

REVIEW ARTICLE

THEORETICAL, METHODOLOGICAL, AND EMPIRICAL ISSUES OF COMPARATIVE ECONOMIC SYSTEMS*

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Comparative Economic Systems as a field of study has always been a controversial subject. It emerged as a distinct field of study with the crystallization of a new economic system in the Soviet Union, and was as such burdened from the very beginning with the Eastern-Western-Confrontation. It is the main concern of the contributions under review to bring some fresh air into the ideologically dusty categories, emphasizing a "neutral", "economic", "theoretical", "methodological", and "analytical" approach focusing on three topics which constitute the main parts of the book: Part I, "Analytical Framework for the Comparison of Economic System", Part II, "Alternative Approaches to the Comparison of Economic Systems", and Part III, "Some Environmental Variables and System Characteristics". The volume provides ample proof that the mere "theoretical" issues are not less controversial than the "traditional" ones. As a matter of fact, there is not even consensus when considering the general approaches in future research in the field of Comparative Economic Systems. For instance, the first part bears witness of the fact that we hardly left the stage of definitions and general methodological considerations when it comes to the analysis and comparisons of economic systems, while the final part ("An Integration") leaves us with the recommendation that we best concentrate our efforts on sectoral studies since we are equipped with a substantial body of "system-focused" literature. There are other more

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specific controversies; the one between GERSCHENKRON and HIRSCHMAN, or the one between BERGSON and DOMAR. Where differences in opinions on mere methodological questions are still found to be so broad, a theoretical reconsideration of the subject makes sense. The book, in short, is timely.

The point of departure is the comprehensive analytical framework by TJALLING KOOPMANS and JOHN MONTIAS which provides a basis for description and comparisons of economic systems. The authors introduce the analytical categories environment, e , (economic) system, s , outcome, o , policies pursued by the participants of the system s , p_s . o is defined as "all aspects or consequences of system, policy, decisions, or actions to which positive or negative value is attached in at least one of the norms entering into a comparison" (p. 41). A norm is defined as "an evaluation function of all outcomes that represents the preferences held by some individual or group pertinent to the comparison" (p. 41). The question then of interest is what performance, say, model A shows with regard to its outcome, o , or preferences $n(o)$, under the given s , e , and p_s , to be expressed in, for instance, the relationship

$$o = f(e, s, p_s), \quad \text{or} \\ n(o) = n(f(e, s, p_s)).$$

It is to be noted that s or p_s itself can go into the norm if value is attached to this variable (p. 41). The authors, thus, allow for an evaluation of the outcome of economic systems also on the grounds of ideological-political norms avoiding carefully any lopsided "new" approach which would exclude these norms. The authors introduce the concept of the "prevailing norm" which tends to favor little or no change and "desiderata" which favor a variety of change (pp. 42-48), similar to the distinction introduced earlier by this reviewer between the relatively stable "normative Grundentscheid" and the changeable "wirtschaftspolitische Zielkonzeption" (Ost-West-Konvergenz, 1970).

Since o includes s itself the formula should also serve as a formal basis for explaining "system changes" as indicated in chapter 3 (p. 48). However, only part of s — s which became a desideratum because it is attached to a norm — is included in o . However, it is empirically evident that not every system change is deliberately stated as a desideratum and thus attached to a

norm. A variety of system changes is caused by changes in e , for instance, by technology without inducing desiderata changes. Such system changes can be stated as desideratum, but there is no inherent necessity to do so in all instances. To comprise the entirety of relevant system changes, o has to be redefined as being open to "wanted" changes, to value attached outcomes, as defined by the authors, as well as open to "unwanted" changes determined solely by e . With a value attached to o only

$$o_s = f(s, p_s),$$

where o_s stands for system change, is logically possible, because e itself cannot lead to an outcome attached to deliberately stated values. Of course, e also induces system changes, although it is not included explicitly in the above relationship; but it does so here only over changing s and p_s , so that we may write

$$s' = f(e),$$

$$p'_s = g(e),$$

so that we get

$$o'_s = h(s', p'_s)$$

where o'_s stands for outcome in system changes sensitive to changes in s' and p'_s and s' for s and p_s sensitive to changes in e . Since s' and p'_s are in reality not only sensitive to changes in e , but also to changes in the value systems of the individuals expressed in

$$o_s = f(s, p_s),$$

we have to supplement e by a normative factor, (including variables related to action based on value systems as well as on scientific knowledge) determined solely by the behavior of individuals, let us call it i . We then get

$$s'' = f(e, i),$$

$$p''_s = g(e, i),$$

and

$$o''_s = h(s'', p''_s),$$

where o'' stands for outcome in system changes sensitive to changes in s'' , p''_s , and s'' and p''_s for s and p_s sensitive to changes in e and i . This relationship is, however, still biased, since we excluded e as an autonomous

variable causing system changes; e becomes relevant only over s and p_s which in reality can hardly ever be thought of as not being determined by values of individuals, as expressed in i . The e which causes changes in s is always related to an s and p_s which comprises both e and i , integrated in the entities, s and p_s . e has to accept the changes in i , and it is this interrelationship which constitutes a system change; e as an autonomous variable is excluded. The autonomous variable, e_a , may occur in two ways. First, a change of e leads to a change in o_s without changing s and p_s . This occurs only when the content of s , — s being by definition a formal principle — is changed, but not the formal principle spelled out in s is changed. The materialization of a system principle, s_m , (for instance, consumer sovereignty) is different in various phases depending on the respective state of the environment e , (for instance, on the actual level of per capita income) in which s_m is realized. Since changes in e in these cases do not call for formal system changes, these changes are left out in the relationship

$$o''_s = h (s'', p''_s),$$

There is a tendency to exclude the material aspect of s and analyze or compare only the formal aspect of s . It is clear that the reduction to one of the two aspects can lead to biased results when analyzing actual economic systems. What does it mean to have a market system working under the conditions of an economically less developed country as compared to a market system working under the conditions of an industrialized country? Are the differences of their economic systems reflected solely by differences in the principles of system which are applied in these economies, or are there differences in their economic systems even if in both cases the same principles of system are realized, but their environments are different? How can we deal theoretically with these questions?

The second issue poses less analytical problems: e determines s , e'_a . Although the system change occurs here via changing s , s_i is completely determined by s_e , so that we have

$$\begin{aligned} s_i &= f (s_e), \\ p_{s_i} &= g (s_e), \end{aligned}$$

thus

$$o_s = h(s_e)$$

and since

$$s_e = i(e)$$

we have

$$o_s = k(e).$$

A possible version of this theoretical explanation of system changes is MARX's Historischer materialismus. A look at this relationship reveals that the methodological fallacy is now the other way around. The first methodological fallacy was

$$o_s = f(s, p_s),$$

the second is

$$o_s = g(e).$$

This difference, indeed, reflects the basic difference in the approaches of Eastern and Western economists when dealing with economic systems. It is not our purpose to discuss here which theory of system changes is adequate. We are concerned here only with the analytical framework to serve as a basis for formulating such theories. For such a purpose, e'_a must — as long as it is theoretically relevant — be included as a variable.

Each analytical framework is tailored for a theory, and as such it carries the ideas for a possible yet unarticulated theory with it. There is some indication that the methodological framework KOOPMANS and MONTIAS develop is based on a theoretical conception revolving around the individual, i , as central actor determining outcomes, o , in economic systems (where o_s is one among many possible outcome categories). o_s is understood by the authors in both cases — total system change (change of prevailing norm) and evolutionary change (change of desiderata) — as being determined by i (p. 48-50), thus we have the relationship

$$o''_s = f(s'', p''_s).$$

If we want to avoid a monistic idealistic assumption, then we have to include e and e'_a as system variables expressed in the relationship

$$o'''_s = g(e_a, e'_a).$$

Then, by including o'' and o''' , we get

$$o''''_s = h(s'', p''_s, e_a, e'_a)$$

which would serve as a general methodological framework for all possible theories formulated for o_s .

KOOPMANS and MONTIAS would probably accept this version since later in their paper, they provide a thorough analysis of the e-factors. "We surmise further", the authors point out, "that the particular bundle of production activities taking place between two successive transfer states that two systems have in common depends less on system characteristics than on the scale of the economy or of the enterprise and, given a modicum of efficiency, on the environment. Among pertinent environmental factors, the relative scarcities of aggregate basic inputs, such as labor, resources, and capital, to the economy as a whole are particularly important." (p. 53). From this statement we could easily build a bridge to a more balanced relationship between o and the variable as suggested above.

Professor HURWICZ's paper is more abstract than KOOPMANS's and MONTIAS's paper. Not in analysis, but in approach. His models are formulated as logical possibilities, not necessarily always as generalizations about reality. In fact, reality, as far as e (in KOOPMANS's and MONTIAS's sense) is concerned, is excluded (p. 81). As far as behavioristic assumptions are concerned, they are of axiomatic nature; they do not change over time and space, and thus, do not disturb the logical consistency when constructing the models.

Specifically, HURWICZ's paper deals with two attributes of the economic "adjustment process" (as defined in pp. 81-88): "structure of authority", and "structure of information". The author pursues his exploration into the problem of determining under what circumstances these attributes should be labeled "centralized" or "decentralized".

In defining centralization and decentralization with regard to the structure of authority, two extreme positions, the "one-person center" and "autonomy", are formally expressed. In a "one-person center", a message,

m_i emitted by agent i tells in the last stage (of all messages emitted by economic agents), T , everyone what to do, so that we can write, (p. 88),

$$b^j = d^j (m_T^i) \text{ for all } j,$$

in contradistinction to autonomy, (p. 88),

$$b^j = d^j (m_T^j),$$

where b stands for (paper) plan, d for the operation which transforms the terminal message into the (paper) plan with a "decoding function" (p. 85); the subscript j stands for subordinate, the subscript for one-person center (or "agency").

A further specification of the definition of centralization is provided when cases in which m_T^i was "dictated" to unit i by other units at the preceding stage of the iterative process are excluded. Thus, we require, (p. 89),

$$\text{that } f_T^i (M_{T-1}; e) \text{ be "sensitive to" } e^i.$$

Similarly, to make the autonomy of j meaningful, the case where m_T^j was "dictated" to j by i is excluded, expressed in the requirement, (p. 89),

$$\text{that } f_T^j (m_{T-1}; e) \text{ be "sensitive to" } e^j.$$

f_T^j and f_T^i stand for "response function" (p. 83) which relates the messages of a given stage, here T , to their predecessors; e^j and e^i stands for environment for j and i , e thought of as an n -tuple of individual environmental components e_i , so that $e = (e^1, \dots, e^n)$, (p. 83).

The two requirements mentioned make the concept meaningful; however, they also throw light on certain limitations of the concept. As to the logic applied, the house is in order. With the introduction of the requirements we move one step further, from an argument of formal definition to a concept which becomes meaningful, for example, if M_T^i is dictated to i (e.g. central planning agency) at an earlier stage of the decision making process by j (e.g. enterprises, labor unions, and so on) then we cannot speak of "actual" centralization. Here, of course, we ask: If not centralization, what else can it be? Decentralization? This alternative is excluded by definition, since

$$b^j = d^j (m_T^j).$$

Therefore, it is to be concluded that these cases lie somewhat "between". In fact, this is what we assume anyway: that reality never corresponds to the

two abstract extreme cases. However, from this statement we may not conclude that all possible cases in theory and reality lie along the line of the classification "centralization or decentralization" as suggested. There is another possibility. The requirements themselves which are needed to make the dichotomous concept of centralization and decentralization 'meaningful' may constitute, in their antithetical form, a new type of "structure of authority": the combination of centralization and decentralization within one and the same $M_T, M_T^{i,j}$. Such a combination is illogical from the point of view of the classification developed by HURWICZ; nevertheless, possible and meaningful with regard to reality. Close to such a model in its application comes the French Planification System which allows the government, enterprises, trade unions, etc. to state their goals when formulating the plan. Whether this is enough empirical proof of the practical feasibility of m, j is open to debate. It is, however, theoretically possible. Therefore, when formulating a general "structure of authority" we should include the hypothetical case i, j , and with regard to the formulation of $M_T, M_T^{i,j}$. Indeed, it is conceivable that $M_T^{i,j}$ constitutes the main characteristics of an economic system. In such a system command and autonomy are changing in various stages of the iterative process, and there is, therefore, often no way and no purpose to find out whether or in what way or to what extent M_T^i is being dictated by j , or M_T^j is being dictated by i .

Since $M_T^{i,j}$ is left in the analytical no mans land, one is apt to expect compensation for it: Is there an unequivocal classification of the "traditional" cases? The two extreme cases of command and autonomy, as expressed in the formalized relationships, can be defined and classified with the presented concept. It becomes more difficult the more we deviate from the extreme models. When measuring various degrees of command and autonomy in an economy, we are left to a reference framework of definition, where command economy is being defined as an economy which "prevails when there exists a set of units constituting a hierarchy" (p. 90), leading to the conclusion that an autonomy economy is one which prevails when there exists no such set of units constituting a hierarchy, but where autonomy prevails. Definitions like this are rather broad so as to serve as an analytical tool for the classification of autonomy and command in economic systems.

The analytical concept gives rise to another question. Let us assume a case where we have 50% autonomy. Where shall we start? At the command model or at the autonomy model? Depending on the choice of the departing point we reach formally different conclusions. On the one hand we end up with an economy where command prevails, but to a considerable extent autonomy is granted. On the other hand we end up with an economy where autonomy prevails, but where to a considerable extent command is used. The concept developed by HURWICZ implies that there is always a dichotomy: command economy versus autonomous economy. A third model is not possible by definition. The question arises whether the logical incompatibility of defining a genuine 'third model' emerges merely as a coincidental outcome of the methodological framework, or whether the methodological framework itself is deliberately developed in a way to prove the logical inconsistency of a 'third model'.

Professor KUZNETS deals in his paper with "Stages of Economic Growth as a System Determinant" (p. 243-267). The central question to be asked is: How are Economic Systems determined by various stages of Economic Growth? Or, since stages of Economic Growth appear as sequences within Economic Epoches: How do Economic Epoches determine Economic Systems? Economic Epoches are defined as "complexes of major innovations in material technology, institutional organization, and ideology" (p. 248). Stages of Economic Growth, "in so far as they are economic epochs ... are system determinants by definition" (p. 248). Economic Systems or "Systems" which are determined — according to the time segment applied — either by Stages of Economic Growth or by Economic Epoches, are defined by referring to "the long-term arrangements by which various units within an economic society are induced to cooperate in production, distribution, and use of the aggregate product — including means of control over productive factors, freedom or constraint on individual units in the existing factor or goods markets" (p. 249). The question thus can be reformulated as how major innovations, institutional and ideological factors, determine long-term arrangements established in an economic society. Since long-term arrangements of an economic society are by definition institutional factors of a respective society we arrive at the somewhat awkward question of how

institutional factors determine institutional factors. Epoches, Stages, and Systems can be taken as identical, as in the Historische Schule. However, this is not what the author has in mind since in his framework epoches and stages determine economic systems. Therefore, we cannot avoid insisting on the minimum requirement of stating clearly the difference between both notions.

Further analysis focuses on the impact of the "Modern Economic Epoch" on the "system that characterizes the world's economic societies" (p. 249). In Professor KUZNETS' view, four complexes of factors characterize the Modern Economic Epoch, and have determined the size and character of the economic systems of the "older developed countries" (p. 253). First, "shifts in the structure of production and in the underlying technology led to much larger optimum or minimum scales of plant and enterprise ..."; second, "the increased international tension and greater tendency toward major conflicts associated with the spread of modern economic growth to more nation-states ... stands in sharp contrast to the century before World War I, with its Pax Britannica which is implicitly credited to the effective limitation of economic development ..."; third, "the increasing recognition of the responsibility of the modern state ... for the equality of economic opportunity ... and for a minimum economic base ... lead to the provision of public facilities to implement this purpose when and if the free-market private sector fails to do"; fourth, "the scientific field as an increasing source of economic growth ... (makes) society reluctant to allow profit-oriented, private enterprise to develop it". How these familiar complexes of determinants have been influencing the economic systems of the older economies is not investigated in detail, however, it is somewhat implicit in the following statement: "These four sets of trends, leading to the new industrial state, the new military state, the new welfare state, and the new scientific state ... are clearly significant variants of the free-market, individual enterprise state. The mixture of these variants may differ among the presently developed countries — outside of the communist system and to some extent also within the latter" (p. 253/254).

KUZNETS' paper brings out the need for further research in the fields of (1) classification of system determinants, (2) their interrelatedness, and (3) the

cause-effect-relationship between environmental variables as system determinants and economic systems. As for (1), a valuable contribution has been made in this volume by KOOPMANS and MONTIAS.

“Ideology as a System Determinant” is taken up in the papers by Professors GERSCHENKRON and HIRSCHMAN (pp. 269-299). GERSCHENKRON makes a sharp distinction between ideology as historical manifestation and ideology as idea. According to GERSCHENKRON historical evidence shows that reality overruled ideologies, and not the other way round. Ideologies have to be viewed as a result of the historical process rather than as one of the determining factors of this process. In a stimulating chapter on “Ideology of Industrialization” (pp. 279-283) the author points out that “St. Simonism in France, nationalism in Germany, and Marxism in Imperial Russia can be justly regarded as the dominant industrialization ideologies ... it seems very reasonable to say that such ideologies helped to clear the road for the advent of industrialization. It is also reasonable to say that in some way they affected some features of the industrialization. But it is not reasonable at all to say that St. Simonian socialism or Marxian socialism were the determinants of what was called French or Russian capitalism.” (p. 280/281). In fact, ideology never acted as system determinant — with the only exception in Soviet Russia; but there it was the concealed “power ideology”, not the “official ideology,” which has to be clearly regarded as the “determinant of the economic system” (p. 289). “By contrast, in capitalism where interests of different classes produced a variety of ‘true’ and ‘false’ ideologies it is impossible to regard any single ideology, be it true or false, as a determinant of the system. The course of economic development there was fashioned by a rich multiplicity of ideologies: laissez-faire and state help, nationalism, various forms of socialist beliefs, feudal interests and ideas, ideas of social protest on the part of labor — they all combined to influence the nature of the complex and not very consistent entity that has been called the capitalist system.” (p. 289).

HIRSCHMAN’s reply “Ideology: Mask, or Nessus Shirt.” (pp. 289-297) is an effort to put GERSCHENKRON’s main argument that ideology is determined by (rather than determines) the historical process from the head to the feet, or, as GERSCHENKRON might see it, from the feet to the head. HIRSCHMAN

suggests that we distinguish between "official dominant or pro-status-quo ideologies (Mannheim's Ideology), on the one hand, and insurgent or advocated ideologies (roughly Mannheim's Utopia), on the other." (p. 200) In Professor HIRSCHMAN's view, the mistake of GERSCHENKRON's conclusions lies in the fact that his paper only dealt with either insurgent or advocate ideologies, such as the mentioned French and Russian industrialization ideologies. "All these ideologies were fashioned for the purpose of either overthrowing or of substantially altering the existing order. Hence during the period of the ideological assault there is no reason to expect the economic system to reflect the ideology at all." (p. 291). Ideologies determine economic systems only if they have the quality of "dominant ideologies"; "insurgent ideologies" must be "partly or wholly dominant" so as to determine economic systems (p. 292). Applying this distinction throughout the paper Professor HIRSCHMAN arrives at interesting conclusions. The author throws light on, for example, the distinction between "reform" and "revolution". "... reform movements typically request that a country's long professed, but so far woefully unrealized, ideology be finally taken seriously, whereas revolutionary movements tend to be animated by a wholly new ideology. One might thus say that a system frequently finds itself in a position in which it faces the choice between either living up to the promises of its own ideology or being destroyed by an insurgent ideology" (p. 295). There are other examples which lead all to the final conclusion: "ideologies do exert influences and pressures on systems" (p. 297).

While KUZNETS and GERSCHENKRON/HIRSCHMAN focus on the relationship between system variables and economic systems, BERGSON and DOMAR explore the effect of various variables of economic systems on the performance of the respective systems. In particular, one major aspect of comparative performance, namely static efficiency, and, the observed differences in two countries, USA and USSR, are dealt with.

Professor BERGSON defines efficiency as "realization of production possibilities" (p. 163); the more a community realizes its production possibilities the more efficient is the production in this community. Similarly, the production in an economic system A is considered as being more efficient than that of economic system B if A realizes better than B its

production possibilities. To make the efficiency of two systems comparable we have to introduce the assumption that the production possibilities — level of technology and given resources related to outputs — are equal at a given point of departure. The comparative output per unit of input of the two systems is referred to as the coefficient of comparative factor productivity, and written in the form

$$\pi_{ms} = \pi_m / \pi_s,$$

where π_{ms} stands for the coefficient of comparative factor productivity, while π_m and π_s stand for the volume of output per unit of inputs relative to that implied by a “standard mix” in the systems m and s respectively (p. 164). — As to statistical measurements applied when comparing the efficiency of USA and USSR, Professor BERGSON suggests the unconventional concept of index formulae of a geometric aggregation of inputs and an arithmetic aggregation of outputs, including two inputs (labor and capital) and two outputs (consumer and investment goods). The conclusion Professor BERGSON derives from the comparative data examined is that “Soviet productivity falls notably short of that of the USA and seems to do so not much less after generous allowance for the differential impact of causal factors other than efficiency” (p. 194). The “markedly inferior efficiency” of the Soviet economy to that of the US economy” is true both for the economy generally and for the nonfarm sector alone. Productivity in the USSR is especially low, however, for the economy generally” (p. 194). The reasons mentioned as responsible for this fact are misallocation of resources between the farm and nonfarm sectors as well as the particular low efficiency in agriculture (p. 194)

Interpreting the “Meaning of the Results” of BERGSON’s paper Professor DOMAR opens his tirade of arguments with the statement that efficiency is a vague concept since we do not know where the “influence of non-economic factors ends and true inefficiency begins” (p. 228). Professor BERGSON refers in his reply to the distinction between “material values attached to goods and services produced and disposed of, and non-material values that may be attached to working arrangements ...” (p. 235) which would allow the comparison of only one of two, e.g., economic efficiency. The dispute, however, goes beyond more or less semantic questions. DOMAR argues that differences in economic efficiency between the USA and USSR attributed by

BERGSON mainly to differences in the economic systems are more plausibly explained by differences in the stage of economic development. "It seems to me that BERGSON's calculations testify not so much to Soviet inefficiency, however great it may indeed be, but to an earlier stage of economic development as confirmed by the presence of 38.5 per cent of Soviet labor force in agriculture" (p. 230). Although this later statement seems to contradict BERGSON's theoretical concept and conclusions in principle, the authors deviate more in degree. Indeed, BERGSON mentions several times that factors such as "stage of economic development", "cultural" and "social context" determine, as well as the economic system applied, the efficiency of an economy (p. 162). He is explaining, e.g., the slow Soviet factor productivity compared with that of the USA with the late start of the USSR towards industrialization (p. 236). However, BERGSON does not agree with DOMAR's assumption that the Soviet inefficiency as compared to the USA is mainly due to an earlier stage of economic development. It might finally be satisfying for both authors to note the following concessions: DOMAR devotes two elaborate chapters on the discussion of BERGSON's comparative index which has to do with factor productivity or "economic efficiency" in BERGSON's sense, although efficiency in this sense is lamented as being a vague concept. BERGSON, in turn, admits that "we may at least conclude that socialism, as exemplified by the USSR, is markedly less efficient than capitalism, as exemplified by the USA, though perhaps about as efficient as capitalism as exemplified by Italy, a country at a broadly similar stage of development." (p. 239).

The book contains three more contributions which all keep up with the high scholarly standards of the contributions mentioned in this review. Professor BENJAMIN WARD focused in his paper on various approaches to "Organization and Comparative Economics" (pp. 103-133), Professor HERBERT S. LEVINE contributed an article entitled "On Comparing Planned Economies" (pp. 137-160), Professor ALEXANDER ERLICH took up in this paper "Eastern Approaches to a comparative Evaluation of Economic Systems" (pp. 301-335). The volume is introduced by the editor, Professor ALEXANDER ECKSTEIN, (pp. 1-23), and rounded off with an "Integration" by Professor MORRIS BORNSTEIN (pp. 339-355).