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Assessment of Economic Development Level as the Basis to Analyze Society Welfare

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Abstract

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Big amount of welfare aggregates used in worldwide practice to assess the degree of material and spiritual public needs satisfaction do not reflect enough both objective and subjective constituents of the concept when making intertemporal comparison of the society welfare. This article presents the methodology to study a transformational economic system. The authors consider the systems approach to be the base of the issue study. According to this approach, the economic system development influences the society welfare. An integrated approach is fundamentally important during the transformative change at the analysis of economic system development direction and at the assessment society welfare. Regarding the society welfare analysis the author assumed that the majority of modern aggregates (such as Business cycle indexes, GDP, CIPI, KEI, Secondary Modernization Index, Innovation index, Secondary Modernization Index and Sector analysis) being applied to assess the satisfaction of material and spiritual public needs are lagging or coinciding.

Keywords: Economic ssystems, welfare, system transformation, indicators, society.

1. Introduction

The ultimate goal of economic activity is to satisfy human needs. This axiomatic thesis underlies the economic theory. In terms of modern society humanist ideals, the country development is intrinsically intended to the goal achievement. The result is that today it is important to assess the

efficiency of the government machine. In the context of modern extensive democracy, the basic criterion of the assessment is only restricted by the welfare of a nation.

At the moment a large number of aggregates are being used in worldwide practice to assess the degree to which it meets the material and spiritual public needs reflecting both the objective and subjective constituents of the concept, such as traditional System of National Accounts (SNA), standard of living, quality of life, Human Development Index (HDI), Happy Planet Index (HPI), and other more or less widely accepted objective and subjective indicators. It is obvious that all those indicators are, to some extent, intended to represent the current status of measured social environment. They allow making cross-country comparative analysis. However, when making intertemporal comparison of the society welfare, the use of the aggregates could result in certain difficulties due to significant share of subjective indicators, which are time-dependent.

The study of the relationship between economic growth and welfare has a long history. The debate is developing around the impact of economic growth such as environmental deterioration (Victor, 2011), the difficulty in benefit/cost ratio assessment in terms of its contribution to human well-being (Easterlin et al., 2010), and State's failure to implement change policy even when long-term benefits exceed short-term costs (Stern, 2007).

2. Methods of economic system development assessment

With the economic systems transformation, it is becoming more difficult to measure and assess society welfare by conventionally applied indicators. Since this period is characterized by the changes in values, changes of financial status of certain social group, institutional and stratified changing of the society. The application of the conventional aggregates could also result in information distortion.

An integrated approach is fundamentally important during the transformative change if it is oriented not only at society welfare derivation, but also at the analysis of economic system development direction. It makes possible to build more effective State’s policy. Here, an adequate assessment of economic system current status as a whole is implied. Methodologically, this state can be expressed in the form of the traditional scheme used both in historical analysis (ex. cause – historic evidence – effect) and in institutional analysis of transaction expenses (ex. ex-ante costs – transaction – ex-post costs). The same principle could be applied to economic indicators derivation methodology realized by The Conference Board’s and published in “Economic Cycle Indicators” report. It is used to systematically forecast the course and rate of economic systems development. Three types of indexes are calculated for the analysis: leading indicator index, index of lagging indicators, index of coinciding indicators. The index data are identified and the different phases of the business cycle are explained. Whereas the leading index indicator points to the future trends, index of coinciding indicators determines the turning points already under development, and index of lagging indicators confirms the occurrence of these events.

Regarding the society welfare analysis, it should be assumed that the majority of aggregates being applied to assess the satisfaction of material and spiritual public needs are lagging or coinciding. But the aggregates of economic system development are leading as they may indicate the potential of society well-being.

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Several approaches can be highlighted to analyze economic systems current status (Table 1). Each considers the specific subject and aspect of the current stage of the economic development.

Table 1. The research subject of basic economic systems analysis indicators.

Indicator	The research subject
Business cycle indexes	Economic Upturn/downturn and short-term cycles assessment
GDP	Economic growth
CIPI (Change In Procurement Instructions)	Industrial economic development level
KEI (Knowledge Economy Index)	Knowledge economy level, innovation and information system components development level (partially)
Secondary Modernization Index	Knowledge economy level, innovation, information, and postindustrial system components development level (partially)
Innovation index	Innovation economy development
Sector analysis	Industrial structure of the economy

All methods of economic system development assessment can provide wide data of development level and institutional features. Obviously, the direction of system development could be evaluated by this method. At the same time neither of these assessments aimed to determine actual society welfare level and its comparative analysis, however it could serve as the necessary basis for welfare forecast.

In addition, each technique has both benefits and drawbacks (Table 2).

Table 2. Comparative analysis of economic systems development assessment technique.

Assessment technique	Benefits	Drawbacks
Business cycle indexes	Ability to forecast the economic development direction (crises and recoveries); Information value	Assessment complexity, necessity of further data source; Difficulty in determining economic development stage; Applied only for the developed countries; Inability of independent derivation
KEI	Provide the level of human capital development; Ability to partially assess innovation and information sector; Provide the level of knowledge economy institutional factors;	Assessment complexity, necessity of further data source; Lack of industrial sector development data
CIPI	Deep analysis of secondary production; Ability to assess prospects of transformative changes	Assessment complexity; No data of structural reforms; Informational purposes, no data of lagging causes
Secondary Modernization Index	Ability to assess quality of living; Ability to partially assess innovation sector; Provide insufficient data of key economic indicators; Assessment of knowledge economy development level	Include KEI sub-aggregates; Informational purposes, necessity of further calculations for the building of a public policy

Sector analysis	Provide the share of each sector; Ability to trace structural changes during evolution	Absence of optimal structure model; Variety of structural analysis techniques, which assessed only one component of post-industrial development; Most of techniques emphasize the service sector skipping secondary production

In the meantime, the analytical reports which describe economic system development level post factum, could show a great deal of information about social service development level. Particularly, economic system analysis based on intensive factors, considered as the economic development assessment, contains such indicators as production of basic products, and standards of living, and quality of life in addition to typical SNA aggregates (Real GDP, GDP/GNP per capita, etc.).

The above mentioned The Conference Board's methodology of coinciding index derivation is based on the following: the number of employees on nonagricultural payrolls; personal income less transfer payments; manufacturing and retail trade sales. Some components of the leading index are the following: average weekly hours worked in manufacturing; average weekly initial claims for unemployment insurance; manufacturers' new orders for consumer's goods and materials; monthly building permits for new private housing; index of consumer expectations. And the lagging index has the following components: average duration of unemployment; average month basic rate on short-term credit; ratio of consumer installment credit to personal income; consumer price index for services (Yamarone, 2004). These directly or indirectly allow to determine actual and expectable society welfare. The truth, however, is that the use of these data is not always possible due to the limited access to the database. In addition, indexes are being calculated for a limited number of countries excluding Russia.

The China Modernization Research Center's index of world modernization being used for Chinese economic assessment within knowledge economy development is of interest (China and World Modernization Report Outlok, 2011).

The index of world modernization comprises the degree of first modernization realization, the second modernization index, and the integrated modernization level index. A combination of the three indicate the development levels of economy, social services, information infrastructure, etc.

The degree of first modernization realization indicates the levels of the developing countries and regions, the second modernization index indicates the levels of the developed countries and regions, and the integrated modernization level index indicates the world's advanced level.

The typical values of the first and the second modernization assessment indicators include the number of social indicators of quality of life. These are the medical services level (the number of health workers per 1,000 inhabitants); infant mortality rate; duration of life.

The Knowledge Assessment Methodology (KAM) was proposed by The World Bank in 2004. The methodology main indicators analysis allows not only to assess the country development level, its strengths and weaknesses, measures that one can take to improve economic efficiency, but to assess and to compare the nation welfare.

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Table 3. The main indicators of KAM (KI and KEI Indexes, 2011).

Indicator	Main criterion	Index	
Universal indexes	Annual growth of GDP; Human Development Index	–	
Institutional economy drive	Tariff and non-tariff barriers level; Economic regulatory quality; Law implementation	–	
Education and human capital	Adult literacy rate; Secondary educational level; Higher educational level		KEI
Innovation system	Number of research in R&D per a million of men; Number of patent application per a million of men; Number of science and technology publishing;	KI	
Information infrastructure	Telephone density per 1,000 people; Number of computers owned per 1,000 people; Number of Internet users per 10,000 people		

It should be assumed that secondary indexes of economic system development applied to methodology assessment of institutional economy landscape (Table 4, 5), could be also applied to identify the correlation with subjective welfare aggregates.

Table 4. Method of institutional economy landscape indicator assessment (Knowledge Assessment Methdology (2012).

Criterion	Method of assessment	Data source
Tariff and non-tariff barriers level	Calculated as economic freedom level based on Index of Economic Freedom	Law implementation (security of proprietary right, venality level) Restrictions by the Government (fiscal freedom, public expenditure) Regulation effectiveness (freedom of enterprise, freedom of labor, monetary freedom) Market openness (financial, investment, commercial)
Economic regulatory quality. Law implementation	Calculated as performance measurement of governance based on The Worldwide Governance Indicators (WGI)	Household analysis (9 data sources, including The Global Competitiveness Review) Commercial data analysis (4 data sources) Analysis of non-governmental organizations (8 data sources, including The World Bank, regional development banks)

Table 5. Sources of KEI indicators assessment.

Indicator	Data source
Education and human capital	UNESCO Institute for Statistics
Innovation system	National Science Foundation – «Science and Engineering Indicators»
Information infrastructure	International Telecommunication Union's statistics

3. Conclusion

It should be noted that the current research of welfare problem is accompanied by methodological dichotomy. It means the positive economics are being managed to use the inductive approach and, by contrast, the deductive approach are predominating in the welfare economics. This fact impedes understanding of complexity and depth of studies. Obviously, both the preferring of description of the phenomena origin and the attempt to apply priori predetermined outcome don't result in a holistic picture.

While studying the society welfare problem, the systematic approach should be used, according to which economic system development is influenced by society welfare. In the meantime, the last provides the economic development. It may, of course, be inferred that the use of methods and aggregates for economic system development level assessment is a necessary element of more deep understanding of welfare issue. The complex analysis of economic welfare in capacity of critically complex multiple phenomena is impossible without a whole range of scientific methods applied not only in economics but in allied disciplines.

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