planned economy', 'centrally administered economy', 'Soviet-type economy', 'bureaucratic economy' and 'Stalinist economy'.

The command economy's conceptual origins go back to the Viennese economist Otto Neurath, who in the years before and after World War I developed an extreme version (to the point of moneylessness) based chiefly on prior experience with wartime economies (Raupach, 1966). The concept of 'command economy' has since become a central conceptual framework in the analysis of economic systems, as it captures a logically coherent alternative to 'the market' as a way of organizing socially complex economic activity and interaction. The Soviet Union provided the most complete, and for a while successful, example of a command economy as a working alternative to a market system. Indeed, apart from the relatively short-lived Nazi case, and even briefer ones under emergency conditions in some other countries, especially in wartime, actual instances of command economies are virtually limited to communist-ruled countries, with the USSR as the prototype and prime exemplar. Thus, what follows is mainly inspired by the Soviet example (Ericson, 1991) as it existed, essentially little altered since its appearance in the 1930s, until its collapse in the aftermath of Gorbachev's *Perestroika,* begun in 1987.

[1] A complex social economy is one involving multiple significant interdependencies among economic agents, including significant division of labor and exchange among production units, rendering the viability of any unit dependent on proper coordination with, and functioning of, many others.

Nature of the Command Economy.[2]

Any complex social economy must, for its very survival, maintain at least a 'tolerable' micro-balance, 'that minimal degree of coordination of the activities of the separate units (firms) which assures a tolerably good correspondence between the supply of individual producer and consumer goods and the effective demand for them.' (Grossman, 1963, 101). In such an economy, appropriate balance can be achieved through decentralized, market-based (monetized, price-mediated) interaction of autonomous units, or by virtue of explicit specific coordinating directives (commands, targets) from some higher authorities. While the former is characteristic of a market economic system, the latter is defining of a 'command economy'. In the latter operational-level units (e.g. firms) must merely 'implement' commands; they become 'executants' of plans and directives from above, plans which must insure balance through the coherence and consistency of the instructions they give. Thus the command mechanism requires relative centralization and severe restriction on the autonomy of subordinate operational units. It derives from the overwhelming priority of social goals, and requires the severe limitation, if not total destruction, of autonomous social and economic powers and the enforcement of strict obedience to directives.

A command economy is hence a creature of state authority, whose marks it bears and by whose hand it evolves, exists, and survives. Command economies are imposed, whether through external duress or imitation, or indigenously in order to achieve specific purposes such as: (1) maximum resource mobilization towards urgent and over-riding national objectives, e.g. rapid industrialization or the prosecution of war; (2) radical transformation of the socio-economic system in a collectivist direction based on ideological tenets and power-political imperatives; and (3) not the least, as an answer to the disorganization of a market economy through price control, possibly occasioned by inflationary pressure arising from (1) and/or (2).

The command economy therefore requires a formal, centralized, administrative hierarchy staffed by a bureaucracy, and it also needs to be embedded in (at least) an authoritarian, highly centralized polity if it is not to dissolve or degenerate into something else. And that bureaucracy must exercise full control and discretion, if not necessarily formal ownership, with respect to the creation, use and disposal of all productive property and assets, if it is to effectively implement the command principle. At the same time, each office or firm and every economic actor within the command structure holds interests which, if only in part, do not coincide with those of superiors or of the overall leadership. This generates important problems of vested interests, principal–agent interaction, incentive provision, and general enforcement of the leadership's will, and calls for a variety of monitoring organizations (party, police, banks, etc.). The term 'command' must not be taken to preclude self-serving behaviour, bureaucratic politics, bargaining between superiors and subordinates, corruption, peculation and (dis)simulation. On the contrary, such behaviour tends to be widespread in a command economy; yet, the concept of a 'command economy' remains valid so long as, in the main, authority relations and not a market mechanism govern the allocation of resources.

When not externally imposed, command economies typically arise from a 'millenialist' elite, with unique access to 'the truth', achieving the political power to impose its will, while facing a crisis of apparently overwhelming proportions. The perception of a life-threatening crisis, driving the need for massive mobilization of all social resources and rendering any hesitation or dissent, any questioning of ways and means, potentially disastrous, naturally leads, pushed by the 'logic of events,' to the usurpation of all power of discretion, all legitimate authority, by the 'knowing' elite, which then becomes responsible for all that is done or not done in the society and the economy. The

[2] The seminal analysis of the nature, characteristics, and problems of a command economy is Grossman (1963).

crisis may be artificial or real ('hostile encirclement'), externally or internally imposed (the need to industrialize, to 'catch up'), but it requires moving resources rapidly and massively, forcing new activities and interactions in the face of severe scarcities, of shortage of competent personnel, of massive uncertainties, and of strongly held, stark priorities. Indeed, a sense of overwhelming urgency and need for haste drove the elite of the Soviet Union in the 1930's to test and establish, through trial and error over several decades, the institutional structure of a 'command economy', albeit *less than absolute* from both necessity and choice (e.g. the 'lessons' of 'War Communism').(Grossman, 1962; Zaleski, 1968)

Consequences of Command.

Rational application of the command principle calls for planning, which is basically of two types. Longer-term, developmental planning expresses the leadership's politico-economic strategy (e.g. five-year and 'perspective' plans); shorter-term, coordinative planning (annual, quarterly, monthly, ten-day) ideally translates the strategy into resource allocation while aiming to match resource requirements and availabilities for individual inputs, goods, etc., in a sufficiently disaggregated way for given time periods and locations. The task of elemental coordination, of micro-balance, so effortlessly accomplished by any functioning, however poorly, market system, is overwhelmingly large, and grows rapidly with industrialization and economic development, both of which lead to exponential growth of the complexity of the economy, and hence of the planning problem (cf. *central planning* in this encyclopaedia). With centralization and the abandonment of markets comes the need for massive, detailed coordinative planning, for 'making ends meet' in the expanding web of interconnections that must be maintained for economic life to continue. Coordinative planning serves, therefore, as the basis for specific operational directives to producers and users, thereby implementing the command principle to achieve the prime imperative of a social economy — 'balance'. 'It is *this* task that in fact consumes the largest part of the so-called planning in the command economy, ... Coordinative planning as it is conducted in the Soviet Union does little by way of consciously steering the economy's development or finding efficient patterns of resource allocation. Its overwhelming concern is simply to equate both sides of each 'material balance' by whatever procedure seems to be most expeditious.' (Grossman, 1963, 108)

A major problem is that detailed planning and the corresponding directives are often late, are insufficiently detailed, may lack the requisite information, hence often cannot be effectively coordinated, and owing to their rigidity are peculiarly vulnerable to uncertainty (Ericson, 1983). Information in the command sector, by the logic of the system, tends to flow vertically, up and down the administrative hierarchy, rather than horizontally, between buyer and seller, adding to difficulties of demand-supply coordination by informationally isolating operational units from their suppliers and users. In addition, problems of motivation, accountability (down as well as up), inappropriate decision-making parameters, and divergent interests complicate the procedure. Even at best, this manner of resource allocation can hope to attain only internal consistency (in the sense of effectively matching partially disaggregated requirements and availabilities) but not a higher order of economic efficiency. Economic calculation in pursuit of efficiency enters, if at all, at the project-planning stage, and not short-term resource allocation and use.

These problems are aggravated by the logic of haste that drove imposition of the command economy — 'the pressing contrast between urgent political goals and available resources'. The necessary attention to the growing problem of balance further militates against any effort to consider developmental objectives or efficiency in making allocative decisions, so that a further bias against allocative efficiency is built into the command economy. Coupled with limited ability to gather, filter, process, and communicate information, and to compute solutions to planning problems (cf. *bounded rationality* in this encyclopaedia), this creates a fundamental and growing inability to acceptably solve the underlying coordination problem, and hence further undermines any consideration of efficiency.

The logic of 'command' has a number of other consequences reflected in the institutions of such an economy. Planning in a command economy must be largely in *physical terms* due to the crucial importance of balance. The bottom line of the planning process must be available physical units of required inputs, in appropriate assortment, quantity and timing, necessitating physical targets for production and input utilization. Thus tens of thousands of materials and equipment balances must be drawn up and coordinated for each plan period, and then broken down and allocated in directives to specific implementors. And to be directly usable, these must be in physical, or crypto-physical (constant price) units that directly relate to the production processes being coordinated. Using economic-value units requires flexible and changing, marginal scarcity-based prices for valuation, as well as giving significant autonomy to subordinate units who inevitably then will make the trade-offs in assortment, quantity and timing within planned constraints on values (i.e. 'budgets'). Hence, such valuations pose a fundamental challenge to the command economy.

Planning in physical terms, however, leads to 'enormous waste and inefficiency, to production for waste as much as for use' (Grossman, 1963, 110). There are at least three fundamental sources of this elemental waste: *'grossness,' 'aggregation,'* and *'unit of measure'.* The need for these arises in the overwhelming complexity of the task of planning for, and directing the operation of, a complex social economy and the necessarily limited information gathering, processing, and dissemination capabilities of any economic agent or agency. However, the emphasis on *gross output* leads to 'input intensiveness', waste, and ignoring cost considerations. *Aggregation* leads to persistent subcategory imbalance in assortment, quality, type, timing, etc., while *units of measurement* determine sub-optimization objectives, distorting implementation decisions, particularly when they are, for material balance reasons, input oriented. Thus each of these is essential for the feasibility of directive central planning, of the command mechanism, yet each loses, or destroys, essential information for the 'proper' (in the eyes of the system directors) implementation of plans, and opens space for creative interpretation of instructions/commands, and hence for 'sub-optimization' by implementing units whose interests are not perfectly aligned with those of the center (Nove, 1977). While the command mechanism logically requires unauthorized initiative to be forbidden, and strictly punished when exercised, the size of the task it faces inevitably opens the opportunity, indeed often the need, for such unauthorized initiative. Thus the physical quantity planning required by the command economy to maintain minimal functional 'balance' contains its own antithesis, unleashing forces that undermine the consistency of the plan, and the coherence and balancedness of its realization. This fundamental contradiction lies behind most of the critical problems of the command economy in the Soviet Union, and the myriad efforts to resolve them within the framework of the command mechanism that comprise the endless waves of reform following victory in the Great Fatherland War (1941-5).

The 'logic of command' thus imposes a need to restrict autonomy, to restrict the capability of economic units to pursue any other than 'planned'/ commanded purposes: economic agents must not have the capability to autonomously acquire and deploy resources for any purposes outside the plan. Comprehensive material balance planning and centralized materials and equipment allocation provide a necessary component, but one that is insufficient unless resources, including human, are denied the capability of autonomous movement and application. Severe restrictions on labor mobility, albeit not as severe as under Stalin, are required, as are comprehensive restrictions on the use of any 'generalized command over goods and services' – i.e. money – that might be used to alter their patterns of allocation and use in the economy. The system must be substantially demonetized in order to '... constrict the ... range of choice in the face of the state's demands.' (Grossman, 1966, 232)

Thus money must be deprived of 'moneyness,' and prices must be kept 'passive' – mere accounting and measurement units. According to the logic of the command economy, the availability of money and the prices at which commodities and products are provided should have no essential impact on the allocation of goods and services, or on the nature and direction of economic/industrial development; all real activity is preordained in the plan and its subsequent implementing commands. The role of money is then to facilitate monitoring of commanded performance through the financial flows it generates. Thus monetary prices do not, and indeed should not, reflect to a substantial degree social goals and priorities; they merely reveal and measure the flow of commanded activity. Producer prices (and most retail prices), wages, prices of foreign currencies, etc., are generally centrally set and controlled, often remaining fixed for long periods of time. Micro-disequilibria naturally abound, while the widely perceived dubious meaningfulness of such prices and the administrative allocation of most producer goods in physical terms combine to sustain the system of detailed production plans and directives in terms of physical indicators – yet another bar to more efficient planning and management.

Finally, an absolutely essential, indeed defining, institution of the command economy is the *physical rationing* of resources and producers' goods. This is where the market is most fully and directly replaced, and where the central authorities have the ability to most directly influence and control the behavior of subordinate operational units. It implements the centralized mobilization of resources to priorities, the most direct response to crises and challenges. And it most directly denies subordinates the capability to produce, to develop, in ways outside those authorized in the plan. This makes the co-existence between the command principle and the market mechanism a source of continual conflict, as the market opens unauthorized opportunities to subordinates. In the Soviet Union, the command principle, aided by the club of materials rationing, repeatedly pushed back and eliminated the market mechanism when (timidly) introduced in reforms, until the system collapsed in chaos, and the introduction of a full fledged market economy was begun in 1992. (Schroeder, 1979; Aslund, 1995) Thus the nature of the command system makes it fundamentally incompatible with real markets, although some market institutions can, and indeed must, be allowed to function both within the non-state sectors and as the interface between them and state economic institutions/ sectors.

Inherent Challenges to the Command Economy

As Grossman notes in his seminal article (1963, 107), 'The chief persistent systemic problem of a command economy is the finding of the optimal degree of centralization (or decentralization) under given conditions and with reference to given social goals.' A fundamental dilemma is posed by the fact that full centralization poses an insoluble problem, while decentralization abandons the ability to direct, to control development, and to ensure the pursuit of social goals and priorities. With regard to the pure planning problem, a large body of theoretical literature arose in the late 1960s, and continued into the 1980's, on the problem of decentralizing the planning process to make its informational and computational burden manageable (Eckstein, 1971; Bornstein, 1973; *decentralization*, in this encyclopaedia). But the problem is far greater, and less studied, with respect to implementation; rational planning is swamped by the struggle to maintain elemental coordination.

Decentralization vs. Priority.

Looked at through the prism of relative advantages, operational decentralization shortens 'lines of communication', increasing flexibility, adaptation and responsiveness to a changing environment through local initiative and innovation, and vastly simplifying the decision problem of economic agents. But it does so at the cost of weakening/ losing the 'advantages of centralization', including enforcement of regime values, capability for large-scale resource mobilization, concentration of scarce talent in central decision making organs, and the maintenance of macro-balance. In particular, decentralization compromises the ability of the center to directly manage the development and structure of the economy, and to force the achievement of critical priorities regardless of cost. Furthermore, decentralization requires the introduction of the alternative coordination mechanism to insure tolerable micro-balance – the market – as decentralization undercuts the ability to directly coordinate, to balance from above. Thus to prevent catastrophic imbalance, a more active money with economically flexible market prices must be allowed to function in a decentralized system.

The impossibility of planning and commanding the performance of all economic agents in full operational detail, however, forces some decentralization. This creates a chronic threat to balance which is thus a continuous argument for (re)centralization of planning and materials allocation. Furthermore, a partial decentralization of planning and management in a command economy may do more harm than good; it may impair balance without yielding sufficient benefit. Yet a complete decentralization, in the sense of a virtually full devolution of the major production decisions to the firm level, would be disastrous from the standpoint of balance, unless the price structure were properly altered to provide proper signals to firms *and* suitable behavioral rules were prescribed, i.e. unless a market mechanism were introduced. Thus the logic of command predicts a 'treadmill of reforms' (Schroeder, 1979), an array of countervailing strengthenings of the oversight and control organs (in particular, the Party), and enhancements of their role in the economy, accompanying moves toward decentralization in the state sector. It also explains the Soviet institutional arrangement of inter-firm contracts as a decentralized implementation device. These are required to specify details of interaction within planned categories, and establish observable, and hence legally enforceable, commitments to planned implementation, constraining the autonomy necessarily granted through the minimal decentralization. And it explains the logic of the continuing restraints on the use of money and the continuing efforts at effective price control to keep the autonomy of agents restricted to the minimum necessary for the continued functioning of the less-than-absolute command economy.

Even limited decentralization requires that money be used in the command sector (as well as in the household sector), but its role as a bearer of options and as the means of pecuniary calculation for decision-making is necessarily limited and deliberately subordinated to the planners' will and the administrators' power. Banks and the treasury accommodate the money needs of production, ensuring a soft budget constraint for the individual firm. At the same time, the 'moneyness' of money at the firm level is low, hemmed in as it is by administrative constraints and impediments, including the rationing of nearly all producer goods, and by the widespread 'seller's market' (shortages of goods and absolute lack of buyers' alternatives). This monetary ease, together with the seller's market, plays an important role in ensuring individual worker's job security at the firm level and full employment in the large, while keeping the firm largely insensitive to money costs and/or benefits.

Within the command sector, money and prices have a necessary role in determining terms of alternate resource uses *only* within planned/commanded categories, and money has the role of limiting total claims to resources in areas/detail beyond the reach of plan directives. This requires 'businesslike management' within the firm — *khozraschet,* which is a 'set of behavioral rules that is supposed to govern the actions of Soviet managers beyond their primary responsibility, the fulfillment of output targets'. It pushes the firm toward 'technical efficiency' and limitation of 'claims on society's resources for productive use. ... *khozraschet* is a system that is well devised to control the behavior of managers in a command economy where a certain amount of devolution of power to them is inevitable, and where, further, managers' goals and values do not necessarily coincide with the official ones.' (Grossman, 1963, 117) Thus money also has the role of facilitating the monitoring of performance in the command sector.

While administrative orders are the rule in a command economy, backed up by greater or lesser degree of state coercion (depending on country and period), any decentralization of implementation naturally relies on monetary ('material') incentives to elicit desired individual compliance and performance. Compounding the incentive problems arising from differences in information and interests between central authorities and implementing agents, is the fact that the physical and other indicators to which the material incentives are linked may often be poor measures of social benefit (as seen by the leadership). Furthermore, resort to such rewards widens the distribution of official earnings and raises questions of permissible limits of income inequality. Yet there may be little choice in that the state must in effect compete with the much higher incomes from the *second economy*.[3]

The behaviour of the Soviet-type firm has been much studied (Granick, 1954; Berliner, 1957; Nove, 1977; Freris, 1984). Because its directives and the corresponding managerial incentives stress physical output, produced or shipped, and thanks to its low sensitivity to cost and the ambient seller's market, the firm often sacrifices product cost, quality, variety, innovation and ancillary services to its customers, for sheer product quantity. By the logic of command and the requirements of plan manageability, firms operate in an environment with sole suppliers and assigned users, reducing complexity by eliminating 'wasteful' redundancy in production and distribution. Thus firms in a command economy are largely insulated from any product competition, both from the outside world and from other domestic firms, thanks to the climate of administrative controls and the prevalent excess demand for their output. Difficulties with supply, frequent revision of its plans, interference by Party and other authorities, and other systemic problems also stand in the way of its more efficient and effective operation. Indeed, to function at all, the firm's management is frequently forced to break rules and even resort to criminally punishable acts.

This compounds a further critical challenge posed by necessary decentralization — the conflict between the will, purposes, incentives and priorities of the higher authorities and those at lower levels, particularly of the firms and their managements. Even the best motivated managers, following all official rules and incentives, will sometimes fail to replicate the decisions that would have been made by their superiors, had they been in a position to make them. This problem is aggravated by the inevitable ambiguity, incompleteness and inconsistency of those rules, incentives and the information available on the spot. Only binding physical constraints and observable outcomes can be systematically enforced, making 'centralized materials allocation the most powerful weapon at the disposal of the central authorities.' (Grossman, 1963, 118) Thus, where material inputs are less determinate of a unit's activities, this information and incentive problem is greater, and the defiance of central will relatively more widespread and successful. This observation explains the non-viability of any reform that fails to fundamentally alter the materials allocation system.

Under-planned, ill-commanded sectors.

[3] The Soviet Union during War Communism, Cuba in the 1960s, and the People's Republic of China during some periods before Mao's death in 1976, tended to downgrade material incentives in favour of normative controls, but never did quite abolish them.

A major challenge to the command economy also arises from the existence of sectors outside, or only partially affected by, the command principle. In the Soviet Union these included most of agriculture, much of housing, the household sector and some consumers goods and services. 'Markets' were allowed to function for the distribution of final consumers' goods and services, including agricultural produce, for much of the activity of the 'collective' sector in agriculture, and for household labor supply. For transactions with 'personal property' within the household and collective sectors, money was active and agents responded to market prices, while in the quasi-markets interfacing with the state sector, e.g. labor and consumers' goods, money was relatively active but prices remained largely controlled and non-market. These are sectors where information on needs/preferences and capabilities proved too difficult to acquire reliably in real time for acceptable allocation and balance to be commanded, and so at least one side of a market was allowed to function with an active money. Here, the command mechanism proves too crude and clumsy, and hence politically counterproductive, to be used outside of pressing emergencies.[4]

In view of the theoretical incompatibility of command and market, how could these 'market' sectors be successfully grafted onto the command mechanism? An explanation (Grossman, 1963) rests on the trade-offs between the authorities limited capabilities, the complexity of those sectors, and their centrality to regime priorities. A sector which provides significant inputs to physical planning and plan-fulfillment, where the unpredictability in the flow of goods is unacceptable, cannot be left to the market without seriously undermining command. However, if a sector can be treated as a residual for purposes of materials planning and allocation, a buffer for planning, then its coexistence is acceptable. Further, if its operation is characterized by rapid change and complexities rather outside the core interests of the regime, if without disrupting the industrial core greater incentives and risk can be placed on those peripheral agents, and if non-market constraints can force the desired market response from it, then the center will want to separate that sector from the command sphere, lowering its coordination burden by shifting it to the market.

These considerations were indeed active in the case of those sectors 'left to the market' in the Soviet Union: consumers' goods retailing, the acquisition of labor services, the support of households in the agricultural sector through a private agricultural sector, and a few peripheral and interstitial activities. Indeed, any attempt to truly 'marketize' any other sectors or activities in the command economy is doomed to fail, unless the loss of fervor, of the sense of mission and urgency, leads to abandonment of the command mechanism. Yet even the existence of these limited market sectors, providing an outlet for incentive earnings and diverted resources, exerts a continuing corrosive pressure on the command economy and its control mechanisms.

The Cancer of 'Money'.

A truly monumental challenge to the command economy lies in the role of money in any *less-than-absolute* command economy. As the complete centralization of decisions in the production sector (let alone in the household sector), is an impossibility, something must be left to local initiative and dispersed decision making. Thus *khozraschet* is a logical necessity, '... an unfriendly bridgehead that threatens to seize ground whenever the planner fails or defaults.' (Grossman, 1966, 228) With the inevitable devolution of some decision making to firms and households, money acquires a necessary and critical role in the command economy, going well beyond that consistent with the logic of command. That role arises from the need to economize in making decentralized decisions, and as a medium of exchange and store of value in the decentralized interactions that

[4] Indeed, this might be considered a lesson of the "War Communism" first experience with a command economy in Soviet Russia, 1918-1921.

relate to all decisions. In acquiring this role, this 'moneyness,' it allows accumulations of power outside the control of the regime. Money is a 'bearer of options' whose power and influence must be restrained if the command mechanism is to operate properly — to determine priorities and to insure maximal commitment to their achievement. As Grossman (1962, 214) noted, 'Money is a form of social power that may lead resources astray and is subject to only imperfect control by political authority.'

Thus the power of money has to be curbed in a command economy by limiting balances available to households and firms, by compartmentalizing money into cash and 'firm' circuits, and by erecting barriers and limits to the use of 'monies' in each category, although that undercuts the effectiveness of attempted decentralizations. Liquidity, 'moneyness', is constrained by the institutional structures and by all the characteristics and conditions of the 'sellers' market', rendering 'money' the only non-scarce commodity, in unusable excess to the extent the command mechanism is effective. Monetary policy in the properly functioning command economy reduces to limiting the volume of cash in the economy ('macro-monetary' control) through wage fund restrictions and cash control absorption plans of the retail sector, and the allocation of firm balances in restricted categories ('micro-financial' control) in just sufficient quantity to support the implementation of the plan, with confiscation of excess funds to prevent unauthorized activity by the firm. (Garvey, 1977)

Similarly, the price system, expressed in terms of that money, must also be mobilized to the purpose of control. The inflexible, administratively segmented, average-cost based prices in command economies are a logical necessity of command and haste-based shortage. For all the problems they cause, all the unintended consequences and distortions in the behavior of subordinates, such prices help to keep money largely passive, at least in the core state sectors, and allow both money and prices to remain instruments, rather than disrupters, of command. More than being ideologically justified, such prices are a response to the pragmatic and pressing requirements of running a shortage economy with a rapidly developing system of centralized direction of enterprises and of materials allocation.

Money, however, is not so easily contained. Once in unobserved hands, it exercises its 'command over goods and services' without reference to plans, commands, or regime priorities. Hence, given any discretion, any sphere of activity not directly monitored, agents will naturally use money in ways they find desirable, placing new demands on a physical system otherwise tautly planned and characterized by general scarcity. This is facilitated by the existence of agents and spheres of activity outside the command system, providing 'legitimate' sources and uses for monies, however acquired or disposed. And the possibility of acquiring money provides incentives for unauthorized activities, for unplanned interactions and reallocations. An active money vastly expands the sphere of discretion of 'subordinate' agents beyond any authorized by a decentralizing reform, and calls for severe administrative restrictions, a reduction to passivity, if it is not to disrupt the planned activities and discretion of the central authorities.

Yet attempts to administratively constrain the influence, the 'corruptive' power, of money become increasingly futile once the 'genie' has been 'let out of the bottle'. Even limited decentralizing reform, allowing money to influence some (subcategory) production and allocation decisions, inevitable lets loose more liquidity, more of a command over goods and services, than desired. This arises from a multitude of factors: errors in both physical and financial plans, inherent incompleteness of plans and commands due to limited information and time and the necessity of aggregation, changing circumstances and shocks to the economy, mistakes in implementation and in responding to shocks, the irregularity and disruptions in the materials allocation system, the behavioral response of even the most enthusiastic and best intentioned agents to these problems, etc. All of these can lead to an unexpected lack of funds for doing what was commanded (if only implicitly), and hence disruption of commanded performance, unless additional liquidity is provided.

Thus monetary policy in a command economy, once money is allowed any room for activity, must be accommodating; a lack of funds can never be allowed to disrupt planned performance, just as an excess of funds cannot be allowed to facilitate unplanned/ unauthorized activity. Thus the role, the influence, of money has a natural, inexorable tendency to grow: insufficient funds become an immediate problem generating new money through credits or additional allocations, while unused funds tend to stay hidden until ferreted out by inspection or accidental discovery. And as it grows, so does the challenge to the command principle. An increasing number of agents, in both the state and non-state sectors, has a growing ability to access resources, to divert them in the name, if not always the interest, of implementing decentralized plans, and thus to challenge the priorities of the political authorities. This growing challenge becomes a cancer in the system, a growth that undermines its health and feeds tendencies destructive of the priorities of the regime and its rulers.

The 'Second Economy'.

As the command economy matures, as the messianic fervor with which it was imposed wanes and the use of extraordinary force diminishes in ensuring compliance with commands, these challenges to command metastasize into a competing, yet symbiotically attached and dependent economic system: the *second economy.* (cf. in this encyclopaedia)[5] In the Soviet Union, attempts to strengthen 'material incentives' and activate 'the profit motive' in order to increase the effectiveness and technical efficiency of the implementation of central plans and directives, and to stimulate technological progress and innovation, and the growing monetization of the agricultural sector, opened the door to massive expansion of money supply and eroded the barriers between the currency and the enterprise bank account monetary circuits. Collective farms and their subsidiary enterprises, owners of 'small means of transport', vodka manufacture and distribution, and the Caucasus republics (Georgia in particular) proved particularly rich sources of illicit (from the system's perspective) monetization and private 'entrepreneurial' activity. This both raised the spectre of inflation and opened the door to vastly increased opportunities for manipulation by self interested subordinates in the command sector. Thus the use of 'economic levers' greatly increased the opportunity for and incidence of bribery, corruption, speculation, and even 'honest' private labor.

While the fundamental cause of the appearance and growth of the 'second economy' undoubtedly lies in the congenital institutional weaknesses of the command economy discussed above, there are a number of proximate sources that make it unsurprising. These include extensive price control, with consequent scarcity and misallocation, high taxes on non-state activities/incomes, prohibitions of private activity, unmet individual consumption needs, poorly protected impersonal (state) property, the personal power of bureaucrats and 'gatekeepers', and other historical factors, including the end of terror. These provide both motives and opportunities for officially illicit activity and for the authorities to overlook that activity. With the aging of command and the decay in enthusiasm of its agents, the growth of such a second economy appears natural.

Thus growing 'monetization', the existence of ready and waiting market sectors, and the decline in the use of violent instruments of enforcement, lead to a growing sphere and importance of activities outside the purview of 'planning' and 'command'. These market-mediated activities

[5] This name highlights the distinction of this sphere of economic activity from the officially sanctioned, 'first', command economy. It is thus defined as "all production and exchange activity that meets at least one of two criteria: (a) being directly for private gain; (b) being in some significant respect in knowing contravention of existing law." See Grossman, 1977, p. 25.

are at times supportive, helping to achieve tolerable micro-balance in the increasingly complex economy, but often are in violation of planned implementation and regime values. Private interests, necessarily allowed some leeway, grow in significance, increasingly seizing ground from command. In the Soviet Union, the private agricultural sector, initially permitted only to secure survival of the peasantry under the extractive pressure of rapid industrialization, and the consumers' personal services sectors provided the basis for a ubiquitous, if still systemically marginal, second economy.

But then even the core industrial sectors under the command mechanism find their managers and activities increasingly influenced by this illegitimate, shadow market, system, as managers are often forced to break rules and undertake illegal acts in order to do their job. Such acts, together with ubiquitous and protean illegal activity on private account, add up to a large underground economy characteristic of every command economy, which together with legal private activity (allowed in varying degree in different countries) both supports and supplements the 'first economy', and is inimical to it. While the second economy significantly adds to the supply of goods and services, especially for consumption, it also redistributes private income and wealth, contributes to the widespread official corruption, and generally criminalizes the population. Virtually every area of economic life is touched upon, and often entangled with, 'second economy' activities, while legal private activity naturally opens a loophole for illegal trading and entrepreneurship, generally below the purview of the authorities. And it goes hand in hand with the extension of corruption, ensuring that it remains outside of official notice.

Those 'violations' of legality within the command sector, a 'shadow economy', build informal interenterprise relations which are generally beneficial to the operation of state enterprises. They work to substantially correct the allocative failures of the command mechanism, improving firm performance and hence benefiting its management, and also provide lucrative opportunities for managers to directly benefit through the activization of barter, personal connections, and bribery. They however also spawn further distortions in economic behavior, as managers seek to generate access to cash, the life blood of the 'second economy', to extract rents, and to hide their activity from supervisory and statistical organs.

Thus the second economy plays a dual, and contradictory role in the command economic system. First, it addresses a number of the problems of coordination and balance endemic to the command mechanism, reallocating both producers' and consumers' goods, facilitating plan fulfilment and the use of financial incentives, and generating new incomes and 'politically safe' outlets for private initiative. Hence it becomes important for enhancing consumer welfare, for production stability, and even for social stability. The 'second economy', and in particular its 'shadow' side, plays an essential role in the first economy as a 'pressure valve', a release 'fixing command' by maintaining micro-balance and covering 'holes' in economic life left by the mistakes or oversight of the planners and central managers. And this role becomes increasingly important as the economy grows complex and diversified, and hence becomes less susceptible to conscious oversight and direction.

As the central authorities struggle with their loss of control, searching for a solution through reform, decentralization and recentralization, monetization and administrative restriction, agents in the economy take advantage of gaps in control, of the autonomy and discretion offered by growing liquidity of the quasi-money in the system, to deal with problems of coordination and balance, inconsistency of plans and commands, and ubiquitous shortages/scarcities. Of course they operate in light of their own partial information, and in their own (private as well as official) interests, but in so doing save the system from collapsing under its own weight and rigidity. (Powell, 1977) Thus the second/shadow economy provides a spontaneous surrogate economic reform that imparts a necessary modicum of flexibility, adaptability and responsiveness to a formal setup that is too often paralyzing in its rigidity, slowness, and inefficiency. In doing so, the second economy also provides a valuable stabilizing influence on society and the polity, making life livable, and the system humanly manipulable and responsive to private inducement. It makes everyone complicit in the way things work, equally 'guilty' before state and society, while providing an almost legitimate, and not politically dangerous or directly destructive, outlet for individual initiative and entrepreneurship. Finally, it relieves inflationary pressures (a 'monetary overhang') resulting from the command economy's necessary combination of monetary looseness and pricing rigidity.

Despite this positive functional role, the second economy also has a less positive *systemic* impact. It mocks the pretense of social direction and control, subverts its egalitarian impulse, accentuating differences in access and income, and gives lie to the pretense of a 'new' ideologically correct ('Soviet') man. Its very existence and usefulness thus subverts the ideology of the regime, and it works against and undercuts regime priorities by exposing the incompetence and incapacity of the authorities. Its provision of alternatives weakens the 'plan, production, and labor discipline' so essential to the proper operation of the command mechanism. Indeed, it attacks the core of the command mechanism as it '... elevates the power of money in society to rival that of the dictatorship itself, rendering the regimes implements of rule less effective and less certain'. (Grossman, 1977, 36) In particular, it corrupts officialdom and distorts prices, adding a (positive or negative) 'second economy margin', both 'in kind' and in money, breaking prices as an effective instrument of control. This weakens monetized incentives for State activities, by providing competing, and often better, alternatives to them. Hence the second economy, and in particular the 'shadow economy' in the state sector, completes the cancerous development of agent autonomy, of the ability to work outside the plan and its subsequent commands, by providing viable alternatives to the plan.

Other dysfunctional impacts, undermining the operation of the command system, arise from its diverting of resources and products to unplanned sectors/activities, including diversion from development/investment priorities to consumers. This naturally generates undesirable (from a system perspective) redistribution of incomes, although recipients, including many high placed officials, find it very desirable. Indeed, it is further disruptive of command by creating a 'two-tiered' system of prices and incomes, of consumers' goods and labor markets. One tier is comprised of the low-priced, scarcity-ridden quasi-markets of the 'less-than-absolute' command economy, where the unenterprising, the overly scrupulous, and the 'slow' can survive. The other tier consists of real, albeit highly distorted, markets in the generally high-priced, risky but well endowed, second economy where the enterprising, entrepreneurial, and criminal can thrive. In this high tier, substantial incomes are generated and allocated, although they largely accrue to corrupt officials, and 'gatekeepers' of scarce materials or permissions who can extract rather phenomenal 'rents'. The inequities this generates further undermine the legitimacy of the regime and generate potentially explosive social pressures, only partially relieved by the second economy's 'pressure valve' aspects.

Finally, it is worth noting that the second/shadow economy, through its activity outside of the officially measured sphere, seriously distorts statistical data and the information available to planners and allocators in the official economy, and, due to its illegality, also hides necessary information from other agents in the shadow economy. This aggravates the economic problems that spawn 'second/shadow economy' activities, deepening the contradictions between the center and decentralized agents, and further corroding the institutional structures of the command economy.

Performance and Fate.

Command economies have been instrumental in radically transforming societies more or less according to their drafters' intents, in mobilizing resources for rapid industrialization and modernization, at times on a vast scale, and in rapidly amassing industrial power and military strength. Indeed, they have shown themselves highly effective in rapidly implementing large-scale projects and achieving overriding social goals, albeit at great cost It is this effectiveness, when cost is no object, which explains why the command principle is resorted to in times of emergency and war. Hence in the Soviet Union, command facilitated defense during, and rapid recovery and rebuilding of the Stalinist economy after, the massive trauma of the Great Fatherland War. Economic growth has been especially marked (though not unparalleled by market economies) where large amounts of un- and underemployed labour and rich natural resources could be mobilized and combined with existing (advanced, Western) technology, and where the public's material improvement could be restrained, or even seriously depressed, under strong political control. As these possibilities waned, and as the economies grew in size and complexity, and thus became less amenable to centralized administrative management, rates of growth declined sharply. At the same time, the shortcomings of the command mechanism in adapting production to demand and its changes – providing consumer welfare, effecting innovation, serving export markets – became more apparent and less tolerable. This led to much discussion and repeated attempts at controlled institutional reform, at decentralizing and stimulating subordinate initiative without sacrificing ultimate control.

Some actual reforms in the externally imposed command economies of eastern Europe went so far as to introduce or extend the market mechanism to such a degree that one can no longer regard the system as a Soviet-type command economy, even if, before the 1990s, one could not speak of it as a full-fledged market economy either. Yugoslavia since the early 1950s, Hungary since 1968 and especially in the 1980s, and post-Mao China, are the most important cases in point. Other actual reforms have been of a minor or 'within-system' nature, aiming to decentralize certain types of decisions while eschewing the market mechanism and retaining the hierarchical form of organization and the command principle. In the hope of stimulating efficiency to revive growth rates, the decentralizing measures were accompanied by a number of other 'reforms' relating to organizational structure: prices (still controlled), incentives, indicators, materials rationing, etc. The Soviet reforms of 1965, and those in the 1970s and 1980s prior to *Perestroika,* were of that kind; many similar ones took place in other communist countries after the mid-1950s and prior to the overthrow of communism in 1989. On the whole, such reforms had little success in addressing the problems of the command economy. Bureaucratic and political obstacles apart, the attempt to decentralize economic decisions without bringing in a market mechanism almost inevitably leads to economic difficulties. The beneficiaries of devolution of decision-making lack the necessary information to produce just what the economy requires or to invest to meet prospective needs, and the coordination of plan-subsequent command is lost. Moreover, they may apply the additional power at their disposal to advance particularist causes or to divert resources into illegal channels. Microeconomic disequilibria mount, and soon superior authorities step in to recentralize on a case-by-case basis and the reform withers away. (Grossman, 1963; Wiles, 1962, ch. 7).

This failure of reform reflects the inherent contradictions of the command economy framed in the irreconcilable conflict between 'command' and 'money' discussed above. (Ericson, 2005) The Soviet command economy, driven by the urgent need for and haste in industrialization and military development, initially relegated the influence of money and the market to the margins of the system, where they handled areas and activities in which command had been revealed counterproductive during War Communism. That system, the 'less than absolute command economy', substantially industrialized, triumphed in the Great Fatherland War, and recovered to an almost perfect replica of its pre-war self by 1950. But by then the strains of its inherent inflexibility, and the bounded rationality of the system's planners and managers, began telling on continuing growth and the development of the economy. With economic growth came increasing complexity and growing intractability of the planning and economic management problem. Some decentralization became essential, and increasingly so as time passed, opening the door once again to the rise of money as a significant influence on the operation and development of the economy. And that influence was only enhanced by the aging and mellowing of the system. With the passing of 'terror' as an effective incentive mechanism, the stabilization of personnel and the regularization of procedures, it became ever harder to control agent behavior, to contain the distractions of money and the self-interests it mobilized, and to uncover the rents that well placed agents were able to extract, thus aggravating the inherent agency problems of the command economy.

The remaining years of the Soviet system thus witnessed an epic struggle, barely perceptible at first, but increasingly evident as reforms, decentralizations, reorganizations, and recentralizations cycled around each other in the search for a solution to the increasingly evident and destructive malperformance and waste, and aggravating behavioral distortions in response thereto, generated by the struggle between the 'command principle' and the weak, but inexorable emerging, 'market'. Initially reflected in the dysfunctions of the marginal and quasi-markets of the command economy, and in the struggle to harness a 'passive' money to the purposes of command, the role of money grew along the 'treadmill of reforms' into the rival, if still largely subordinate, and complementary 'second economy', and in particular its 'shadow' component, on which the 'command principle' increasingly came to depend for its effectiveness. As long as the Soviet system remained a 'command economy', commands had to have last word, and money remained largely relegated to the sidelines, exercising its influence within the quasi-monetized instruments ('economic levers') of the command mechanism and the distorted markets of the second economy.

This inherent conflict, played out over Soviet history, revolves around a number of fundamental dualities, elemental oppositions which characterize these primary forces. The 'command principle' derives most basically from the urge, the will to control, to 'rationally' determine and direct the future, exercised by a 'gnostic' elite, immanent in the Party. It knows what needs to be done, by whom and how, and can tolerate no dissent or deviation. Juxtaposed to this 'Will of Society,' stand the millions of independent 'wills', desires and objectives, anarchically coordinated through 'the market,' whenever that set of institutions broke through the barriers and limits placed by 'command.' This provides the foundation for the eternal struggle of 'central priorities and control' vs. 'agent incentives and capabilities.'

This opposition is severely aggravated by urgency, by 'virtuous haste,' in the pursuit of overriding social goals and central objectives. For the mobilization for, and focus of resources on, these priorities tramples on the information, capabilities and goals of individual and organizational agents which must perforce implement that mobilization, implement those priorities. 'Effectiveness' in the pursuit of social objectives becomes opposed to 'efficiency' in the attainment of any objectives, denies trade-offs based on local information and incentives and hence blocks flexibility in response to changing circumstances. Indeed, the single-minded pursuit of overriding objectives, of absolute priorities, naturally disrupts the fine coordination, the requirements of 'balance', necessary to consistently and efficiently pursue any objectives.

Throughout the history of the Soviet Union, the needs of centralization, given Soviet social goals, stood in fateful opposition to the necessity to decentralize in order to keep the system tolerably functioning. The latter necessity spawned repeated (partial) remonetizations, and a 'second economy' that both shored up the operational foundations of the 'first economy' and undermined its long term viability, corroding its ideological and systemic foundations. Money so unleashed intensified the dysfunctions and contradictions of the 'command economy', spurring further repeated 'reforms' and ‘experiments’ that merely further aggravated the inconsistencies, the ‘oppositions’ in the system, until the central leadership, largely unintentionally and out of ignorance, destroyed the ‘command economy’ in the radical systemic and economic ‘restructurings’ beginning with *Perestroika* in 1987.

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See also *central planning; decentralization; planned economy; second economy; socialist economies; soft budget constraint*.

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