CONTEMPORARY GROWTH STUDIES AND EASTERN EUROPE

FROM SCHOLAR DEBATES TOWARDS A COMPARATIVE ANALYSIS ON BULGARIA, HUNGARY, POLAND AND ROMANIA, 1970–1995

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Abstract

The present work deals with the rather new field of quantitative economic history, having as basis historical national accounts. Commonly, the new branch is known as Growth Studies. This study is divided into two main sections. The first one is a theoretical survey, having as principal goal to offer a general, but accurate, picture on the main representative scholars' works that shaped the path for this new research realm, from the 1950s up to the present. Thus, to the *Kuznets Paradigm* is added the challenging *Maddison Standard*. So, the methodology and the conceptual framework of the two schools (the new economic historians from the American NBER with Kuznets in head, and the economic historians from the Groningen Growth and Development Centre in front with Maddison), what they have in common and what differentiates them, form the issues of study's first section. However, not all major works being available at university library, the survey is made on the existing sources. An intermediary section makes the link between western growth studies, with their standard methodology of the SNA, and the difficulties in accounting for the economic performances of the former socialist countries of Eastern Europe. The second section is a practical one. It is a quantitative comparative analysis on countries belonging to Eastern Europe. The aim is to provide a macroeconomical comparative general picture of selected countries, that is their overall economic performances within a given period of time. Two countries from the East Central Europe, Hungary and Poland, and two from the Balkans, Romania and Bulgaria, make the object of a comparative quantitative analysis. Their economic performance, mainly the growth rate of their GDP, is seen in both their socialist and their ongoing transition period, from 1970 up to 1995, and beyond. The problems arise from the difficulties in swiching from the MPS to SNA standard, in other words from the NMP to GDP estimates, and from the scarcity of the empirical accurate sources and related studies.

Keywords

Growth Studies, SNA, GDP, MPS, Growth Rates , NMP, Foreign Trade, Eastern Europe, Bulgaria, Hungary, Poland, Romania, National Accounts, Quantitative Economic History.

Preservation

Department of History

Additional Matters

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1. INTRODUCTION

1.1. Foreword

When, once again, the East met the West by 1989, the interest of the western public and, especially, that of scientists and scholars for the culture and history of the peoples living in Eastern Europe began to grow, year by year. Local academics, too, are asking themselves questions about their own recent communist past, and are seeking for explanations. Thus, there is a common interest for the historical investigation of the East European countries, namely for their existence under Communism. Interest is also manifest, mainly among sociologists and economists, towards their ongoing transition period.

The Marshal Assistence Plan enormously eased the economic reconstruction of the western half of Europe. Between 1948 and 1952, Western Europe recovered completely from the wounds left by the Second World War. American humanitarian and economic aid, both governmental and private, provided the fuel with which this region embarked itself on a voyage of a long and dynamic economic growth unparalleled before. This wasn't an even path for the countries concerned, but the outcome proved to be for all western societies a significant approachment of their economic parameters to those of the leading capitalist big power, the United States. This economic boom, generally known as the *Golden Age*, lasted from 1950 up to 1973, when the oil crisis forced the West to slowdown its economic activity.

In her turn, the second major victorious great power in the war against Nazi Germany, Soviet Union succeeded, by late 1940s, in bringing the entire Eastern Europe under her political and economical control, but far more tightly than the Third Reich has done it in the 1930s. To all countries belonging to this region, including Finland, which was a nordic democracy, was strongly denied the right to apply for the American aid. In stead, the Soviets built up their own economic organization of mutual assistance and cooperation, the CMEA (COMECON), to which all people's democracies were urged to adhere. Within this economic framework, and concomitentely with the western boom, an industrializing frenesy occured among the member states. In economic life the stress was put, thus, on the heavy industry development, the bulk of investments being channelled towards this sector of the national economy. Therefore, between 1950 and 1970, Eastern bloc experienced in its

turn a substantial growth rate of the industrial output, and consequently of the GDP of the member states. In the 1970s, signs of an economic crisis started to appear within all the socialist states alike.

Why, and how, the command economies of Eastern Europe and Soviet Union did they fail to provide for the legitimate expectancies of the masses for a better life within a democratic modern welfare state to be built through a common effort of all citizens? These, and others, are outstanding questions to which many scholars, worldwide, are seeking for adequate answers. They still need to be addressed, again and again, because more archives in the former socialist states are opening their doors for researchers, making thus available the scrutiny of tones of dusty documentary collections. Moreover, since official revisited economic data is available in recent statistical publications, further analyses on economic growth under communist regimes urge to be performed. Thus, an interesting thematique for an eventual analysis. Such one, for instance, might deal with the economic performances that countries once belonging to the Communist bloc underwent since 1970 up to our days.

1.2. Aims, Sources and Difficulties of the Study

The interest area of this study is set within the broader realm of quantitative economic history. It is an attempted analytical comparative approach on the economic performances that the former European socialist countries did experience from 1970 up to 1995 (1998 in some respects). In order to set up the the theoretical framework, and to enlighten the methodological limits for such a comparative analysis, this study includes a first large ideatic section. This one deals with the contemporary thinking on economic growth in the West, in extension to the attention paid by the same western scholars to the economic growth of the former communist states.

The first section traces the major developments that Growth Studies, as a young branch of economic history, underwent since 1950s up to the present, through the research activity of some of the most representative scholars in this field. It covers four chapters. The first one is granted to the American scholar Simon Kuznets. The second one represents the challenge brought in by the Anglo-Dutch economic historian Angus Maddison. The third one describes the response of the Finnish Professor Riitta Hjerppe. The fourth, and last one, points out current academic debates on the difficulties faced by scholars in accounting the economic performance for the former socialist

countries concerning both their recent communist past and the ongoing transition period.

One one hand, the need for such a survey is obvious, for it is necessary to set up the ideal and methodological framework for the second section of this study, which is a quantitative comparative analysis. On the other hand, such a survey is in place for the simple reason that the western scholars' working standards began, from 1989 onwards, to be endorsed by economists and economic historians in Eastern Europe, too. And all this disregarding the fact that the task of revisiting national accounts into the SNA standards is not accomplished yet for many years previous to the collapse of the communist regimes, between 1989 and 1991.

The used sources for this initial section are diverse, some of them being at the same time both primary and secondary ones. Due to their nature, they are used in more than one particular chapter, especially Maddison's works. The trunk around which this section is articulated is constituted by well-known works published by internationally recognized scholars. S. Kuznets' collection of selected essays, *Growth, Population and Income Distribution* (1979), is used to offer some author's thoughts on economic performance. A. Maddison's main works of the 1990s, *Dynamic Forces in Capitalist Development. A Long-Run Comparative view* (1991), *Monitoring the World Economy 1820–1992* (OECD 1995), and the article in the Review of Income and Wealth (Sept. 1998) entitled *Measuring the Performance of a Communist Command Economy: An Assessment of the CIA Estimates for the U.S.S.R*, are used in order to enlighten the Dutch's challenge to the American scholars with Kuznets in head. The case study *Finland's historical National Accounts 1860–1994: Calculations, Methods and Statistical Tables* (1996), performed by R. Hjerppe, is the very source through which the Finnish recent contributions to the Growth Studies could be observed in connection to the wishes so oftenly expressed by Maddison. For the last chapter, additional used materials are, among other ones, H. W. Hoen's book, *The Transformation of Economic Systems in Central Europe* (1998), and that of M. Harrison entitled, *Accounting for War: Soviet Production, Employment, and the Defence Burden, 1940–1945* (1996).

Difficulties as regards to the study first section is brought by the fact that, on the one hand, not all major authors' works are available in the library and, on the other hand, by the fact that one should be, at the same time, highly selective, and that one must focuse on the essential within and accross chapters, an attitude not always easy to adopt even among academics.

The second section of the study is a comparative analysis. It reflects a quantitative approach in dealing with the economic performances of some countries once belonging to the former Communist bloc led by Moskow. It covers a period of time ranging from 1970 up to 1995 (and beyond in some respects), and it is based on data available at the libraries of Jyväskylä University and Helsinki Statistical Centre. The countries concerned are Bulgaria, Hungary, Poland and Romania. Though all of them are East European states, two of them, Hungary and Poland, belong to the so called East Central Europe, a new label term, while Romania and Bulgaria are Balkan states. This selection is done, thus, by taking into consideration the separate geographical position and, consequently, the different historical experience and cultural traditions. Hungary and Poland are Catholic states, having been for centuries under the Habsburg influence, while Romania and Bulgaria are Orthodox states with a long backward reaching experience under the Ottoman pressure. When they all became Soviet socialist satellites by late 1940s, an economic development gap already existed among these countries and, especially, between the two groups. Poland and Hungary were, by then, the most industrialized, while Romania and Bulgaria the most agrarian among the selected countries. In other words, such a selection is made in order to provide the basic explanation for the possible contrasting, or differing, economic performances of these countries within the period under analysis.

During their socialist era, all these countries used the material production system (MPS) in their national accounts. Thus, economic performance was accounted through the net material product estimates, the NMP. Since this macroeconomical indicator neglected both the sectoral value added of the total output, and the non-productive economic activities, it offered a distorted picture of the economic performances experienced by the socialist states. The gross domestic product estimates, the GDP, calculated through the standards of the western system of national accounts (SNA), is, therefore, the best barometer in accounting for the real economic growth. By using the official NMP indicators and the available GDP estimates of the countries involved, this analysis first attempts to provide rough estimates of the annual growth rate of the total GDP, and to identify possible different growth momentums. Thenafter, rough estimates of the shares that the primary, secondary and tertiary sectors form from the annual total GDP estimates are operated and explained in relation to the findings on the growth momentums. Finally, the foreign trade, which substantially determines one's country economic performance, is followed in its trends within the period under inquiry, and explained in relation to the preceeding rough estimates. On the whole, this second part

covers six separate chapters, but all related to one each other.

The sources used in the analysis are by their nature primary ones, being official national and international publications. Also studies based on primary sources are used here, with those of Maddison (1995) in head. Thus, the statistical yearbooks, national accounts and foreign trade statistics of each state are used together with the statistics issued by the United Nations. Additional data was obtained through the different issues of specialized international agencies, mostly European ones. The actual denomination of these publications is given in the study ending pages. Here, one can mention, for its pioneering step in setting up the framework for further deepen studies on the matter, the socioeconomic compilation work, published in 1992 by the World Bank under Paul Marer's supervision, entitled *Historically Planned Economies: A Guide to the Data.*

Difficulties for this comparative analysis is, essentially, brought by the fact that accurate data on GDP standards, ranging back to 1970, cannot be found, or it is not entirely performed yet, as it did emerge after checking library sources in Jyväskylä and Helsinki. The analysis wants to be a comparative survey on the economic performances of the four countries above, both under the centrally planned and the free market systems. It also seeks to identify similarities and differentiations among them. Therefore, by taking into analysis only the general main indicators as mentioned above, and by not disaggregating more, an accurate picture of the underlying forces that have shaped the economic growth of the respective states, during the period in question, remains a desiderate. Thus, this comparative study is not an infailible diagnosis on the economic growth experienced by the selected countries, nor an exhaustive sectoral analysis. Nevertheless, it aims to provide, through a comparative quantitative approach based on a scarcity of available data and a handful of studies on the matter, the best plausible general picture over the economic performances that these four countries did experience between 1970 and 1995.

2. CONTEMPORARY GROWTH STUDIES

" By economic growth we mean a long-term rise in the capacity to supply economic goods, capacity defined within a specified social context and supply evaluated in terms of costs and returns to the human carriers. The growth of a firm, an industry, or a country is subject to constraint by basic rules of social and economic organization. And in the evaluation of such growth, the augmented flow of

goods must be offset by all the costs on men as producers and consumers ". This is, in Kuznets' very words, a clear definition of what we are talking about when dealing with economic development, and could be well used as a general motto for this section of the study.[1]

2.1. Kuznets Paradigm

Present growth theories, and the methods used to validate them, are still owing much to the research work undertaken from 1950s onwards in the United States. Known as *new economic historians*, scholars on the other coast of the Atlantic not only have shown the way for others, but have stimulated the broadening of the research realm both within the discipline itself and through multidisciplinary approaches. Due to their constant efforts, growth studies have spread also geographically, scholars worldwide being, nowadays, involved in different kind of projects on national, regional and global level. In America, they based their studies on solid empirical data, trying to fit them into own theories, or into those worked-out by economists. Usually, American scholars are themselves rather economists than true economic historians and, in their vast majority, they are non-marxian.

Simon Kuznets was the American scholar recognized by many as being the leading authority among the economic historians of a quantitative approaches during the postwar decades. His studies had an emulating influence for many young researchers, some of them own disciples within the American institutionalized framework dealing with the research on economic growth, the NBER. He wrote lots of books, studies and exegeses, spread over a half a century period, from early 1930s up to late 1970s. Through the pages of his works, such as, i.e., *Secular Movements in Production and Prices, Their Nature and Their Bearing upon Cyclical Fluctuations* (1930), *Quantitative Aspects on the Economic Growth of Nations* (1956), *Economic Growth of Nations: Total Output and Production Structures* (1971), Kuznets accounted the economic growth in a quantitative way, by using the economic theories of the time. By the sunset of his career, in the late 1970s, he sought for the elaboration of a theory of economic growth implying both quantitative and non-quantitative aspects. In other words, he tried to combine the economic dimension with the sociopolitical aspects, an endeavour remained, unfortunately, dead letter. Despite this failure, his inductive generalizations on the patterns of economic performance had a great impact upon his contemporary

[1] Kuznets, 1979, p. 66.

young researchers.[2]

A four-side survey presents Kuznets' contributions. This one covers the research field as a whole, the long-run analysis of economic growth, the delimitation of the different phases of growth, and a look at one of his books, to which is granted greater space.

Kuznets improved American historical national accounting, being the first one who based own research on large-scale analysis and systematic collection of economic data, and who started genuine comparative studies on economic growth. In doing so he, primarily, focused his attention on comparing growth rates and variations over time in different countries.[3] It is thanks to him, with his conceived analytical national accounting framework, that a conceptual basis for measuring aggregate economic activity is available for present scholars. Moreover, it is his merit that historical GDP estimates have been done for many countries since early 1950s. By his comparative accounting approach " he revolutionized the study of growth and greatly facilitates testing of long-wave analysis ".[4]

As suggested above, Kuznets improved the long-run analysis of economic growth by providing the tools for testing it. Thus, by his inductive generalizations he opened the way for a more accurate tracing of the development patterns for the western societies. He did such an analysis for the United States. The first analysis (1930), was performed on *secondary secular movements*, using smooth detrended series comprising population movements, and using series of physical output and relevant price variance for simple commodities. Agricultural and industrial production indicators being left aside, an aggregate picture of the US economic activity couldn't be envisaged then. Later, he improved on the analysis by taking " the rationale for GDP (scope, valuation, and net-ness) as an aggregate economic indicator within a system of national accounts ".[5] In this way, Kuznets enlarged the framework for further long-wave studies, as Maddison is well suggesting in one of his recent books. Though for the Anglo-Dutch-French scholar Kuznets' long-run analysis is better seen in terms of a long-wave one, other scholars see it in other terms. Thus, Krantz (1999) calls it a *long-swing* analysis, or the *Kuznets Swings*, based on demographical changes and in variation in building

[2] Krantz, 1998, p. 9-10.
[3] Krantz, 1998, p. 9-10.
[4] Maddison, 1991, passim.
[5] Maddison, 1991, p. 96-97.

and construction. C. P. Kindleberger (1990) thinks of it rather in terms of cycles, that is a 20-year cycle associated with the activity undertaken in house construction. Whatever called by different scholars, the long-run analysis of the American economic historian long time prevailed among them as an emulative model, the so called *Kuznets Paradigm.*

As a paradigm, this analysis is best understood through the initial requirements that its author was setting down when trying to delimitate from one each other the different stages of growth. Thus, five preconditions should be first discharged before proceeding to an eventual analysis on such particular stages. The first one states, that stages must be identified by characteristics which could be quantified and verified. The second one is that, in their range, these characteristics should vary in a recognized pattern from one stage to another. The third one requires, that a certain indication of ending and beginning, and the reason why, should be observable. The fourth one asks, that the necessity for the identification of the universe to which stage classification applies should be obvious. The fifth, and last one, reclames, that an analytical relation between successive stages should be present, in order to predict the time the stage will last. Kuznets thought in terms of regular, or systematic, long-waves in economic life, but not everybody found convincing evidence to support this approach through the former's works.[6] It could be argued, that some deterministic conceptions might be observed through Kuznets' long-run analysis of economic growth, especially while looking at his fifth requirement, hard to cope with.

Some important conceptual topics around the notion of economic growth, as seen by S. Kuznets, could be found within the pages of one of this author's latest books, a collection of selected essays published in 1979 under the title, *Growth, Population and Income Distribution.* A quick look at the three initial essay-chapters dealing, essentially, with the economic growth might be useful in enlightening some thoughts on the matter expressed by the American scholar.

In the essay called *Aspects of Post-World War II Growth in Less Developed Countries*, Kuznets brings in some aspects of economic growth in developing countries in contrast to the developed market economies. He excludes from his survey the centrally planned communist economies since, in his opinion, on the one hand, available comparable data and meaningful estimates is missing and, on the other hand, the trade off between economic gain and individual welfare, and freedom, is so

[6] Maddison, 1991, passim.

different from that of the market economies.

An aggregative comparative analysis on the two groups is possible to perform due to the enormous body of descriptive and analytical data accumulated after the Second Word War. He makes some remarks on the questions unleashed through such an analysis. By quoting UN official estimates of the annual growth rates of total and per capita GDP for the LDCs group, from 1950 to 1972, the author draws some conclusions. For Kuznets, the 2.61 per capita annual rate is quite high in a long-term historical perspective, even for the current developed countries. That would mean the doubling of the per capita product in twenty-seven years. Such a growth rate cannot be applied for the LDCs group before 1950, since that would have ment impossible low levels of per capita product at the beginning of the preceeding quarter of a century.

Kuznets goes on by paying attention to the economic data provided by the LDCs statistics since 1950 on, and suggests, that one should be critical when trying to do an analysis on growth rate based on them. The data is often limited, inaccurate and unfitted for the SNA standards of the West. They look rather like a puzzle than as an articulated system of concepts and classifications of the economic activity. He also stresses the fact that the annual GNP growth rate of 2.6 percent per capita covers a high temporal, sectoral and country variability for the period 1950–1972. The short-time changes didn't cluster the period's growth rate average.

Technological Innovations and Economic Growth is the second essay here. In Kuznets' opinion, this association is a two-directional one. Technological innovations, doubtless, contribute to the modern economic growth, first by involving changes in the rules of economic and social organisation and, secondly, by carring with them costs and returns, though the former ones do not appear in the conventional economic calculus. Such a calculus is possible by identifying both the new final products and new processes, or tools, that significantly affected the costs and supply of the older products and, thenafter, by calculating one country's final output that is accounted for by the " new " components. What results, is the *gross* contribution of technological innovation to the economic growth. For Kuznets, the major problem in getting the net contribution stands in identifying the *indispensable* social and institutional changes; in distinguishing them from other concomitants that were discretionary; and in measuring the magnitude of the former in terms of costs, or returns, that might have been involved. In calculations should be brought the *dislocative*

effects of the new technologies, too. In current aggregative analyses the comparisons of the combined inputs and outputs leave a positive residual. According to Kuznets, this might well be, largely, the very *net* contribution of technology to economic growth. Thus, technical innovations contribute to rising productivity and to increasing per capita product, causing this way major transformations in the life and work conditions, and in the institutional structure of modern societies. It mean, their overall boost to the economic growth.

Economic growth, in its turn, contributes to a greater flow of technological innovation. For making clear its apport, attention should be paid to its impact on the additions of knowledge in a pre-conception phase, and on the supply of technological capacity, perception of need and supply of entrepreneurial talent in an initial phase, exclusing the diffusion phase, when successful application occurs. For the American scholar it is obvious, that if modern economic growth is due, largely, to the productivity rising effects of technological innovations, and if societies acknowledge this fact, and appreciate its results, they will presumably use resources, augmented by past growth, to initiate further technological innovations. Thus, well conceived uses of resources and policies adopted will result in a growing rate of additions to the stock of practical knowledge, to inventive ability, to manifest entrepreneurial talent, which all will contribute to augment the flow of further innovations. The linkage between the growth-promoting experience of past innovations and the innovation-promoting consequences of past growth is obvious among modern societies. By institutional innovations, and accumulated *experience*, economic growth strengthens further technological innovations. Economic growth's influence could also be perceived through the role of modern science. The application of new technologies provides science with new data, new tools, and new problematiques. In response, science may generate new discoveries and new insights. On their bases, then, new technological opportunities, sensible to eventually large demands, may be glimpsed to materialize into new innovations and inventions. In conclusion, in author's very words, " the combination of a contribution of growth to further innovation with a contribution of past innovations to growth forms a continuous and self-reinforcing mechnism – subject to limits, but sustainable by continuous feedback between growth and technological change ".

In the essay entitled *Notes on the Study of Economic Growth of Nations*, Kuznets expresses his judgements about the difficulties, and gaps, that stand ahead for the further development of this research realm. After making some appreciations about the supply and quality of data he finds, that

limitations exist for all countries irrespective of their economic status. In the West this fact is due to a certain ignorance, and reluctance, of the economic agents, to a bureaucratical apparatus not fully responsive to the scholars' needs, and to costly operations. Western societies being democratical ones, the need for data leads to co-operation and free scholar analysis. By contrast, in the LDCs limitations are set by the scarcity of intellectual resources, by the small amount of necessary expertise, by the substantial brain drain to the West, by the quasi-nonexistence of accumulated studies and, nevertheless, by the increasing politicization of national economic accounts. For the communist states, data is subjected to the international ideological struggle, on the one hand, and there is a lack of data for some economic activities, as services ignored by the marxian concepts, on the other hand. In an attempted comparative analysis of economic growth for the later groups of countries, difficulty set by data supply and quality would be huge, Kuznets suggests. In which concerns the widening gap between the LDCs and the DCs, from 1950 up to mid 1970s, American scholars presents some possible hypotheses. One of them states, that the available stock of more advanced technology is not suitable for LDCs because it isn't fitted for their resource endowments. Another one stresses the fact that the requiring capital financing is missing for LDCs, with their meager savings. For a nation to modernize, the existence of a politically sovereign, viable and coherent state has been, in most of the cases, the pre-condition. This might be the weak point as regards to the LDCs, concludes Kuznets.[7]

2.2. Maddison's Challenge

The scholar who mostly challenged the American *New Economic History*, and its followers gathered under the umbrella of *Kuznets Paradigm*, has been the Dutch scholar Angus Maddison. As one American economist suggests in a book-review, the Dutch is largely recognized as being the dean of scholars on the history of the world economy of the modern era. His many studies, performed within the OECD and Groningen University frameworks, constitute solid pillars and models for those, worldwide, young researchers interested in economic growth.[8]

It should be envisaged a demarcation criterion between the Americans, in front with Kuznets, and Maddison if we are intending to speak about the latter in terms of his challenge to the formers. Because all of them are analysts of economic growth the dividing line should be found rather on the

[7] Kuznets, 1979, passim.
[8] Hanson II, 1997, EH.Net.

conceptual ground, which might differ, than at the level of the comparative quantitative analysis, in which methodological approaches could be quite similar, though new indicators are brought into the aggregation accounting for economic growth by the Dutch economic historian.

Modern economic growth within the present capitalist western societies, a process roughly started in the first decades of the nineteenth century, did not experience a steady trajectory in time. Every scholar agrees on this, and acknowledges that fluctuations have occured since in the capitalist growth momentum. What makes the diffrence among contemporary researchers, with whom we are actually dealing here, is brought by their own perspective about the nature of economic growth disruptions.

In the 1991 published book, *Dynamic Forces in Capitalist Development – A Long-Run Comparative View*, Maddison brings out the conceptional tools with which, especially, the American new economic historians were working with in accounting about these fluctuations, and differentiates himself from them. Thus, the Americans tackled the issue whether in terms of cycle analysis, before 1950, or, mainly thenafter, in terms of long-wave analysis. The latter, fostered by Kuznets before WWII, and greatly improved by the same from 1950s onwards within the American NBER, became the standard model through which contemporary scholars worked in the USA, bringing their personal contribution at the quantitative analysis level.

The smooth detrended series of several indicators for both the physical output and the price variance, with a periodicity of 22 years for a complete swing for the former, and 23 years for the latter, constitute the very long-wave analysis of Kuznets, being improved by him after the war. These secondary secular variations were rather historical occurences than periodic major cycles for Kuznets himself, since a clear evidence was missing to support the fact. Although the American scholar did not try to set up a global chronology of long-waves in economic life, this one based his comparative studies on the long-wave conceptual term, involving in this way the concept of regularity. He did so in order to meet his own fifth requirement, mentioned in the preceeding chapter. This might sound as an attempt to fit the available economic data into an already built up conceptional construction (long-wave) based on fallible empirical evidence, with the obvious end of providing the bases for an eventual general theory of economic growth. This is the reason why, at this point, Maddison differentiates himself from the Americans.

For Maddison, there is no evidence to support the thesis of the existence of long-term regular, or systematical, movements in capitalist economic activity. Changes have occured throughout the long process of economic development, agrees the Dutch historian, but they should be explained rather by *ad hoc* specific disturbances, some predictable, some, more or less, accidental shocks in their origins, and not through systematic long-waves. Kuznets' fifth demand that stipulates, that there should be an analytical relation between successive stages which, optimally, would enable to predict the period each stage has to run is, thus, rejected by Maddison. For him, this is a deterministic attitude having little to do with the real economic life.

Dutch scholar challenges the American fellows on the conceptual ground dealing with economic growth by using the term *phases*, in stead of *stages*, in his own long-run analysis. Within this one, he meets all four initial requirements asked by Kuznets. He does it through his own identified four phases of capitalist economic growth (I: 1870–1913; II: 1913–1950; III: 1950–1973; IV: 1973–1989), and, judging on the analysis of the economic data, draws some conclusions. First, the existence of distinct phases of economic performance with own momentums is obvious. Second, these phases are not ineluctable, in each of them being possible variation in country performance, as well as the existence of distinctive expectations of the economic actors between the phases is obvious. Third, the predictable and not-predictable system shocks caused the shift from one phase to another. Fourth, the development since 1973 represents a new phase, and not a temporary interruption of phase III. Fifth, the present phase ranks as the second-best, behind phase III. In accounting for economic growth within these phases, Maddison uses eight simple indicators which present both the growth and the cyclical characteristics. These are in order: the rate of output, the output per head, the capital stock and export volume, the cyclical variations in exports and output, the levels of unemployment, and the rate of price increasing.

In the same book, Dutch historian sets a personal diagnosis on the economic growth occured after 1950, this time taking sixteen western countries into a comparative analysis. Thus, his own third phase, 1950–1973, labeled as the *Golden Age*, is seen as an acceleration of growth, in which the convergence indicators of the follower countries towards those of the leader (the USA) show higher figures. The following fourth phase is marked, in its turn, by a slowdown of growth caused, in Maddison's viewpoint, by the collapse of the Bretton Wood monetary system, by the erosion of price constraints, and by the oil crisis. This has begun in 1973, and is still going on. Up to 1989, the

convergence indices have shown decreasing figures in comparison to phase III. His analysis is two-sided, taking into consideration both the basic conventional economic indicators (i.e., for the quality and quantity of labour and capital inputs, or other additional factors as foreign trade, technological diffusion, or structural change) and the role of policy (i.e., the managed liberalism, the governmental demand promotion, or the stress on moderating price increase) in accounting for the economic growth of the West, since 1950s.

In conclusion, this 1991 book is the first major challenge that Maddison has thrown to the Americans. First, he differentiates himself on the conceptual ground with regards to the notion of economic growth momentums. Thenafter, he demonstrates through a quantitative analysis his assumptions. For him, economic growth is a process marked by changes in time and space, but these one are irregular in character and highly unpredictable in real economic life. Many other factors than pure quantitative economic ones should be identified, and taken into analysis for each change in growth momentum in part, if wanting an acceptable explanation of growth. Kuznets and the Americans offered rather deterministic, regular stages of growth based, primarily, on the assumption that capitalist economic system is a self-regulatory one. Maddison doesn't deny this fact, but he argues that one cannot fix regular periodicizations of growth, neither predict for how long different growth momentums would last. For him, each growth phase is unique, being caused by *ad hoc* shoks, and taking place within a different political, socioeconomical, cultural and historical context.[9]

The next challenge brought by Maddison is his 1995 published work within the framework of the Development Centre of the OECD. It is called *Monitoring the World Economy 1820–1992*, and it is based on an earlier work entitled *World Economy in the 20th Century*. This is an improved study, offering a general outlook on world economy. Since nineteenth century has much in common with the following one than with the previous one, the scope of this book covers a long period of time, from 1820 up to 1992. This long period is characterized by rapid growth of output and international trade, by unparalelled accumulation of human and physical capital, and by expanding technical progress, penetrating all areas of economic activity and creating new patterns of output, employment and demand. Study provides a complete coverage of world economy, with estimates for both sample and non-sample countries. Estimates are adjusted in order to eliminate changes in

[9] Maddison, 1991, passim.

national boundaries , for most of the countries excepting the major ones. The sample states represent the bulk (cca. 90 percent) of world output, population, and export in 1992. The work is intended to help econometricians and growth accountants to work on estimates covering a much longer time span, and to improve on the data. Tables comprising both macroeconomical indicators and other estimates (i.e., labour productivity, employment and working hours) help them in this sense. The book is also intended to help and encourage basic research on quantitative economic history, being written on the already gathered accomplishments within this research fied. For many countries, better growth accounts is still to be done. The explanative three initial chapters of the study try to give answers to basic questions, that is, why growth accelerated since 1820, why its rate differed, and why these spreads emerged in the per capita income of nations. The quantitative evidences brought into the book pages illuminate these issues. But, these are not enough for a sound analysis, since different traditions, institutions and policies had, and have, their role in explaining the economic growth of nations, Maddison suggests.

Study author draws three major conclusions based on the quantitative evidence gathered within his book: (1) economic growth was extremely fast form 1820 to 1992, population increasing five-fold, per capita product eight-fold, world GDP forty-fold, and global trade 540-fold; (2) the rise in the per capita income differed accross states and regions, so that inter-country and inter-regional spreads became much wider; and (3), the momentum of economic growth was significantly variant, per capita income being at its high in order, in phase III, in phase II, and in phase IV.[10]

Thus, by judging only on the issues brought in and dealt with within the pages of these two works, published by Maddison in the 1990s, we may agree on the words expressed at his address by an American scholar, that " a standard of *Maddison Reliability* for historical international economic data seems to have replaced the former *Kuznets Standard* among academics ". However, this scholar brings some critiques to Maddison's work, mainly concerning the income estimates for LDCs. In his opinion, these one are less consistent with the general trends in the world economy, as derived from other scholars' works (i.e., from Heston and Summers' studies). It follows that, in its turn, the *Maddison Standard* is subject to criticism, too. Dutch historian, himself, thinks about his conceptual and analytical apparatus as being a fallible one, thus subject to further improvements.[11]

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[10] Maddison, 1995, passim.
[11] Hanson II, 1997, EH.Net.

2.3. Finnish Historical National Accounts – An Exemplary Case Study

After dealing with the two non-marxian contemporary approaches on economic growth, the *Kuznets Paradigm* and the *Maddison Standard*, there is wise to ask which, actually, are those modern standardized concepts of national accounts the present scholars work with worldwide. As Maddison suggests in his 1995 study, there is now estimates of GDP growth in nominal and real terms for 150 states, from 1950 onwards, but only for few of them exist official pre-war historical estimates, and for ever fewer back to nineteenth century. Among the most satisfactory scholar exercises, the Dutch mentions the 13 volume study financed by the Bank of Finland and supervised by the economic historian Riitta Hjerppe. In the Finnish case, the sensitivity of the recorded growth rates to the weighting procedures was tackled by Hjerppe in figures of 1926, or 1985, Finnish Marks. The underlying procedure involves 20-year linked segments, which pay attention to the prices and value added weights common to each sub-period, Maddison suggests. Thus, paying credit to the opinions expressed by this authority in the field, the Finnish historical national accounts back to 1860 is a genuine case study of modern standardized national accounts, which could be given as an example in the realm of Growth Studies.

The study published by Riitta Hjerppe in 1996 at the University of Jyväskylä, called *Finland's Historical National Accounts 1860–1994. Calculations, Methods and Statistical Tables*, is, then, the very model. Hjerppe divides her study in three logically structured parts. The first one deals with methodology and sources. The second one is granted to calculation methods, sources, and to reliability analysis. The last third one is made up by appendices and statistical tables.

In the study preface, Prof. Hjerppe mentions from the beginning that this one is an improved up-to-date variant of the 1989 study entitled *The Finnish Economy 1860–1985, Growth and Structural Change*, supervised by the Bank of Finland. She makes clear the study purpose as aiming to harmonize the growth study methods in order to improve the comparability of data. Maddison (1995) and the Council for Economic Research in the Nordic Countries called for more international co-operation concerning growth studies, a goal to which Finnish scholar subscribes herself. She also mentions, that the base year is 1960 for the volume index time series 1960–1975, and 1990 for the 1975-1994 series (based on the new SNA adopted in 1968).

Author deals, in the first part, with matters related to the methodological tools and sources used in the study. Because the latter is a functional accounting, which tries to present the transactions involved in the production and use of economic goods, the available empirical economic data, furnished by different agents, is gathered within the framework of a coherent system embracing the nation as a whole. Thus, the labour-input time series have been performed in order to reveal the development of productivity and materialistic living standard. The aggregate supply and aggregate demand accounting series have been done in order to find how the supply of goods is made up of domestic production and imports, and how goods are demanded as final products in private and public consumption, gross capital formation, and exports. The balance between these two aggregates have been determined both at current prices and as volume indices. This is the economic activity from the standpoint of consumers.

From the standpoint of producers (economic units classified by economic activity), production accounts are essential because through them one could calculate one's nation GDP and national income. Thus, a value added results from the difference between the total output, comprising the sum of all goods and services produced, and the intermediate products used in production, comprising the incomes arising out of production. GDP is obtained by adding up the value added of each economic activity. When the value of all activities is aggregated, one get the GDP at factor cost, and further on, by adding to the latter all indirect taxes, and substracting all subsidies, one reach the GDP at market prices. The economic units making up the GDP are categorized into firms, financial institutions, households, the public sector, non-profit institutions and the rest of the world (trade). These one are caracterized by kind of economic activity on their principal production, whether as corporate, or public sectors. Hjerppe stresses here, that GDP consists, mainly, of market production (intended for sale), whereas most activities within the public sector are collective goods with no market. To the national income one arrives through different calculations, depending on which data is best available. But, irrespective of which viewpoint might prevail (i.e., through production account, or income account, or expenditure account), the available data set limits to the historical calculations. These could be done only through combinations and cross-checking of the time series based on different viewpoints, which help to find the missing series.

Hjerppe goes on by describing the evolution of the different growth account methods, as performed by Finnish scholars on official and corporate statistical data, ranging back to the 19th Century. By

1977, the old (1950) SNA has been replaced by the new one of the Central Statistical Office of Finland. Revisions were made retrospectively, back to 1960.

To the estimation problems is given a special attention by Hjerppe. For her, it is obvious that the reliability of data should govern all analysis within the field of Growth Studies. Otherwise, it couldn't provide the basis for an eventual historical economic analysis of social development. Even so, data is subject to operating assumptions. Hence, the need for a coherent national accounting system, through which the long-run economic change and restructuring could be observed. The account system developed in the 1950s sets limits in describing the growth of the nineteenth-century society, Hjerppe argues, because of the classifications of that time economic activities, and of the missing annual data. Thus, estimations often based on both interpolations and extrapolations might alter the reality of cyclical fluctuations. However, by comparing own results with independent sources and foreign data, cyclical profiles appeared quite clear. The tax-collection statistics may serve as a barometer in a reliability test for the GDP series, since the bases on which the former can be estimate is unlikely to fluctuate from one year to another, Finnish scholar concludes.

Hjerppe also makes a radiography, within this first part, of the new and old time series and their authors. Thus, K. E. F. Ignatius tried to estimate, by 1882, the total taxed incomes using income statistics. In 1924, J. Kahma, using production statistics, attempted to estimate the national income for 1922. Another scholar, V. Lindberg, used in 1948 the net national product concept in his attempt to estimate the national income of Finland for 1926–1938. By 1950, E. H. Laurila added to Lamberg's figures those for public administration and defence within the public sector. O. E. Niitamo published in 1959 the total employment estimates for the period 1938–1959. And again, E. H. Laurila, by 1985, published a detailed study on Finnish private consumption for the period 1900–1975, including series of GDP for the same time span. It is the latter's study, Hjerppe avows, which is very close in its findings to her own study.

The second part of the study pays attention to each economic activity as component of the GDP. The calculation methods used in every case, the empirical evidence and sources used in deriving estimates for each of them, and the performed reliability analysis for each case, are all presented and explained. Finnish economic historian reflects, by the end of this portion, on the comparability

of the old and revisited (1968) national accounts, the latter showing a greater inner sectoral item classification in conformity with the international stndards.

The third part of the study is the very materialization of the analytical work, as presented in the second part, in the form of different time series statistical tables, covering the period from 1860 to 1994. All together, they form the historical national accounts for Finland, as the title of Hjerppe's study well suggests.[12]

3. DEBATES ON EASTERN EUROPE'S GROWTH PERFORMANCES

As we have seen through the previous chapters, capitalist economic performance became, since early 1950s, the top issue on the working-agenda of western economic historians. Within the framework of the new research field, called Growth Studies, historical national accounts have been performed, through the SNA standards of the United Nations, for the United States, Western and Northern Europe, non-marxist Third World states, and for other developed capitalist countries. The availability of economic data left its print on the growth analyses undertaken since, these one being much more closer to reality for the developed than for developing countries. But, the communist economic performance has been on western scholars' daily working-desk, mainly American, too. Their attempts to account about the growth performance of U.S.S.R, Mainland China, and Eastern Europe have encountered lots of problems related to the insufficiency, inaccuracy and incompatibility of data, as revealed through the official statistical publications issued by the Communist bloc countries.

In accounting about their economic activity, capitalist and communist states have used own different standardized calculating systems, SNA for the former, MPS for the latter. In the first case, GDP indicator with its components play the main role. In the second case, it is the macroeconomical NMP indicator with its components which constitute the conceptual notion growth is presented and explained. Being more aggregative, and covering the value added of all economic activity, GDP indicator best reflects the real economic performance. By contrast, leaving aside or minimizing non-productive activities, NMP provides a less complete picture of the ongoing economic growth. Thus, the main difficulty in accounting the growth of former communist states

[12] Hjerppe, 1996, passim

in both their recent socialist past and their ongoing transition period is a methodological one. In order to offer a historical picture of growth closer to reality for these countries, their national accounts have to be revisited on SNA standard backwards in time, a task not easy to accomplish. Nevertheless, attempts have been made long before, by western scholars, to provide more realistic estimates on communist economic development. During the last decades, some comparisons between capitalist and communist countries have been performed, taking in the same time into consideration the methodological problems set by such studies. Also comparisons between socialist states have been undertaken by the same western researchers.

A special attention was paid by western scholars to the economic performance of the former Soviet Union. In this respect, the main research work has been done by the Americans, from early 1950s up to 1991, within the framework of the U.S. Bureau of Census, the U.S. Department of Agriculture, and the CIA. Between 1965 and 1990, the Joint Economic Committee of the U.S. Congress published, systematically, in about 30 volumes the results of these researches. In the No. 3 issue, September 1998, of the prestigious Review of Income and Wealth, Angus Maddison critically points out the essential contribution of CIA in estimating the Soviet economic growth on a more realistic level, through his article called *Measuring the Performance of a Communist Command Economy: An Assessment of the CIA Estimates for the U.S.S.R.*.

Maddison's article is divided in ten sections, an introductory, a conclusional, while the eight between dealing with specific issues. First, author stresses the fact, that in the attempt of reconstructuring the communist accounts on western lines, CIA efforts on U.S.S.R's growth performance turned to have emulative consequences for subsequent comparative analyses.

Second, Dutch historian brings some personal reflections on the nature of the compatibility problem. According to him, the reconstruction of the official accounts is subject to many substantive and statistical problems. Among the first ones, he enumerates the absence of private property in terms of means of production, the government command decision-making on resource allocation, the stress on heavy industry investments and militry spending, the smaller share of consumption, and the different price and taxation structure. Among the statistical difficulties , he points out the Soviets' preference for the MPS in their accounts, which, by ignoring non-material services, considered as non-productive (i.e., housing, banking, education, insurance, government

passenger transport, personal services, party administration and the military), constituted the main obstacle in revisiting economic activity on GDP estimates. The stress of the Soviet accounts on measures of gross output, not always available in detail, rather than on value added, rised also problems. Maddison concludes that, since there were no index numbers using physical quantities and value added weights, the consequence was the universal tendency of Soviet statistics to understate and exagerate growth in the volume of output.

Third, author voices some thoughts about the quality of CIA work on the U.S.S.R. Thus, he emphasizes the fact, that many U.S. governmental agencies, as mentioned above, collaborated since early 1950s in the establishing of more proper estimates on Soviet economy. The research was initiated by Abram Bergson and his associates, and carried on later by CIA. Comparable estimates on Soviet economy, produced by the American scholar activity within a period of forty years, being done on a continuous, systematic, transparent and institutional basis, constitute the grounds on which further improved analyses could be undertaken, thinks the Dutch. Nevertheless, he expresses his regrets that the U.S. government ceased to provide, by 1991, the necessary funds for the continuation of the researches on the former Soviet Union and East European economies. This fact altered since then the quality of the studies.

In the fourth part, Maddison describes the CIA measures of GDP growth by industry of origin, making references to the publications, studies, and authors involved in this enterprise. Thus, the CIA procedure for agriculture is well described in JEC (1982) by Severin, Hugues and Pizer. It was based on physical indicators used for 28 crop items, 10 livestock products, and four items of livestock inventory change using benchmark-year producer prices as weights. Feed, seed, and wastage were deduced from output, as well as ten kinds of non-agricultural input to produce an aggregate index of value added. The CIA estimates followed on a small coverage the procedures used by the U.S. Department of Agriculture.

The CIA measures for the Soviet value added in industry are described in detail in JEC (1982) by Ray Converse. These are the sum of the improved and refined procedures of those initiated by Nutter (NBER) and Kaplan & Moorsteen (Rand Corporation), and are similar to these used by the U.S. Federal Reserve Board in its industrial index. CIA used 312 products as physical indicators. The gross output indicators were weighted by benchmark-year prices to estimate sector totals, then

aggregated into branch and industry group measures, using value added weights at factor cost. The physical indicator was used for 58 out of the 72 branches. For 11 branches, the value estimates were deflated with CIA deflators, and for 5 sectors used was made of Goskomst gross output measures in " comparable " prices. The double deflation technique was not operating in the case of industry, so that the changes in the industrial inputs over time couldn't lead to previously adjustment of the estimates. For other 14 Soviet sectors CIA did separate estimates, as described in the same JEC (1982) publication, Dutch economic historian concludes.

In the fifth sequence, he describes the conversion of prevailing Soviet prices to value added at factor cost, as it appears in CIA performed estimates. Thus, CIA used two kinds of growth estimates, one at Soviet prices, the other at adjusted factor cost. The latter, with the emphasis on estimates by industry of origin, came in first. This approach involved the removing of indirect taxes, transport and distributive margins, and addition of subsidies. It also involved an adjustment of the Soviet profit margins (replaced by an uniform 12 percent return on capital employed, obtained through the Soviet sources for the capital stock). CIA estimates on industry of origin of GNP growth showed, in comparison with the " established " price estimates, for the period 1950–1990, a smaller figure, that is a mere 3.5 percent per annum growth, instead of 3.7. The CIA aim was, Maddison suggests, to create counterfactual estimates of what Soviet prices would have been, if the Soviet economy were run on capitalist lines. The poor quality of the official Soviet estimates of the capital stock, used by CIA in its estimates, constitutes a statistical weakness according to the Dutch scholar. Moreover, for him, the assumption of a uniform rate of return on assets in different sectors is a questionable approach because it involves an idealized image about the capitalist growth in long-term equilibrium situation. In Maddison (1995), the author himself uses the adjusted factor cost in measuring the Soviet growth.

Sixth, author draws some judgements on the weighting system used by CIA. This one was similar to the procedures within the U.S. national accounts, i.e., for the whole period under inquiry being used the same weights by CIA. For the period 1950–1990, CIA used 1982 rubles. Maddison stresses the fact, that most western countries have moved towards the construction of time series which change weights every five years. The five-year segments were linked over a long time span through one year in *numeraire* prices of a single year (Maddison, 1995). The U.S. Department of Commerce gives, nowadays, estimates of GDP growth only in chain index with weights changing every year, so

reducing the comparability with European measures. CIA did not provide systematical estimates of Soviet GNP in current prices, Anglo-Dutch historian concludes.

In the seventh section of the article is offered a summary of growth results by industry of origin. Maddison presents, within a table form, a comparison of the official Soviet measures with his own alternatives based on CIA sources. For the aggregate performance, the official measure refers to the NMP. His alternatives show lower compound growth rates for the whole inquired period, 1913-1990.

Eight, scholar voices some comments on CIA estimates of the Soviet expenditure categories. These one being closely related to those by industry of origin, the total GNP in terms of expenditure replicates, in fact, the former. In JEC (1982), consumption estimates are described in detail. But, though CIA estimates also cover non-productive services omitted in Soviet official accounts, Maddison expresses his doubts about the estimates for fixed investment and government consumption. In comparison with CIA estimates, his own ones show lower percentage from GDP for investitions, and higher precentage for government consumption. In his opinion, CIA did not provide consolidate estimates of Soviet defence expenditure.

Within the nine part of his article, Maddison considers the comparative levels U.S.S.R/U.S.A of output and productivity, as they are reflected in the studies produced on this matter over time. He identifies two approaches on this issue. One is the expenditure approach, the other one being the ICOP approach by industry of origin. For the first case, he mentions the CIA 1979 comparative study for the year 1976, in both dollars and rubles. In 1990, a comparative study on these two states has been performed within the framwork of the European Comparison Programme (ECP). In comparing the updated CIA estimates for 1990 with those of ECP for the same year, it resulted, that the former's percent estimate of Soviet GDP per capita from the US level was one third higher than the latter's one. For Maddison, the ECP comparative estimates on these two countries are better documented, and more detailed, than those of CIA, and give a closer picture to the reality. In his 1995 study, the author uses ECP estimates in establishing his own estimates on aggregate performance of levels of output and productivity, for his U.S.A/U.S.S.R comparison. For the second case, that is in measuring the performance level by industry of origin, CIA provided no comparison. By using census and input/output tables, and informations on producer prices and the quantities

produced, Kouwenhoven (1996a and 1996b) and the Soviet scholars, Ravenko (1996) and Kudrov & Pravina (1996) did provide for the ICOP programme independent comparative analyses. Maddison compared these ones in own tables, for both farming and manufacturing sectors, and reached the conclusion that, with small differnces, they are close enough one to each other in their estimative findings.

Finally, in the tenth and ending part of his article, Maddison stresses, once again, the importance of CIA estimates of Soviet growth. He manifests his hope, that the remaining CIA archives become publicly available, and that the Soviet ones will be opened for researchers. For him, it is important that the U.S.S.R/U.S.A comparisons, based on CIA and ECP estimates, will be carried on by the Groningen Group, in Netherlands.[13] His wishes are taking seriously by his colleagues within the Groningen Growth and Development Centre, as, for instance, Bart van Ark. In a recent study, performed through a genuine maddisonian approach, this one presents an East-West comparative analysis on the economic growth and labour productivity in Europe. He hopes, in his turn, for further studies, because " in the near future new work on TFP growth and growth accounting in Eastern Europe seems desirable ".[14]

Mark Harrison, a British scholar, published in 1996 a book also dealing with the Soviet economic growth, but from an original perspective. This work bears the title: *Accounting for War: Soviet Production, Employment and the Defence Burden, 1940–1945*. He stresses, too, the methodological difficulties encountered when attempting to provide estimates on SNA standard deduced from the data available in the form of MPS standard. Because the western concept of national income is GNP, and since the book aims to provide a measurement of the Soviet national income and product in real terms, Harrison chose for GNP accountancy. He acknowledges the fact, that the quality of basic Soviet data influenced the GNP estimates of economic growth. Thus, over-reporting distortioned the level of output at a point in time, while the hidden inflation did the same on its growth rate. After considering alternative hypotheses, the British advances his own. He considers the years 1928–1974 as a single period, characterized by a continuity of the data-genering mechanism, and by an uniform trend. He tests his hypothesis by two level breaks in GNP. The first one is the comparison with the pre-1913 trend, the break of level being associated with WWI, the civil war, and the famines of 1922 and 1932. The second break is associated with WWII. The GNP

[13] Maddison, Measuring ..., in RIV No. 3, 1998, p. 307–322.
[14] van Ark, Economic Growth..., GGDC, Sept. 1999, p. 28.

estimates performed throug this model show a permanent 27 percent drop of GNP per head due to the post-1914 transformations, and a trend GNP growth rate per haed of 3.6 percent from 1928 up to 1974, qualified by a further drop of 11 percent of the GNP per head level after WWII. To the 1.7 percent GNP annual growth rate per head for 1885–1913 period, followed a 3.6 percent annual growth rate for 1928–1974, and to the latter followed, for 1974–1985, a 0.5 percent annual growth rate of the GNP per head. For Harrison, despite causing a drop in GNP level per capita, WWII didn't change its trend of growth.[15]

In a debate on Internet, Prof. Austin Murfy avows the fact, that there are lots of studies that indicate the level of soviet GNP as being 1/10 that of USA prior to Communism, and 1/3 by 1991. A careful analysis of real GNP per capita is thus possible before and after Communism for the USSR. He complains about the lack of such sources and analyses for the rest of Eastern Europe for the 1930s and 1940s, that is prior and during WWII. He notices that some sources indicate that these countries were also poor in comparison to the West. Murfy suggests that, according to some scholars, higher growth rates in Eastern Europe under Communism were caused by the higher investment rates, and then he is refering to Bergson's (1987, AER) study which asserted that, given the amount of investment, and land, utilized by the communists, the socialist system was inefficient relative to western countries. However, Bergson's analysis contains some methodological errors, briefly pointed out by Murfy (i.e., the omission of the higher level of depreciation of capital stock, and the non-adjustment for the much higher cost of technology), and which needs to be corrected.[16]

Though it was the Soviet economic growth which chiefly preoccupied the Americans in the last decades, one should bear in mind that they were also interested in the economic growth of East European countries. Maddison (1995) largely deals with the special problems arisen from the shift from MPS data to GDP estimates on SNA standard, while performing analyses on communist economies. His own GDP estimates on socialist states are based on the studies done by the American scholars on this matter. Thus, Thad Alton, and his colleagues, prepared regular growth estimates for Bulgaria, Czechoslovakia, East Germany, Poland, Romania and Yugoslavia, from early 1960s up to early 1990s. The research work was done within the framework of the Research Project on Income in East Central Europe, in New York. Their estimative activity covers the period from 1950 to 1991, being characterized by four successive segments, and four weight shifts. Thus,

[15] Harrison, 1996, passim.
[16] Murfy, 1998, EH.Net.

the methodology used was that developed by Bergson in early 1950s, and the performed estimates relied, mainly, on the East European official sources, on which they have improved. The Alton Group's main goal was to measure changes in real output in order to measure movements in aggregate, and sectoral, output and productivity. They also wanted to perform estimates of real expenditure growth and aggregate levels in dollars, adjusted for differences in the purchasing power parity (PPP). Hence, their preference for measures by industry of origin. Thus, the best estimates for East European states are available in the plentiful amount of the *Occasional Papers*, produced and published by this group of economists and historians over a three decades period. Maddison makes his own estimates on total and per capita GDP by using CIA estimates for USSR, and Alton Group estimates for Eastern Europe. The figures for Bulgaria, Romania and Yugoslavia are, from 1950 to mid 1980s, exaggerate in some extent, Dutch scholar suggests.[17]

The major methodological source for those researchers interested in estimating the economic growth for the former communist states is, probabily, the collective work supervised by Paul Marer, and published in 1992 by the World Bank, *Historically Planned Economies: A Guide to the Data.* The move from NMP to GDP, in order to offer a more realistic picture of the economic activity of the communist states, is explained in detail by Marer and his associates. According to them, the method to follow in deriving the GDP from earlier compiled NMP values is quite simple in theory. Thus, to the official NMP one must add the total value of depreciation of all fixed assets on material production, which equals the gross material product (GMP). To the GMP thus obtained one must add the gross value added of non-material services; thenafter, one must deduce the non-material inputs used for material production; and, one must adjust for certain minor differences between the SNA and MPS (i.e., travel costs and welfare costs). What results after these adjustments forms the GDP. In practice, it is much more difficult to derive GDP estimates because the NMP statistical data is not always accurate. The main problem faced in this respect is that, there is no breakdown of the main adjustment items, depreciation, and non-material services. Their combined effects by sector is thus impossible to disaggregate. Few countries publish such details, Marer suggests. Some of them, while introducing from 1990 SNA principles, maintain the MPS accounting during the transition period.[18]

In recent years, lots of studies and books have been published on the history of East European states

[17] Maddison, 1995, p. 125-166.
[18] HPE, 1992, P. 71-73.

under Communism, and on their ongoing transition period. Also their economic performance have been treated in many of these books.

In a study report for the World Bank called *Formal Employment and Survival Strategies After Communism*, written by S. Johnston, D. Kaufman and O. Ustenko, it is presented the model of labour market for post-communist caountries. According to this one, the beginning of economic reform means a jump downward in state-sector employment followed by a steady decline. The net creations of jobs in the private sector cannot absorb all people leaving the state sector. The result is steady increasing unemployment.[19]

From eastern scholars' standpoint as regards to the economic development of the former communist countries, an interesting book is that edited by Alice Teichova, in 1997, under the title *Central Europe in the Twentieth Century. an Economic History Perspective.* It is a collection of essays having as task the critically assessing of the post-communist transition economies in their historical context. Thus, Pruca describes economic development in pre-war and Communist Czechoslovakia, admitting the need for discontinuities in some areas, but brings critiques to the sudden changes under Vaclav Klaus, which are challenging the social consensus. Szlajfer makes an institutional survey of Poland, and suggests that, in 1988, 24 percent of Polish manufacturing industry substracted value. The same phenomenon is observed for the Romanian economy by Daniel Daianu, who explains that the causes should be found in the over-expansion of the *soft* sectors (steel, chemicals, machine building) in relation to the *hard* ones (agriculture, consumer goods, energy), for the former being easier to expand, but generating near-unseable outputs. Franjo Stiblar describes the self-management of the workers in Yugoslavia, and brings critiques to the 1989 *shock-therapy* reform of Markovic. The book is subject to criticism. Representing the East European academic elite, the essays authors turn to be all of them resistant to change, by discrediting in their economic surveys the *shock-therapy.*[20] Others find the rejection of Sachs' *shock-therapy* by the eastern academic elite as being a salutary attitude, since that would prevent the economic and social destruction of their countries.[21]

In his book, *Central and Eastern Europe, 1944–1993: Detour from the Periphery to the Periphery,*

[19] Transition Newsletter, Abstract, Formal..., 1999, www.worldbank.org
[20] Palairet, 1998, EH.Net.
[21] Murfy, 1998, EH.Net.

published in 1996, Istvan T. Berend presents his personal perspective on the social and political history of the region belonging countries. Three sections deal, successively, with the communist takeovers and the introduction of state socialism, with the temporary success and final collapse, and with the post-1989 transformations. Within the chapter 5, he pays attention to the economic performances of state socialism from 1950 up to 1989, as they emerged from the diverse growth studies performed by different scholars. Berend bases his account and explanation of changes on both the official communist estimates and on those performed by the western scholars. The principal assumption of this book is, that the Communist experiment removed East European countries from the natural integration of the European nations. Before WWII, they all were at the periphery, but still in Europe. After 1989, they all moved back into Europe, but still represent the periphery. Berend has a rather pesimistic view on European integration. In his opinion, and by judging on historical perspective, Eastern Europe will always be at the periphery in relation to the western societies. In fact, the communist regimes, though successful in the industrialization of the area, did nothing but to push these countries far into periphery.[22]

Herman W. Hoen expresses his criticism to Berend's approach in his 1998 book, *The Transformation of Economic Systems in Central Europe*. Berend's fears of a revolving rather than a proceeding history, moving the region from the periphery to the periphery, couldn't be entirely shared. Maybe the path of European integration will be for the post-communist states uncomfortably paved with many collisions, but this one irrevocabily shows a westward course. Hoen's book is both a historical and a comparative approach. He first presents the different theories of economic transformations, implying stabilization, liberalization, privatization and restructuring, and institutionalization. The dispute between *shock-therapy* and *gradualism* is pursued through the entire book, within each chapter dealing with a particular country. The final chapter deals with the reconsidered strategies that these countries have been forced to adopt after the first years of transition. A political economy of transformation could be, thus, envisaged. Because Hoen sees these transition countries in relation to their integration into the wider european integration, the stress is put in this book on the comparison of external economic relations. He also makes comparisons in terms of macroeconomic stabilization and microeconomic restructuring.[23]

There are many other works on Eastern Europe's economic history but, unfortunately, not available.

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[22] Berend, 1996, passim.
[23] Hoen, 1998, p. 1-22.

4. COMPARATIVE ANALYSIS ON BULGARIA, HUNGARY, POLAND ROMANIA, 1970–1995

4.1. Short History of the Communist Era

All these countries entered, by late 1940s, into the Soviet sphere of influence, communist regimes of a stalinist kind being instaured, one after another, in the shadow of the omnipresent Red Army's troops. Communist parties, under differnt names, were to remain in power in these countries for forty years. Whatsoever history will account about the communist experiment a fact is certain, that Eastern Europe, as a whole, became industrialized during this period (see Pollard, 1982). Because of their inadaptibility to reform and change themselves, these regimes collapsed one by one, in 1989, under the revolutionary pressure of the masses.

Bulgaria was declared a People's Republic on September 9, 1946. The communist leader Georgi Dimitrov became prime minister and led the country until his death, in 1949. Stalinist policy in Bulgaria is linked to the name of Vulko Tservenkov, who acted as prime minister and party leader until 1956. From this year, and until the collapse of 1989, this country was led by Todor Zivkov. This one introduced a policy of careful reforms, and pulled out the country from the international isolation. In the 1970s Bulgaria was opened to foreign turists, and the troublesome relations with her neighbours were normalized. This state joined from the beginning the CMEA (1949) and the Warsaw Pact (1955), and had close relations with the USSR. Before Communism, she was predominantly agrarian. During her socialist period, Bulgaria developed her industry and socialized the agriculture. The principal agricultural production was made up from vegetables, fruits, cereals and vines. The bulk of industrial output was, in its turn, made up from the food processing, metalurgic and machine building sectors. By 1980, the share from GDP of the primary sector was 21%, while that of the secondary one 60%. The remaining share of 19% constituted services and other non-material activities provided by the state. The share of the private sector within the total output was quasi-inexistent.[24]

In Hungary, the republic was declared, once again, in 1946. In the following year, 1947, this country signed the Peace Treaty, and the old borders of 1938 were restored. The Communist Party

[24] Bulgaria, in Maailmantieto, 1980.

and the Social Democratic Party merged together in 1948 into the single Hungarian Socialist Labour Party, which declared the People's Republic on 18 August, the same year. Bourgeois parties were banned until the summer of 1989, when the one single party rule was abbolished. The first communist country leader was Matyas Rakosi, who ruled in a stalinist way, as prime minister, until 1953. The prime minister Imre Nagy liberalized the economic life in some extent between 1953 and 1955, through his *new course* doctrine. In 1955, the hard-line policy started again under the new prime minister A. Hegedus. By 1956 Rakosi lost his powers under the pressures of the destalinization programme introduced by Moskow. On October 23, the same year, a revolutionary movement led by students got down to the streets of Budapest, these one asking for the respect of the civil rights. Nagy was restored in power, and when this one began to manifest his intention to liberalize the living conditions, and to withdraw his country from the Warsaw Pact, Soviet Union, joined by her communist satellites, invaded Hungary. To the power was brought Janos Kadar, by late 1956. He led the country as party first secretary (ocasionally prime minister) until the summer of 1989. Under his leadership, in Hungary were implemented substantial socioeconomic reforms, which marked the difference of the Hungarian socialism in comparison to that of the neighbouring countries. This was the so called *gulash socialism*, implemented through the guiding lines of the 1968 *new economic mechanism* (NEM). Living conditions were far much acceptable in this country than elsewhere in the fellow countries. The agricultural production was made up from cereals, vegetables, fruits, vines and animal breading. The bulk of the secondary sector output was made up by the machine building, car, mechanic, electrotechnic, metalurgic, textile and leather industries, the first three representing a quarter of the export value by 1980. For the same year, the agriculture share represented 15% from the total GDP, while the manufacturing sector 1979 share from GDP was 59%. The remaining 25% were made up by services and other state non-productive activities. The share of the private sector from the GDP was minor, around 5%, and comprised mainly farming activities. Hungary, too, was a founding member of CMEA (COMECON) and Warsaw Pact.[25]

In Poland, the communist leader Boleslaw Bierut was elected as President of the Republic in 1945. By 1947/8 the opposition parties were marginalized, and the Communist party started, on the Soviet model, the nationalization of the industry, the collectivization of agriculture, the building of communist power system, and the monitoring of the cultural life. The same script as everywhere in

[25] Hungary, in Maailmantieto, 1982.

Eastern Europe was applied here, too. Poland was, until 1956, extermely dependend politically and economically on USSR. Thenafter, under Wladislaw Gomulka's nationalistic leadership this country experienced some liberalization years up to early 1960s. The Polish Labour Party moved back on a hard-line policy in the late 1960s, and allowed Poland's participation in the invasion of Czechoslovakia in the summer of 1968. The economic distress led to frequent social unrest in 1970, when the workers in Gdansk, Gdynia and Szczecin forced Gomulka to leave power. Edward Gierek, his successor, did not improved the economic situation, strikes and protest manifestations starting again from 1976 onward. They reached the peak by 1980, when Gdansk workers led by the trade unionist Lech Walesa formed the independent trade union *Solidarnosc*. In 1980-1, this one was the third actor in the socioeconomic life, along with the Communist government and Catholic Church. Continuing economic crisis augmented the social dissatisfaction, and Gierek was replaced by Stanislaw Kania, who brought no cure to the crisis. The strikes went on until 13 December 1981, when the new party leader, and defence minister, Wojciech Jaruzelski declared the siege state and martial law. From that year, until 1989, Poland was ruled by the National Salvation Military Council, under Jaruzelski's leadership. The bulk of primary sector output was made up by rye and potatoe crops and by livestock, especially cattle. The bulk of the secondary sector output was made up from electrotechnic, metalurgic, shipbuilding, mining, and food processing industries. By 1979, the share of the agriculture output from the total GDP was 16%, while that of industry 64%. Polish agriculture remained in private hands in a 80% proportion, being the only one left unsocialized in Eastern Europe. The 20% remaining from the total GDP were the services and other state non-material activities. By the same year, Poland was the most indebted among the socialist fellow countries, with a foreign debt of 26 bil. dollars.[26]

In Romania, the actual communist takeover occured after the 1946 general elections. The National Democratic Front, under the agrarian pro-communist leader Dr. Petru Groza's leadership abbolished the monarchy, by forcing the abdication of King Michae I, and declared Romania as People's Republic on 30 December 1947. In 1948, the communists and the social democrats merged into the Romanian Labour Party, under the communist command. The power struggle within the party lasted until 1952, when the native communist group took the lead. Gheorghe Gheorghiu-Dej led Romania until 1965 as party first secretary (ocasionally prime minister). By early 1960s he started a policy of economic, and international independence from Moskow. From

[26] Poland, in Maailmantieto, 1982.

1965 up to 1989, this independent nationalistic policy was continued by Nicolae Ceausescu. This one led Romania in a dictatorial manner as secretary general of the Comunist party and, from 1974, also as president of Romania. Due to his semi-independent foreign policy, he was the spoiled child of the West up to early 1980s, when his infernal domestic policy, supported by his political police, outraged western politicians who ceased to co-operate with him internationally. During the 1980s, Ceausescu family accaparated all power in party and state. The stress was put on the territorial systematization of the rural zones, on huge infrastructural networks, and on the modernization of the capital city, Bucharest. Construction sector was the only one not seriously affected by the economic crisis of the 1980s. Because Ceausescu proceeded to pay off all the foreign debt in the same time, exports were augmented and imports drastically reduced. The price was high for the Romanians, who suffered all kind of shortages and political pressure. By 1989, the communist regime collapsed in blood in Romania. The bulk of agricultural sector output was made up by the cereal production, mainly corn and wheat, sun-flower, fruits, vegetables, and by the animal breading. The bulk of the industrial sector was made up of steel, iron, machine building, petrochemical and mining industries. By 1979, the share of agriculture from the total GNP was 25%, while that of the industrial sector was 60%. The rest were services and non-material activities. As all fellow socialist countries, Romania joined from the beginning both CMEA and Warsaw Pact.[27]

Thus, these four East European former socialist countries are choosen to form the object of the subsequent quantitative comparative analysis. Why these countries? Simply, because of their geographical position, two in the Balkans, the other two in East Central Europe. This might explain possible basic differentiations concerning their economic performance in both their communist recent past and during their ongoing transition period.

4.2. Real Growth Rate of the Total GDP

One country's economic performances in time is best revealed through the estimates performed on its macroeconomical indicators. The major indicators from the standpoint of productive activity are NMP, used by the communist states, and GDP used by the western societies and the rest of the world. The four countries in this study used up to 1989 the NMP indicators, adopting from 1990 on

[27] Romania, in Maailmantieto, 1982

the GDP indicators in their national accounts. As we have seen in the previous chapters of the study, NMP estimates provide a distortioned image of the economic activity in comparison to the more eloquent GDP ones. Thus, a reassessement of the economic growth experienced by these countries during their communist period is not only necessary, but should be done by revisiting the official NMP data into GDP estimates, by far more sensitive to the reality of economic life. Such an attempt is a challenge bound by seriuos data problems and methodological difficulties, as well revealed previously.

In order to get the real picture of the economic growth for larger periods, the estimates should be linked in time series, using as weights values in constant prices. This is nesessary for the identification of different growth momentums. It is also needed, when trying to compare the economic performances of different countries.

The comparative quantitative analysis on Bulgaria, Hungary, Poland and Romania starts with the identification of common time series in constant prices (currencies used playing no special role here) for both MPS and SNA major indicators. Thus, four common macroeconomical indicators were found within a time series ranging from 1970 to 1990. For the missing years, rough estimates were performed through different methods (see notes in Table 3). Thenafter, integral time series for 1970–1990 were obtained for each country in part, from the combined official and rough estimates of the physical volume (see Tables 1-4). In the columns, the performed rough estimates are moved little to the left for identification.

Analysis moves ahead by establishing the growth rate of each macroeconomical indicator, for the period 1970–1990, for a choosen sample country, here Poland. This made possible the reciproc comparison of the growth rates of all the indicators (see Table 5). The real growth rate here, is that based on Maddison's total GDP estimates. The growth rates obtained for the other general indicators can be seen as relative real growth rates since, on the one hand, NMP doesn't cover all economic activity and, on the other hand, because the other two SNA indicators incorporate rough estimates. It is obvious that the latter are quite similar to the real growth rate performed on Maddison's physical volume estimates. This is an important finding, since the further sectoral share analysis will be performed in relation with one of this indicator estimates. Obviously, an eventual extension of this model to the three other countries would show the same growth rates reciproc

proportionalities.

The further step is the performing of real growth rates ahead, up to 1998, starting from 1990, by using other sources on total GDP estimates. The procedure for Poland (see Table 5) was extended to the rest of the countries involved here. Thus, the result obtained is an uniform time series, for 1970-1998, of the real growth rates of the total GDP for all four countries, easy to compare (see Table 6; Graphs 1a-5a). In order to check the valability of the estimates in Table 6, an uniform parallel time series is given in Table 7 (van Ark, 1999). One can see that the estimates in the two tables corelate positively, thus the estimates performed are valid.

The next, and last move is the refining of real growth rate estimates, obtained in Table 6, in order to better enlighten different growth momentums within each country, and among the four countries alike. For this purpose was used the five-year slide mean (see Graphs 1b-5b).

What conclusions could be reached, now, on the economical performance of each country in particular, and in general, for the time series ranging from 1970 to 1995?

For Bulgaria one can identify three growth momentums: I. 1972–1978; II. 1979–1985; III. 1986–1995. Thus, the first momentum shows a sharp downward trend of the growth rate, which drops from over 4% down to 1%. The second momentum shows an irregular trend stagnating around 1%. The third momentum shows negative growth rates, and could be divided in its turn in two small periods, for 1986–1990 growth rate going down from less than -1% to over -9%, while for 1991–1995 moving upwards from more than -8% to -2%. Thus, in the first momentum one can identify the beginning of an economic crisis. The second momentum tells us that there is about a deep structural, and not a conjectural, crisis, with ups and downs of a very modest growth rate, the economy being unable to take off. The third momentum represents the collapse of the Bulgarian communist economy, with higher negative growth rates, and weak signs of recovery towards the end of the period (see Graph 1a-b).

For Hungary one can identify four growth momentums: I. 1972–1980; II. 1981–1986; III. 1987–1993; IV. 1994–1995. Thus, in the first phase growth rate shows a downward trend from over 3% to around 1%. The second momentum shows a stagnating trend of 1%. The third phase shows a sharp

downward negative growth rate up to 1990, and from 1991 to 1993 sharp upwards growth rates. The fourth phase shows the upward positive trend of growth rate, reaching 3% in 1995. Thus, the first momentum accounts about the continuous decline of the growth rate, showing the signs of the beginning of an economic crisis. The second phase confirms, as in the Bulgarian case, that is about a structural crisis, the economy failing to recover. The third momentum constitutes the collapse of the command economy in Hungary. The fourth phase shows visible signs of a rather quick recovery (see Graph 2a-b).

In the case of Poland one can distinguish five growth momentums: I. 1971–1977; II. 1978–1981; III. 1982–1986; IV. 1987–1991; V. 1992–1995. Thus, in the first phase one can observe a downward trend of the growth rate from over 6% to less than 1%. The second momentum shows negative growth rates around -1%. The third phase is characterized by sharp take-off and quick downfall of growth rates. The sharp downward trend of growth rate moves into the negative level in the fourth phase, which has growth rates around -3%. In the fifth momentum growth rates move sharply upwards, from 1% in 1992 to over 5% in 1995. Thus, clear signs of an economic crisis appears in the first momentum. The second momentum makes obvious the presence of a deep economic crisis, growth rates being in the negative zone. The third phase represents a relative short recovery, Polish economy failing in self-sustaining the take off. The forth momentum, with its negative growth rates, represents the collapse of socialist economy in Poland. The last fifth phase shows the relative faster recovery of the post-communist Poland (see Graph 3a-b).

As regards to Romania, four growth momentums are identifiable: I. 1972–1980; II. 1981–1985; III. 1986–1992; IV. 1993–1995. Thus, the first growth momentum shows a sharp downward trend of growth rates from over 6% in 1972 to less than 0.5% in 1980. The second growth phase is a stagnant one, in which growth rates show positive modest figures over 0.5%. In the third momentum growth rates move sharply downwards into the negative level until 1990, then turn upwards. The fourth phase is characterized by positive growth rates Thus, the first momentum shows the slowdown of the economy, and the beginning of an economic crisis. In the second phase the presence of the crisis is obvious, economy stagnating and failing to take off, meaning that it is about a structural crisis. The third momentum shows the evident collapse of the Romanian osified command economy. In the last fourth phase one can see an attempt at recovery which fails (see Graph 4a-b).

What have in common, and what differentiate these countries? First, the beginning of the end started for all of them in early 1970s, when the relative high growth rates characteristic for the previous period turned into a continuous relative sharp downward trend until the late 1070s, drawing all these economies into a serious economic crisis. Second, during the first half of 1980s the crisis gereralized, leading to the stagnation of the economic activity with no signs of recovery, excepting Poland which showed a short relative unsustained recovery. Third, the beginning of the socialist economic collapse can be identified for all these countries by 1986, when the growth rates droped drastically into the negative zone. Fourth, the negative limit of growth rate occured for all between 1989 and 1990. Fifth, by 1991 the negative growth rate turned upwards in all cases. Sixth,, by 1995 all growth rates were positive, excepting that of Bulgaria.

What can be said about the similarities among this group of countries, observed through this analysis of growth rate of the total GDP? That all these countries proved to have compatible economies structured on the same productive and mamagerial principles, those of the Soviet model of a command economy. Being all CMEA members, it seems that causes and effects in economic life in one country, and not only, had reciprocally influenced, and have been influenced by those in fellow countries.

Some differences can also be observed between these countries concerning their economic performances. First, the Polish economy is most subjected to conjectural realities, as the more often shifts in growth rate change momentum show. Second, Hungarian economy, despite showing the same general symptoms of the crisis, moves from one growth momentum to another smoother, demonstrating the fact that is better adapted to face disturbing factors. Third, Romanian and Bulgarian economies show a more accentuate structural shortcoming, being slower to adapt themselves to change and to recover.[28]

The general picture of the economic performance for all these countries together is offerd in Graph 5b. The growth rate of their total GDP droped substantially from 1970 to 1980, then stagnated up to mid 1980s. The unavoidable collapse of the communist command economy began, in fact, in 1986, the democratical revolutions of the late 1989 doing nothing else but to confirm that fact.

[28] See Berend, 1996, p. 184-9, for comparison of GDP growth rate.

4.3. Primary Sector

The annual share of the primary sector from the annual physical volume of the total GDP has been performed by using the macroeconomical indicators in Tables 1-4, that is the NMP produced and the GDP at market prices, and the annual physical volume of agriculture as it is estimated officially in the Country Tables of the *Historically Planned Economies: A Guide to the Data.* For the missing official estimates of the physical volume of agriculture at SNA standard, rough estimates have been performed by starting a cross counting, up or down, from the benchyear for which exist the last agricultural estimates in both economical indicators. This is valid for all countries in comparison here, excepting Hungary, for which exist estimates on both indicators for the entire period 1970–1990. For the period 1990–1995, agricultural shares were extracted from the official estimates as they appear in each country's national statistic publications checked, valid for Hungary, too.

The comparison of the annual agricultural share of the total GDP is done in relation to the annual growth rate of the same GDP. As mentioned in the previous chapter, growth rates performed on Maddison's GDP estimates show quite similar values to those performed on the estimates of the GDP at market prices, which can be seen, roughly, as real estimates. Thus, a comparison between agricultural shares which contain some rough estimates with real growth rates based almost entirely on official estimates is possible. The same is valid for comparisons with the secondary and tertiary sectors.

So, how corelates annual agricultural share with the different growth momentums of each country under analysis here?

For Bulgaria: I. Growth rate moves downwards sharply, agricultural share goes down the same manner; II. Growth rate small ups and downs, rather stagnant, agricultural share the same; III. Growth rate drops sharply, then upwards, agricultural share smooth declining, rising, declining, and rising again.

For Hungary: I. Growth rate continuing downwards, agricultural share smooth declining; II. Growth rate stagnant, agricultural share too; III. Growth rate dropping sharply, then upwards, agricultural

share first stagnant, then sharp downwards followed by stagnant trend; IV. Growth rate upwards sharply, agricultural share stagnant.

For Poland: I. Growth rate sharp downwards, agricultural share the same; II. Growth rate downwards, agricultural share the same; III. Growth rate sharp up and down, agricultural share stagnant; IV. Growth rate sharp downward trend, then upwards sharply, agricultural share follows, and sharp downward trend; V. Growth rate moves sharply upwards, agricultural share remains stagnant.

For Romania: I. Growth rate sharp drop, agricultural share follows; II. Growth rate stagnant, agricultural share the same; III. Growth rate negative downward trend, then upwards, agricultural share follows, but smoothly downwards and sharply upwards; IV. Growth rate up and down, agricultural share stagnant.

One can say that, in general, the agricultural share follows the growth rate trend, though often in a smooth way. Thus, these two variables correlate positively.

It follows that, since the growth momentums show quite similar characteristics for 1970–1995 for the four countries compared, the agricultural share also has quite similar trends for all of them (see Graphs 1b-4b; Graphs 6a-9a).

4.4. Secondary Sector

As described in the previous chapter, same methodology is valid here, too.

For Bulgaria: I. Growth rate moves downward sharply, industrial share moves smoothly upwards; II. Growth rate small ups and downs, rather stagnant, industrial share moves up sharply; III. Growth rate drops sharply, then upwards, industrial share continuing sharp drop.

For Hungary: I. Growth rate continuing downwards, industrial share smooth upward trend; II. Growth rate stagnant, industrial share smoothly downwards, rather stagnant; III. Growth rate dropping sharply, then upwards, industrial share downwards quite sharply; IV. Growth rate upwards

sharply , indusrial share smoothly follows.

For Poland: I. Growth rate sharp downward trend, indaustrial share smooth upwards; II. Growth rate downwards, industrial smoothly the same; III. Growth rate sharply up and down, industrial share smoothly declining; IV. Growth rate sharp downward trend, then upwards sharply, industrial share continuing sharply downwards; V. Growth rate continuing sharp move upwards, industrial share sharply downwards.

For Romania: I. Growth rate sharp drop, industrial share steady upwards; II. Growth rate stagnant, industrial share smoothly upwards, almost stagnant; III. Growth rate sharp negative drop, industrial share follows; IV. Growth rate up and down, industrial share follows.

One can say that, in general, industrial share trend moves contrary to that of growth rate in the whole period previous to the final collapse, when also industrial share goes drastically downwards. The same characteristics are observable for all the countries here. Thus, these two variables correlate rather negatively (see Graphs 1b-4b; Graphs 6a-9a).

4.5. Tertiary Sector

The same methodology as previously decides here, too.

For Bulgaria: I. Growth rate moves sharply downwards, services on the contrary; II. Growth rate small ups and downs, rather stagnant, services follow; III. Growth rate drops sharply, then upwards, services move sharply upwards.

For Hungary: I. Growth rate continuing downwards, services stagnant; II. Growth rate stagnant, services smoothly downwards; III. Growth rate droping sharply, then upwards, services sharply continuing upwards; IV. Growth rate continues sharply upwards, services smoothly downwards.

For Poland: I. Growth rate sharp drop, services relative sharp upward trend; II. Growth rate downwards, services downwards; III. Growth rate sharp up and down, services smoothly upwards; IV. Growth rate sharp downward trend, then upwards sharply, services upwards; V. Growth rate

moves sharply upwards, services move upwards, too.

For Romania: I. Growth rate sharp drop, services sharply upwards, the downwards; II. Growth rate stagnant, services smoothly downwards, almost stagnant; III. Growth rate sharply downwards, then upwards, services first smoothly, then sharply upwards; IV. Growth rate up and down, services the same.

The usual difficulty in estimating the real share of the services from the GDP can be observed here through the two variables above which is difficult to correlate because they show irregularly whether similar or opposite trends (see Graphs 1b-4b; Graphs 6a-9a). This strengthens the common assumption, according to which services is the most mobile sector of the economy.

For a better observation of all countries´ obvious similarity of the sectoral configuration within their GDP, for the whole period 1970–1995, see Graphs 6b-9b. For annual details of the sectoral percentual shares from the annual total GDP, see country tables: Bulgaria Table 9; Hungary Table 8; Poland Table 10, Romania Table 11.

4.6. Foreign Trade

The estimates of the physical volume of exports f.o.b and imports c.i.f. is given in current prices. Because the US dollar is used as standard by everybody, and because it is a relative stabil currency for long periods of time, a comparative analysis can be done for our four countries with regards to the role played by their foreign trade on their own economic performance.

Here, we only take a look at how fit together the different growth momentums with the eventual trade trends.

A first observation is, that during the period under analysis both exports and imports show contrasting similar trajectories for all these countries, fact which might be associated with their common belonging to CMEA. Some small differences are observable for the late 1980s, when these states started to neglect mutual trade and to concentrate on other markets, especially in the developed countries. Thus, in the total volume of trade, the share of the capitalist developed states

increased substantially, especially the share of EU countries. By 1992, well over a third (even a half) of the total trade was with the EU. During the 1990s, this share increased continuously, all these countries aiming to join the EU as fast as possible.

In the 1990s, when the growth rates of these countries were moving continously downwards, the combined trends of both imports and exports for all of them were moving in the opposite direction, thus upwards. When crisis deepened, and stagnation was general during the 1980s, trade trends at both indicators showed similar stagnation figures. When post-communist economies started to manifest their first signs of recovery, by 1993, also trade of these states took a sharp upward trend (see Graphs 10-14).

5. CONCLUSION

Through the first section of this study we have seen how a new branch of economic history emerged after the Second World War, commonly known as Growth Studies. Its roots go back to the early 1950s, when the American scholars, calling themselves as *new economis historians*, started to perform historical national accounts for USA and other counries, by using the available statistical empirical official data. Within the American NBER, a genuine school of growth researchers gathered around Simon Kuznets and laid the conceptional and methodological bases for this new field of research. Their approach is rather a deterministic one, stressing the self-regulatory dimension of the capitalist economy, with predictible long-waves of economic growth. The outstanding authority of this orientation was S. Kuznets, who tried, unsuccessfuly, to bring about a theory of economic growth, by taking into consideration other factors than pure economic ones. His inductive approach, known as *Kuznets Paradigm*, paved, however, the road for subsequent young researchers in this field.

European scholars, under the undisputed authority of Angus Maddison, challenged the Americans on this field, by criticizing their deterministic view on economic growth. Thus, the challenge was not so much directed against American methodology, but mainly against its conceptual apparatus striving to fit economical empirical data into already given theoretic models. *Maddison Standard*, based on undeterministic assumptions, and on more diaggregative procedures taking into consideration other than pure economical factors in explaining economic growth for all countries,

has been appropiated, since 1990, by most researchers in this field, worldwide.

In the intermadiary section of the study we have seen the enormous problems that western scholars had, and have, to face in explaining the real economic growth of the communist states. Eastern MPS standard of accounting economic activity differed in many ways from the UN, and western SNA one. The main problem stands in the difficulty of swiching NMP official data into GDP estimates, when eastern national accounts are scarce in providing economic data for services and other non-material economic activities. However, comparative East-West analyses have been done (also among former socialist states alike) by the western scholars at the American NBER and, after their ceasing there in 1991, by the Groningen Growth and Development Centre, led by A. Maddison.

In the third section, we have seen how difficult is to perform a quantitative comparative analysis of growth, on western standards, for the former communist states. Thus, the difficulties described in the intermediary section proved to be real when trying such an analysis. The limits of the growth comparative analysis on Bulgaria, Hungary, Poland and Romania (mainly the quasi-imposibility of a inner sectoral disaggregative approach), are clear, being set, one the one hand, by the sectoral scarcity and quality of NMP data and, on the other hand, by the availability on library sources. However, a general macroeconomical comparative analyisis of growth performance for the selected countries, on western standards, turned to be possible to undertake, with all compising limits. The main finding of this analysis is, that the East Central European former socialist states, Hungary and Poland were, and still are, better prepared, as their growth performances suggest, for change, while the two Balkan states, Romania and Bulgaria were, and still are, slow in appropiating structural change. Geography and history seem to have been worked, hand in hand, in shaping East European country differentiation as regards to economic performance. But, this is a rather deterministic thought, a kind of Berend´s revolving history, which Maddison, as his country fellow Hoen, would be pleased to reject.

Table 3. Macroeconomical indicators in different constant prices for Poland, 1970–1990.

YEAR	NMP produced	GDP at market prices	GNP by CIA/LWI	GDP by Maddison
	Billions 1984 Polish zloty	Billions constant 1987 Polish zloty	rescaled from 1989 pr. Millions constant 1987 dollars	Millions 1990 Geary-Khamis dollars
1970	4320	11387	113232	144018
1971	4686	12229	121608	154284
1972	5199	13071	129984	165521
1973	5712	13913	138360	177973
1974	6371	14755	146736	188421
1975	6883	15597	155113	197289
1976	7396	15685	158991	202209
1977	7762	15976	161938	205975
1978	7982	16558	167832	213446
1979	7762	16252	164730	209498
1980	7323	15839	160541	204213
1981	6444	14259	152010	193341
1982	6078	13580	150614	191579
1983	6444	14335	158060	201055
1984	6810	15144	163954	208526
1985	7030	15921	165660	210713
1986	7376	16951	170935	217394
1987	7520	16940	168453	214479
1988	7885	17624	172176	219217
1989	7869	17675	169073	215815
1990	6929	15563	154182	194920

Sources: Country Tables, in HPE ed. Marer, 1992; Maddison, 1995, p. 187.

Notes: (1) For 1990 NMP, the figure obtained by cross counting official 1989 and 1990 GDP with official 1989 NMP. (2) For GDP at market prices for the years 1970-1979, figures obtained by cross counting bakwards official LWI estimates of GNP for 1979 and 1980 with official 1980 GDP at market prices. (A cross counting of offical 1980 GDP at market prices with official NMP figures for 1979 and 1980 results in a figure of 16788 for 1979 GDP at market prices, while a cross counting with the Maddison's GDP figures for 1979 and 1980 results in a figure of 16249 for 1879 GDP at market prices. Thus, an eventual cross counting, to establish ruogh estimates for GDP at market prices for the missing years, with the official NMP estimates would result in distortioned rough estimates. This proves the fact that NMP and GDP figures do not change up or downward proportionately. An eventual cross counting with Maddison's GDP estimates, on the contrary, would result in rough estimates of GDP at market prices very close to that already performed by cross counting with the LWI GNP figures, esimates which moves up and down proportionaly. We can assume, thus, that the rough estimates performed as such for the missing years, 1970-1979, for the GDP at market prices are quite reliable). (3) The GNP missing figures for 1971-1974 , obtained through extrapolation between 1970 and 1975 figures. (The rough estimates thus obtained could be kept as reliable enough because all other different macroeconomical indicators, mainly the Maddison's one, show for the same period quite linear upward estimates, and an eventual cross counting of the 1970 GNP figure with those of 1970 and 1971 GDP of Maddison would result in very close upward rough estimates to those already performed as such. The extrapolation technique migh be harmful in estimating growth and growth rate evolution, since it might offer a perspective of linear growth which would neglect cyclical fluctuations. By looking at Maddison's estimates for the same years it seems that it is not the case here, and the rough estimates performed for the GNP 1971-1974 are reliable enough).

Table 1. Macroeconomical indicators in different constant prices for Bulgaria, 1970–1990.

YEAR	NMP produced	GDP at market prices	GNP by CIA/LWI	GDP by Maddison
	Millions 1982 Bulgarian leva	Millions constant 1987 Bulgarian leva	rescaled from 1989 pr. Millions constant 1987 dollars	Millions 1990 Geary-Khamis dollars
1970	10616	14634	34392	40523
1971	11241	15496	36155	41844
1972	12281	16930	37918	43826
1973	13114	18079	39680	45557
1974	14155	19514	41443	46986
1975	15404	21236	43206	50849
1976	16445	22671	44502	52371
1977	17485	24105	44070	51869
1978	18526	25025	45020	52989
1979	19775	26712	46749	55028
1980	20816	28118	45410	53449
1981	21856	29493	46619	54870
1982	22770	30051	48131	56644
1983	23453	31242	47224	55574
1984	24525	32275	48779	57412
1985	24973	33067	47310	55682
1986	26307	34464	48563	57154
1987	27543	36531	48650	57262
1988	28194	37484	48348	56903
1989	28122	37274	48002	55883
1990	24865	32957	44416	49779

Sources: Country tables, in HPE ed. Marer, 1992; Maddison, 1995, p. 187.
Notes: Methodology used in establishing missing rough estimates as in Table 3.

Table 2. Macroeconomical indicators in different constant prices for Hungary, 1970–1990.

YEAR	NMP produced	GDP at market prices	GNP by CIA/LWI	GDP by Maddison
	Billions 1981 Hungarian forint	Billions constant 1987 Hungarian forint	rescaled from 1989 pr. Millions constant 1987 dollars	Millions 1990 Geary-Khamis dollars
1970	385	655	44909	51974
1971	407	697	46494	54293
1972	433	742	48079	55460
1973	463	798	49664	58339
1974	490	844	51249	59852
1975	521	898	52834	61135
1976	536	930	52992	61316
1977	574	994	56320	65164
1978	597	1041	57694	66743
1979	604	1057	57800	66875
1980	598	1057	58381	67549
1981	613	1098	58804	68026
1982	630	1119	60917	70477
1983	631	1127	60283	69753
1984	647	1157	61868	71579
1985	638	1156	60336	69819
1986	643	1174	61657	71217
1987	670	1226	62714	72319
1988	666	1221	63823	73421

1989	659	1222	62661	71776
1990	659	1175	58962	66990

Sources: Country Tables, in HPE ed. Marer, 1992; Maddison, 1995, p. 187.
Notes: All estimates as in official publications, excepting the rough estimate for 1990 NMP obtained as in Table 3.

Table 4. Macroeconomical indicators in different constant prices for Romania, 1970–1990.

YEAR	NMP produced	GDP at market prices	GNP by CIA/LWI	GDP by Maddison
	Billions 1981 Romanian lei	Billions constant 1987 Romanian lei	rescaled from 1989 pr. Millions constant 1987 dollars	Millions 1990 Geary-Khamis dollars
1970	211	286	65386	57779
1971	242	328	70396	65934
1972	267	362	75406	70175
1973	293	397	80417	72411
1974	334	453	85427	76479
1975	365	495	90437	79911
1976	401	552	95049	83998
1977	437	593	97220	85906
1978	473	640	100385	88702
1979	499	683	103279	91266
1980	514	706	103550	91517
1981	512	706	102917	90957
1982	533	734	103007	91035
1983	565	778	102103	90225
1984	682	825	106173	93811
1985	676	824	105992	93657
1986	692	841	107711	95257
1987	699	845	105449	93252
1988	683	843	105269	93020
1989	642	794	102012	90051
1990	570	730	85915	80277

Sources: Country Tables, in HPE ed. Marer, 1992; Maddison, 1995, p. 187.
Notes: Methodology used in establishing missing rough estimates as in Table 3.

Table 5. Annual growth rate for macroeconomical indicators in constant prices for Poland, 1970–1998. (Percentage. Indicators=100).

YEAR	NMP produced	GDP at market prices	GNP by CIA/LWI	GDP by Mddison up to 1992
1970	..	..	..	5.1
1971	8.5	7.4	7.4	7.1
1972	10.9	6.9	6.9	7.2
1973	9.9	6.4	6.4	7.5
1974	11.5	6.0	6.0	5.9
1975	8.0	5.7	5.7	4.7
1976	7.4	0.6	2.5	2.5
1977	4.9	1.8	1.8	1.9
1978	2.8	3.6	3.6	3.6
1979	-2.8	-1.8	-1.8	-1.8
1980	-5.7	-3.6	-2.6	-2.5
1981	-12.0	-10.0	-5.3	-5.3
1982	-5.7	-4.8	-1.0	-1.0
1983	6.0	5.6	4.9	4.9
1984	5.7	5.6	3.7	3.7
1985	3.2	5.1	1.0	1.0
1986	4.9	4.2	3.2	3.2
1987	1.9	2.1	-1.5	-1.4
1988	4.8	4.0	2.2	2.2
1989	-0.2	0.3	-1.8	-1.6
1990	-12.0	-12.0	-8.8	-9.7
1991	..	..	..	-5.9
1992	..	..	..	-1.2
1993	..	..	..	2.5
1994	..	..	..	3.8
1995	..	..	..	5.2
1996	..	..	..	6.0
1997	..	..	..	6.9
1998	..	..	..	4.8
GDPannual averrage growth rate 1970–1998	-	..	-	**2.0**

Sources: Country Tables, in HPE ed. Marer, 1992; Maddison, 1995, p.187; For 1993-1995: EBRD, 1996a-b, in Hoen, 1998, p. 111; For 1996-1998: Economic Survey of Europe No. 1, 1999, Table 3. 1. 1., through Internet.

Notes: (1) Both official and deduced rough estimates for all growth rates of the indicators on SNA standards show quite similar figures between 1970 and 1990. (2) In comparison to the NMP growth rates for the same period based on MPS standard, SNA indicators show figures from a half to one third lower. (3) Growth rates at all indicators might show relative coordinative trends up or downwards, but the figures on MPS and SNA standards do not move up and down proportionally. (4) In periods of sustained high economic growth, the NMP indicator, focused esentially on material production, might show figures double to those of the SNA standard, the latters, actually, better reflecting the real economic activity, by adjusting the material growth rate to the real growth rate comprising sectoral value added and nonmaterial production, that is the real GDP growth rate. (5) Growth rates of GDP obtained from Maddison's estimates based on constant prices are, as such, real GDP growh rates for 1970–1992. For 1993–1995, constant prices, too. For 1996–1998, weights at 1992 prices. Thus, the growth rates of GDP for 1993–1998 are ,also, real ones. (6) The real annual growth rates of GDP for the time series 1970–1998 obtained, thus, through Maddison's and other official real estimates on total annual GDP.

Table 6. Annual growth rates of real GDP for Bulgaria, Hungary, Poland and Romania, 1970–1998. (Percentage. Annual total GDP=100).

YEAR	BULGARIA	HUNGARY	POLAND	ROMANIA
1970	5.7	-0.4	5.1	2.2
1971	3.2	4.5	7.1	14.0
1972	4.7	2.1	7.2	6.4
1973	3.9	5.2	7.5	3.2
1974	3.1	2.6	5.9	5.6
1975	8.2	2.1	4.7	4.5
1976	3.0	0.3	2.5	5.1
1977	-1.0	6.3	1.9	2.3
1978	2.2	2.4	3.6	3.2
1979	3.8	0.2	-1.8	2.9
1980	-2.9	1.0	-2.5	0.3
1981	2.6	0.7	-5.3	-0.6
1982	3.2	3.6	-1.0	0.1
1983	-1.9	-1.0	4.9	-0.9
1984	3.3	2.6	3.7	4.0
1985	-3.0	-2.5	1.0	-0.2
1986	2.6	2.0	3.2	1.7
1987	0.2	1.5	-1.4	-2.1
1988	-0.6	1.5	2.2	-0.3
1989	-1.8	-2.2	-1.6	-3.2
1990	-10.9	-6.7	-9.7	-11.9
1991	-22.2	-7.2	-5.9	-17.4
1992	-10.9	-6.5	-1.2	-12.0
1993	-1.5	-0.9	2.5	1.5
1994	1.8	2.6	3.8	3.9
1995	2.1	1.5	5.2	7.1
1996	-10.1	1.3	6.0	3.9
1997	-6.9	4.6	6.9	-6.9
1998	3.0	5.0	4.8	-7.3
Averrage 1970-1998	**-0.6**	**0.9**	**2.0**	**0.3**

Sources: Maddison, 1995, p. 187; Economic Survey of Europe No. 1, 1999, Table 3.1.1., through Internet; OECD Ec. Surveys Bulgaria 1996-97, 1997; EBRD, 1996a-b, in Hoen, 1998, p. 85, 111; EIU Country Report Romania, 1998.
Notes: (1) Real annual growth rates of GDP obtained through real total GDP estimates of Maddison and other sources, as mentioned above. (2) See notes in Table 5. (3) Among the four countries analysed, only Bulgaria has a negative annual averrage growth rate of real GDP, within the period 1970–1998.

Table 7. GDP per person employed in 1996 US dollars, 1970–1998.

YEAR	BULGARIA	HUNGARY	POLAND	ROMANIA
1970	10148	16291	10484	10968
1971	10441	16976	11011	12500
1972	10894	17298	11513	13287
1973	11283	18150	12101	13694
1974	11596	18574	12560	14445
1975	12502	18925	12932	15074
1976	12885	18934	13215	15865
1977	12770	20072	13288	16246
1978	13054	20507	13715	16794
1979	13569	20496	13354	17301
1980	13188	20655	12979	17369
1981	13444	20909	12377	17207
1982	13785	21774	12354	17169
1983	13430	21662	13060	16963
1984	13875	22316	13505	17563
1985	13443	21810	13538	17389
1986	13758	22225	13926	17541
1987	13744	22724	13780	17102
1988	13711	23254	14183	16921
1989	13789	22870	13977	16168
1990	13087	21752	13183	14391
1991	13272	20446	13027	12624
1992	13386	21873	13961	11725
1993	13400	23202	14769	12640
1994	13918	24363	15634	13438
1995	14142	25214	16585	15192
1996	12701	25781	17413	15976
1997	12293	26822	18371	15461
1998	12933	27762	19005	15086

Sources: Estimates gathered as such from Table II.1 and Table I.5 in Ark, Sept. 1999, p. 35-6.
Notes: Among the basic sources of Ark's tables, Maddison (1991, 1995); OECD Labour Force Statistics (various years); UN/ECE (1998); Marer & Associates (1992); Havlik *et al* (1999); OECD National Accounts, Volume I, 1960–1996. The enclosured estimates represent the best performance under the communist regime and the year that overrun, or approached, it during the post-communist transition period, for each country .

Table 8. Comparative sectoral shares from NMP and GDP for Hungary, 1970–1987 (1995). (Percentage from constant prices)

YEAR	NMP			GDP		
	Agri. + Forest.	Ind. incl. const.	Services	Agri. + Forest	Ind. incl. const.	Services
1970	20.1	40.8	19	18.4	38.3	43.3
1971	20.9	41	18.9	18.4	38.4	43.2
1972	20.1	40.9	18.9	17.8	38.4	43.8
1973	19.4	41.7	19	17.4	38.6	44
1974	18.4	42.6	19.2	16.9	39.6	43.5
1975	17.3	43.2	19.6	16.2	39.8	44
1976	15.5	44.2	20.9	15	40.6	44.4
1977	16.2	44.4	20.2	15.8	40.5	43.7
1978	15.1	45	20.4	15.3	40.7	44
1979	14.2	47.2	20.2	14.8	42.2	43
1980	15.2	45.8	20.1	15.4	41.4	43.2
1981	14.7	46.6	20.5	15.4	42.7	41.9
1982	15.7	47.5	20	16.8	42.4	40.8
1983	15.2	48.8	19.8	16.7	42.9	40.4
1984	15.6	47.7	19.8	17	42.4	40.6
1985	14.7	47.2	20.1	16.3	41.4	42.3
1986	15.2	46.3	20.4	16.6	40.5	42.8
1987	13.9	46	20.7	15.4	40.3	44.3
1988				16.7	37.4	45.8
1989				16.7	36.9	46.4
1990				15.9	35.1	49
1991				8.5	34.4	57.1
1992				7.2	33.2	59.6
1993				6.6	31.6	61.9
1994				6.7	30.5	62.8
1995				7.1	31.5	61.4

Sources: HPE ed. Marer, 1992; National Accounts 1995–96, 1998.
Notes: (1) Percentage derived from the physical value in constant prices up to 1988 from Marer, from 1991 on from National Accounts Hungary, for the missing estimates by cross counting from the bench year. (2) The annual missing percentages in the NMP columns could be roughly attributed to the service sector, as being mostly non-material services in the industrial sphere.

Table 9. Comparative sectoral shares from NMP and GDP for Bulgaria, 1972–1988 (1995). (Percentage from constant prices)

YEAR	NMP			GDP				
	Agriculture	Industry	Services	Agriculture	Industry	Services	Differences	Services
1972	39.9	57.4	2.7	38	49.3	3.9	8.8	12.7
1973	37	58.9	4	35.2	50.6	5.8	8.4	14.2
1974	32.2	60.2	7.8	30.6	51.7	11.3	6.4	17.7
1975	33	59.2	7.8	31.4	50.9	11.3	6.4	17.7
1976	31.2	59.1	9.6	29.7	50.8	14	5.6	19.6
1977	25.4	61.2	13.4	24.2	52.6	19.5	3.7	23.2
1978	23.9	63.5	12.6	22.8	54.6	18.3	4.3	22.6
1979	24.8	62.3	12.4	23.6	53.5	18	4.9	22.9
1980	18.8	60.5	20.7	17.9	52	30.1		
1981	18.8	60.8	20.4	17.9	52.3	29.8		
1982	19.1	63.8	17.1	18.6	56.1	25.3		
1983	15.5	66.6	17.8	14.9	58.1	26.9		
1984	16.6	67.6	15.8	16.1	59.7	24.1		
1985	12.9	69.8	17.3	12.5	61.3	26.2		
1986	14.9	69.7	15.3	14.6	61.8	23.5		
1987	12.2	70.1	17.6	11.8	61.5	26.7		
1988	11.7	70.2	18.1	11.3	61.3	27.3		
1989	11.2	68.8	20	11.1	65.1	23.8		
1990				11.8	61.6	26.6		
1991				14.2	42.8	43		
1992				11.5	43.3	44.2		
1993				10.1	39.2	50.1		
1994				12.3	29.8	57.9		
1995				13.4	30.4	56.2		

Sources: HPE ed. Marer, 1992; Statistical Yearbook, 1994 and 1997.
Notes: Percentage derived from physical value in constant prices up to 1988 from Marer, from 1991 on from Statistical Yearbook Bulgaria, for the missing estimates by backward or forward cross counting from the bench years.

Table 10. Comparative sectoral shares from NMP and GDP for Poland, 1970-1988 (1995). (Percentage from constant prices)

YEAR	NMP			GDP		
	Agriculture	Industry	Services	Agriculture	Industry	Services
1970	23.6	61	15.4	20.5	56.1	23.4
1971	23.9	61	15.1	20.8	56.1	23
1972	22.5	62	15.5	19.5	56.9	23.5
1973	21.2	63.6	15.2	18.5	58.4	23.1
1974	18.4	63.9	17.7	16.1	58.4	26.5
1975	15.5	65.2	19.3	13.1	58.9	28
1976	14.8	65.7	19.5	11.8	58.6	27.5
1977	14.2	66.1	19.7	11.3	58.9	27.8
1978	14.7	65.5	19.7	12.4	59.1	28.5
1979	14.3	65.2	20.4	12	58.7	29.3
1980	12.8	63.	24.2	10	56	34
1981	14.7	59.3	26	11.2	52.5	36.3
1982	16.3	60.1	23.6	13	53.6	33.3
1983	16.3	59.7	24	13	53.2	33.9
1984	16.2	60	23.8	12.9	53.5	33.6
1985	15.7	60.6	23.6	13	51.7	35.2
1986	15.9	60.4	23.7	13.2	51.7	35.1
1987	14.4	61	24.6	12.1	52.2	35.7
1988	13.9	61.1	25	11.8	52.6	35.6
1989	14	60	26	13.2	50.6	36.1
1990				14.7	45.5	39.8
1991				10.9	44.5	44.6
1992				7.1	43.6	49.3
1993				7.2	42.7	50
1994				7.1	42.6	50.3
1995				7.6	39.3	53.1

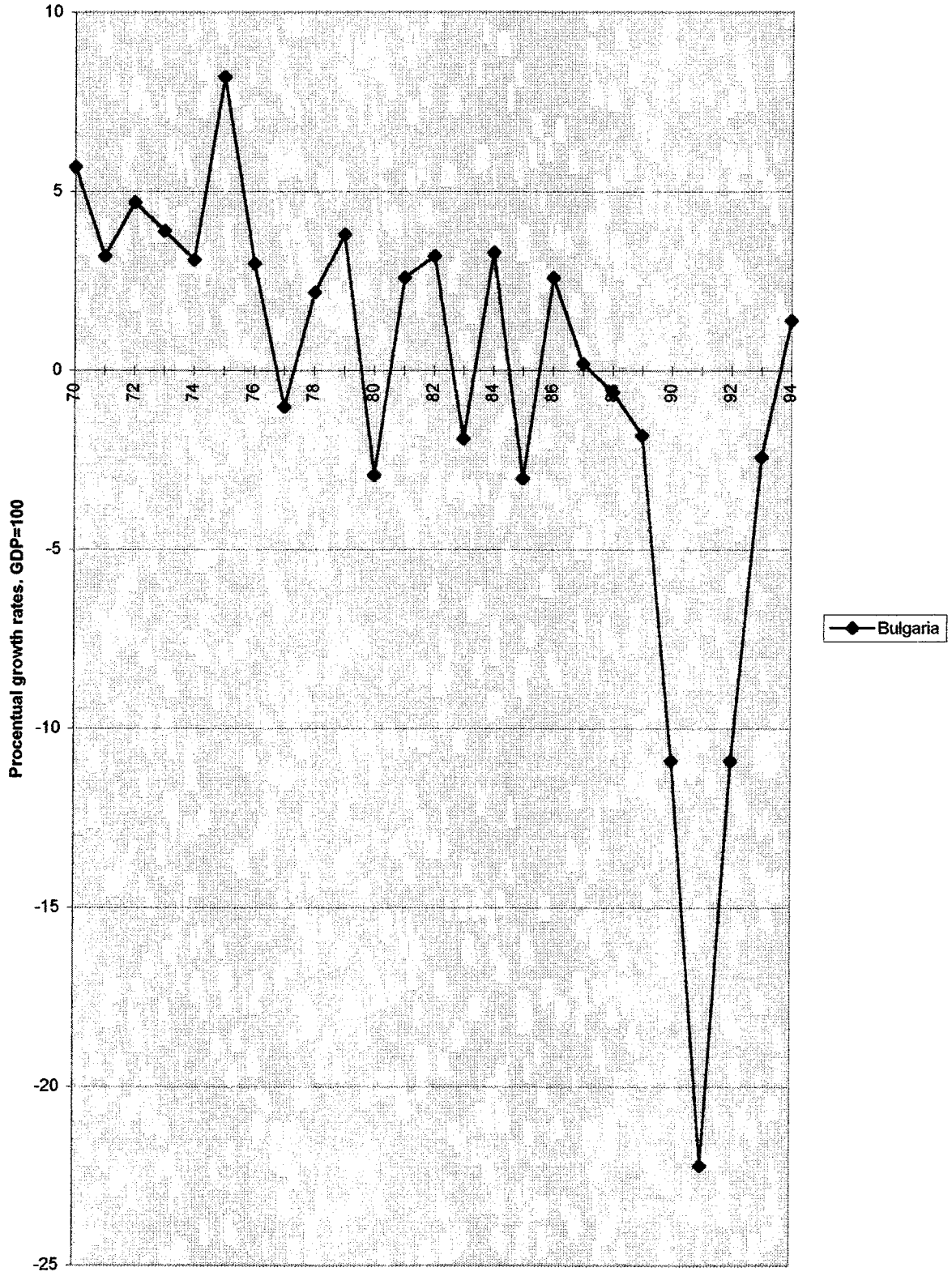
Sources: HPE ed. Marer, 1992; Statistical Yearbook LI, 1991 and LVI, 1996.
Notes: Percentage derived from physical value in constant prices up to 1988 from Marer, for 1989–90 from Statistical Yearbook Poland LI, from 1992 on from Statistical Yearbook Poland LVI, for the missing estimates by cross counting backward from the bench year and aritmetical mean.

Table 11. Comparative sectoral shares from NMP and GDP for Romania, 1970–1988 (1995). (Percentage from constant prices)

YEAR	NMP			GDP			Revisited GDP Figures		
	Agricult.	Industry	Services	Agricult.	Industry	Services	Agricult.	Industry	Services
1970	28	58.3	13.3	33.3	50.8	19.9	32	49.3	18.5
1971	31	56.6	12	37	47.3	16.6	35.5	47.9	16.6
1972	31.1	57.7	11.6	36.4	49.6	16.7	35.5	48.7	15.8
1973	26.6	60.4	13	31.1	52	18.8	30.4	51.4	18.2
1974	22.8	59.6	17.9	26.7	51.2	25.8	25.4	50	24.6
1975	20.8	60.5	18.6	24.3	52	26.9	23.3	50.9	25.8
1976	23.2	61.3	15.5	27.1	52.7	22.4	26.4	52	21.7
1977	20.6	63.4	16.2	24.1	54.5	23.4	23.5	53.8	22.7
1978	19.7	63.4	16.9	23.3	54.8	23.8	22.6	54.2	23.2
1979	19	64.3	16.6	19.9	53	27.1			
1980	16.1	65.6	18.4	15.6	59.5	25.2			
1981	16.2	64.8	18.9	15.4	58.3	26.3			
1982	16.1	65.3	18.6	15.4	59	25.7			
1983	14.7	66.7	18.4	14.4	61	24.5			
1984	16.3	67.3	16.4	14.8	60.6	24.7			
1985	15.2	67.6	17.3	14.9	59.7	25.4			
1986	14.4	68.4	17.2	12.7	60.7	26.7			
1987	13.3	69	17.9	12.2	61.9	25.9			
1988	14.8	66.8	18.4	13.4	60.1	26.3			
1989	14.6	66.2	19.2	13.3	59.7	26.8			
1990	18.8	60	21.4	16.3	52.5	31.1			
1991				20.1	45	34.8			
1992				19.4	44	36.6			
1993				22.6	42.1	35.3			
1994				21.5	46.3	32.2			
1995				21.4	42.7	35.8			

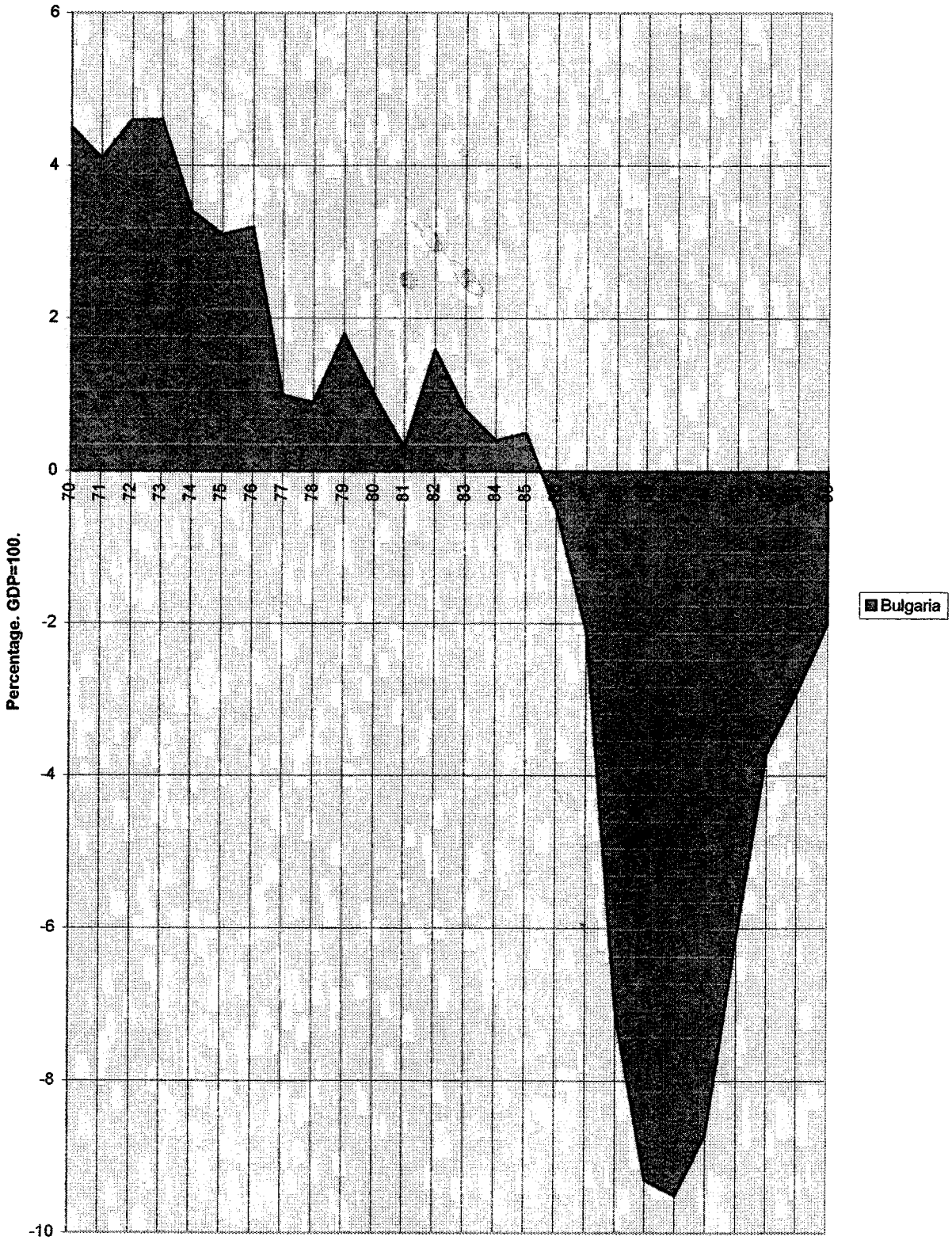
Sources: HPE ed. Marer, 1992; Statistical Yearbook, 1997.
Notes: Percentage derived from physical value in constant prices up to 1988 from Marer, from 1991 on from Statistical Yearbook Romania, for the missing estimates by backward and forward cross counting from the bench years.

Graph 1. Annual growth rates of total GDP, Bulgaria 1970-1994. (a)



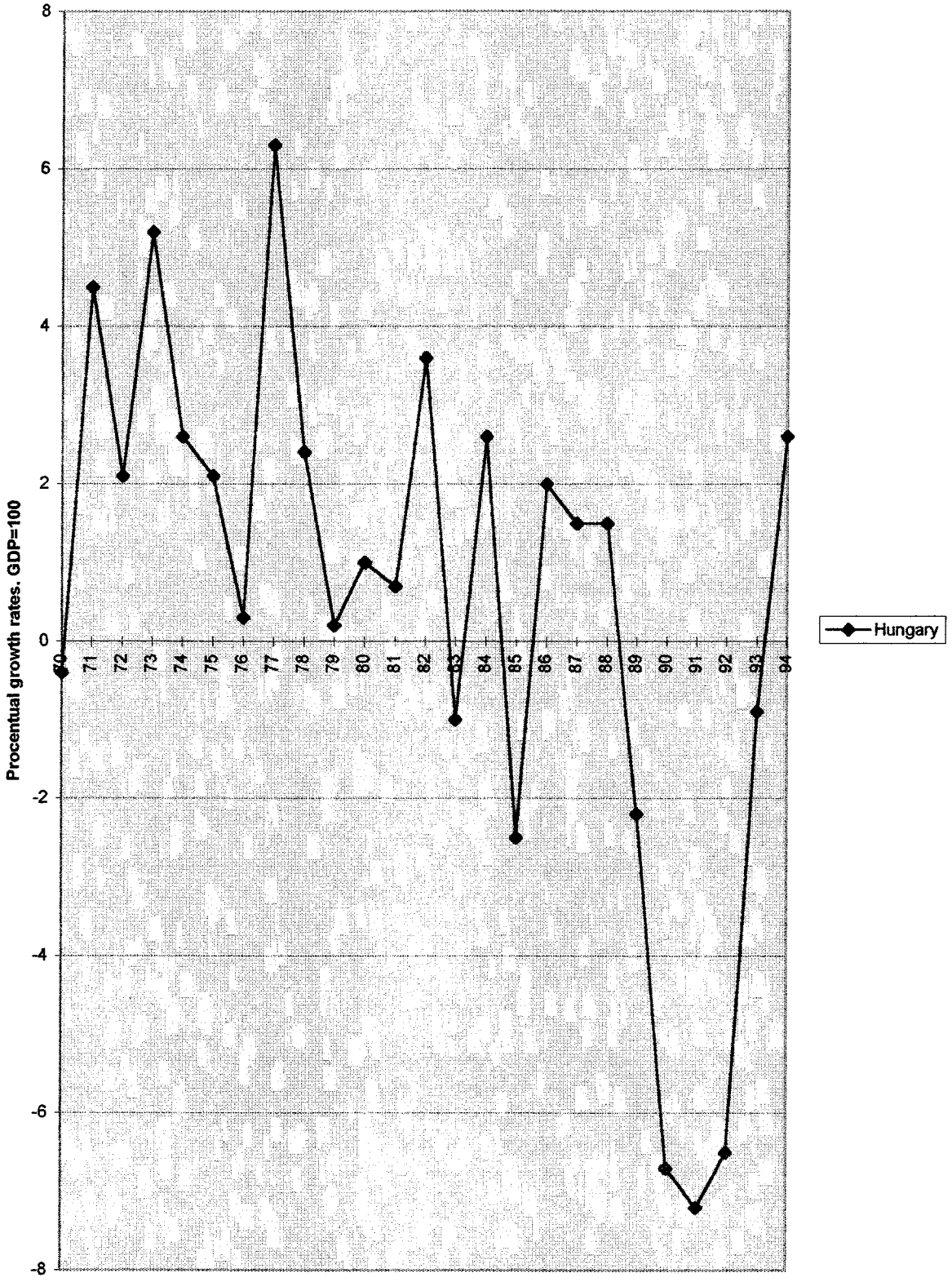
Sources: For 1970-92,Maddison, 1995, p. 187, GDP in 1990 Geary-Khamis dollars. For 1993-94, EBE vol.47, 1995, Internet table 2.2.1.

Graph 1. Five year slide mean of total GDP for Bulgaria, 1970-1995. (b)



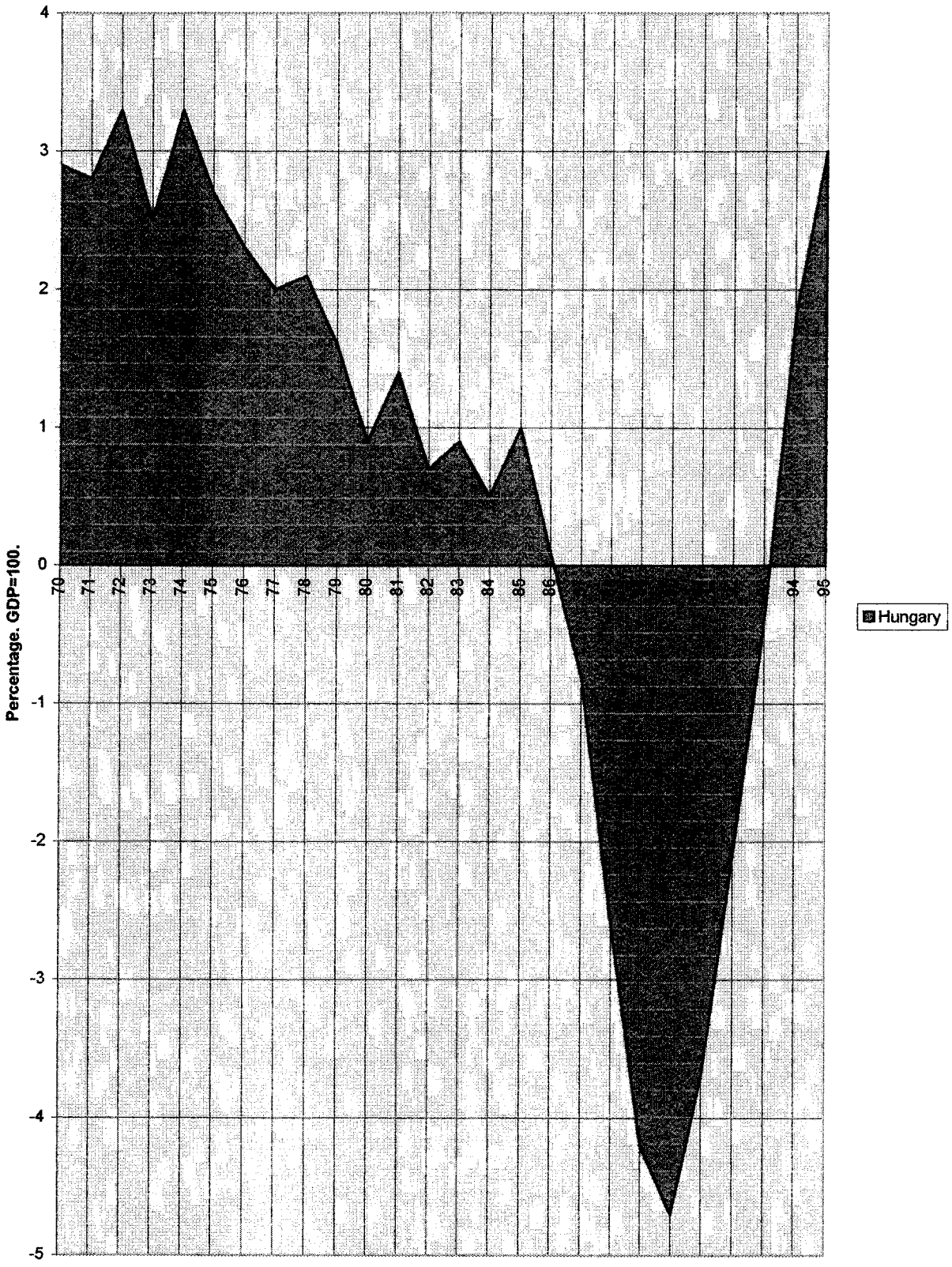
Sources: Maddison, 1995; OECD Ec. Surveys Bulgaria, 1997; ESE No.1, 1999.

Graph 2. Annual growth rates of total GDP, Hungary 1970-1994. (a)



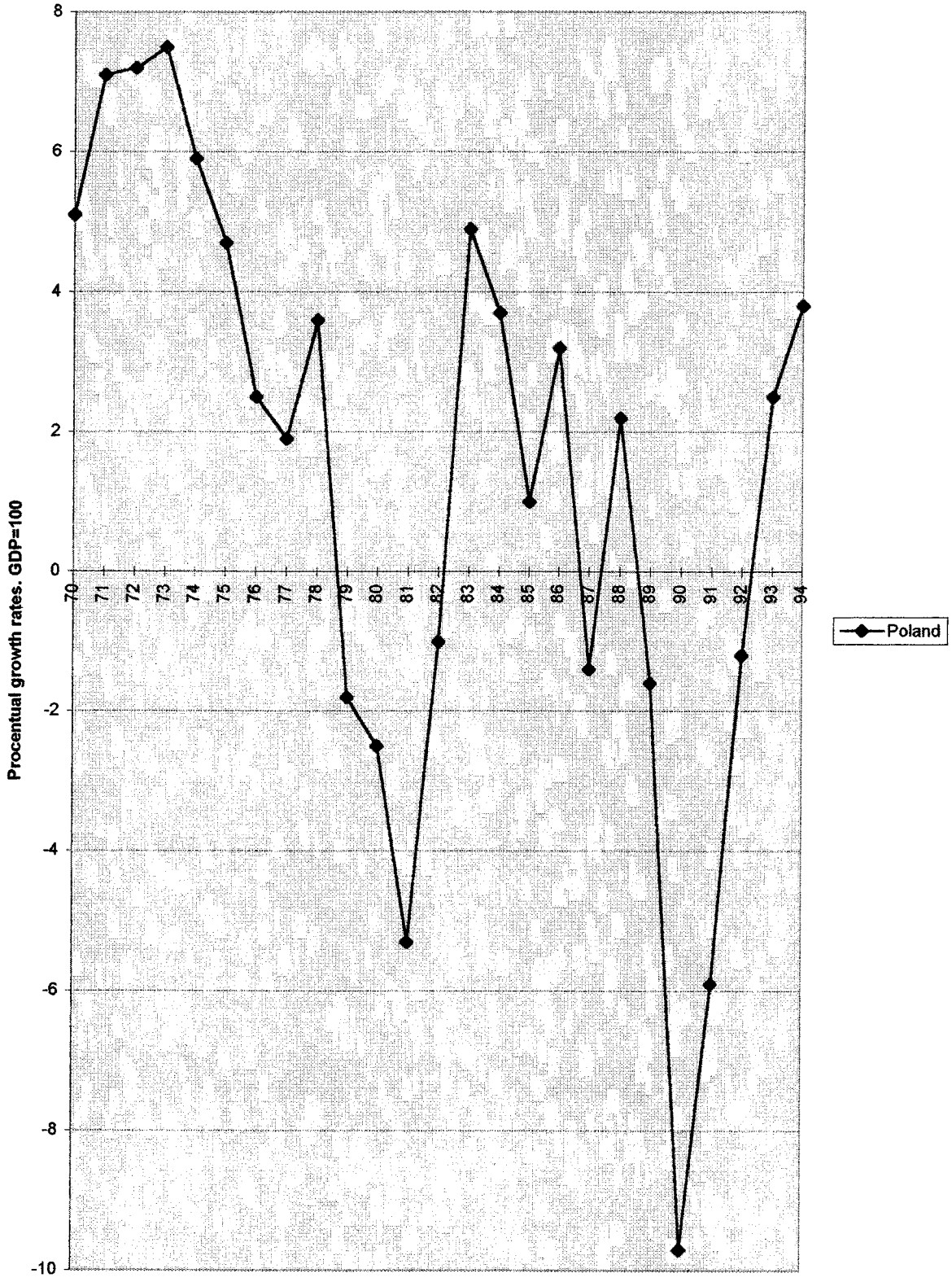
Sources: For 1970-92, Maddison, 1995, p. 187, GDP in 1990 Geary-Khamis dollars. For 1993-94, EBRD, 1996 a-b, in Hoen, 1998, p. 85.

Graph 2. Five year slide mean of total GDP for Hungary, 1970-1995. (b)



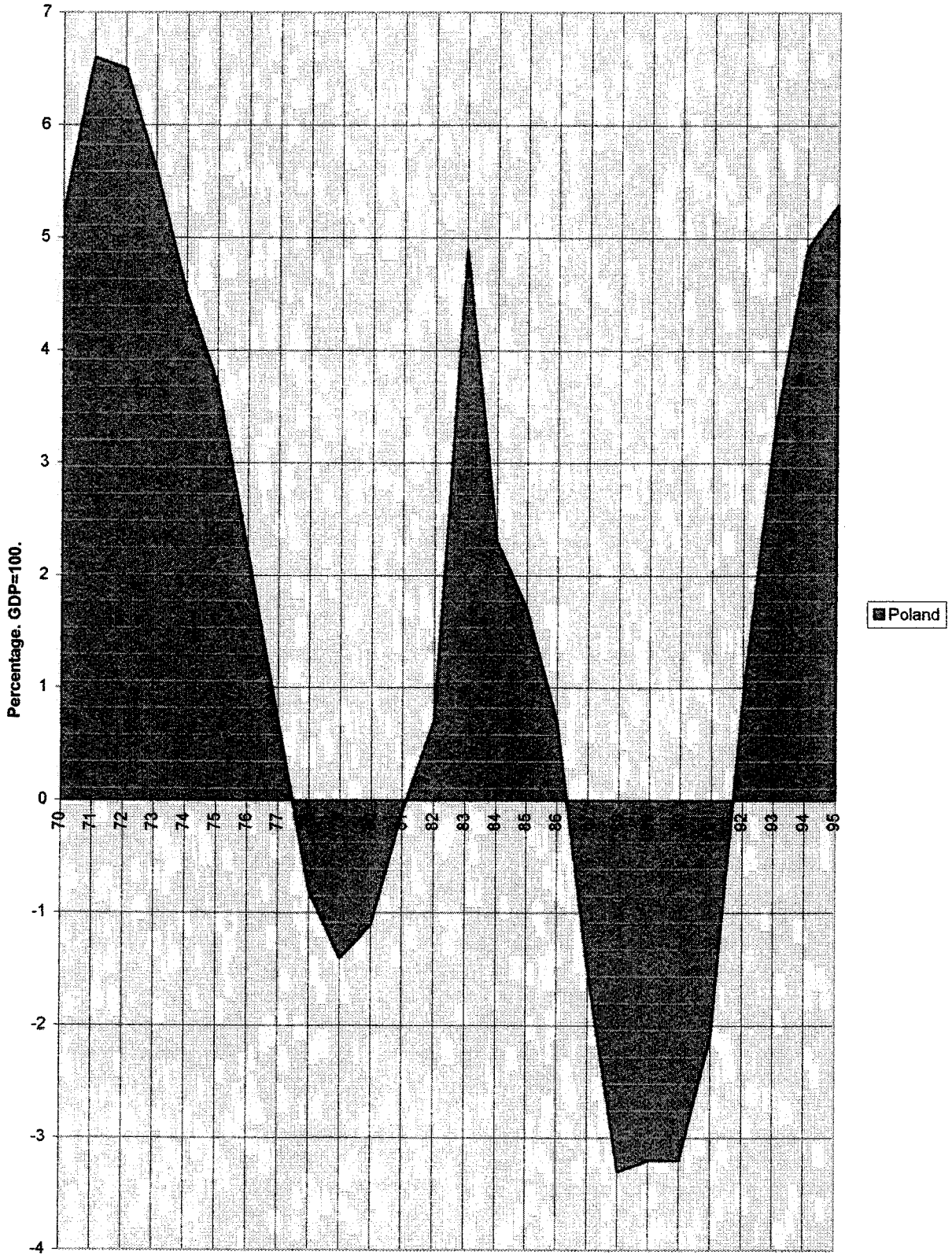
Suorces: Maddison, 1995; EBRD 1996a-b in Hoen, 1998; ESE No.1, 1999.

Graph 3. Annual growth rates of total GDP, Poland 1970-1994. (a)



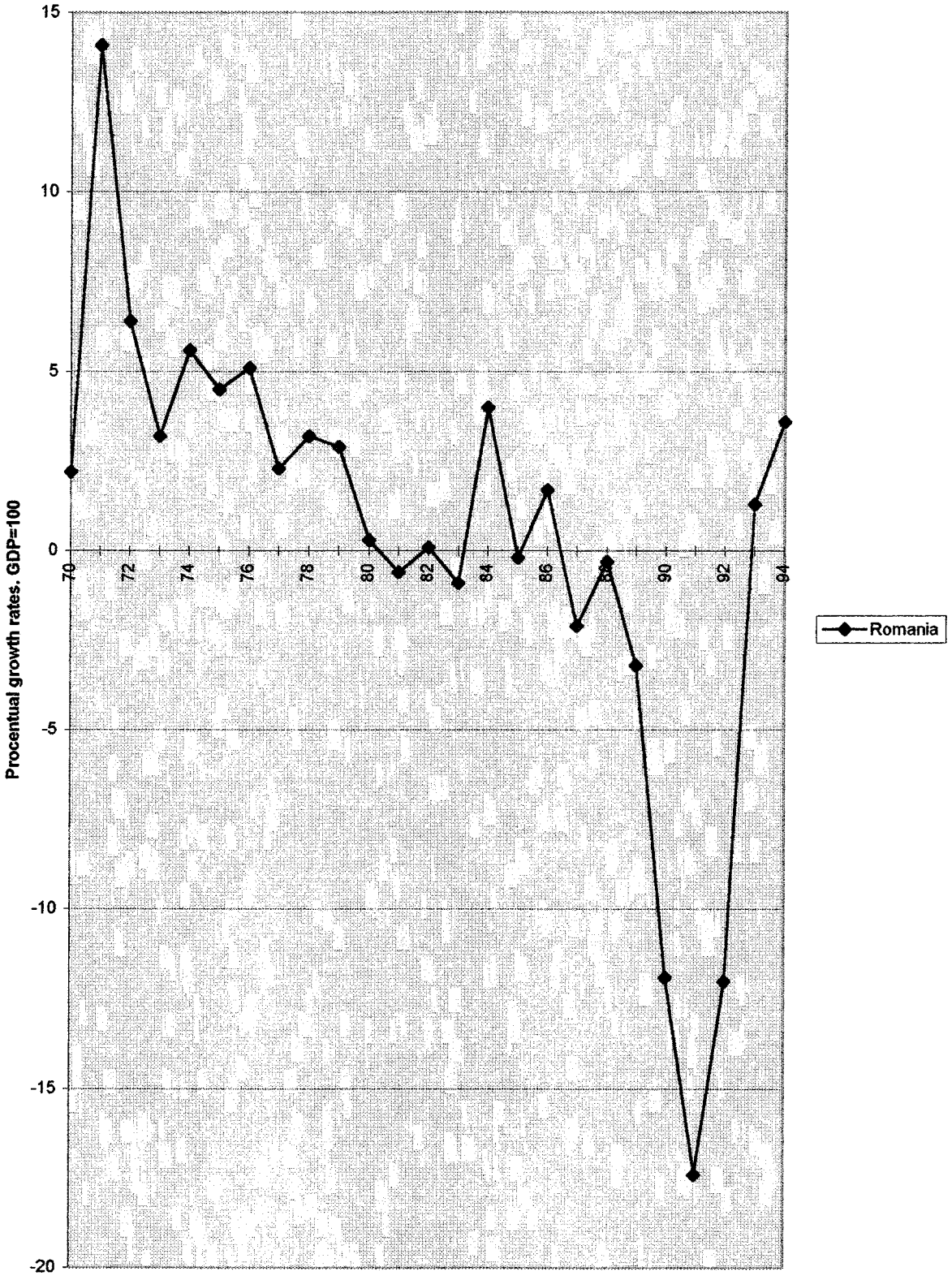
Sources: For 1970-92, Maddison, 1995, p. 187, GDP in Geary-Khamis dollars.
For 1993-94, EBRD, 1996 a-b, in Hoen, 1998, p. 111.

Graph 3. Five year slide mean of total GDP for Poland, 1970-1995 (b)



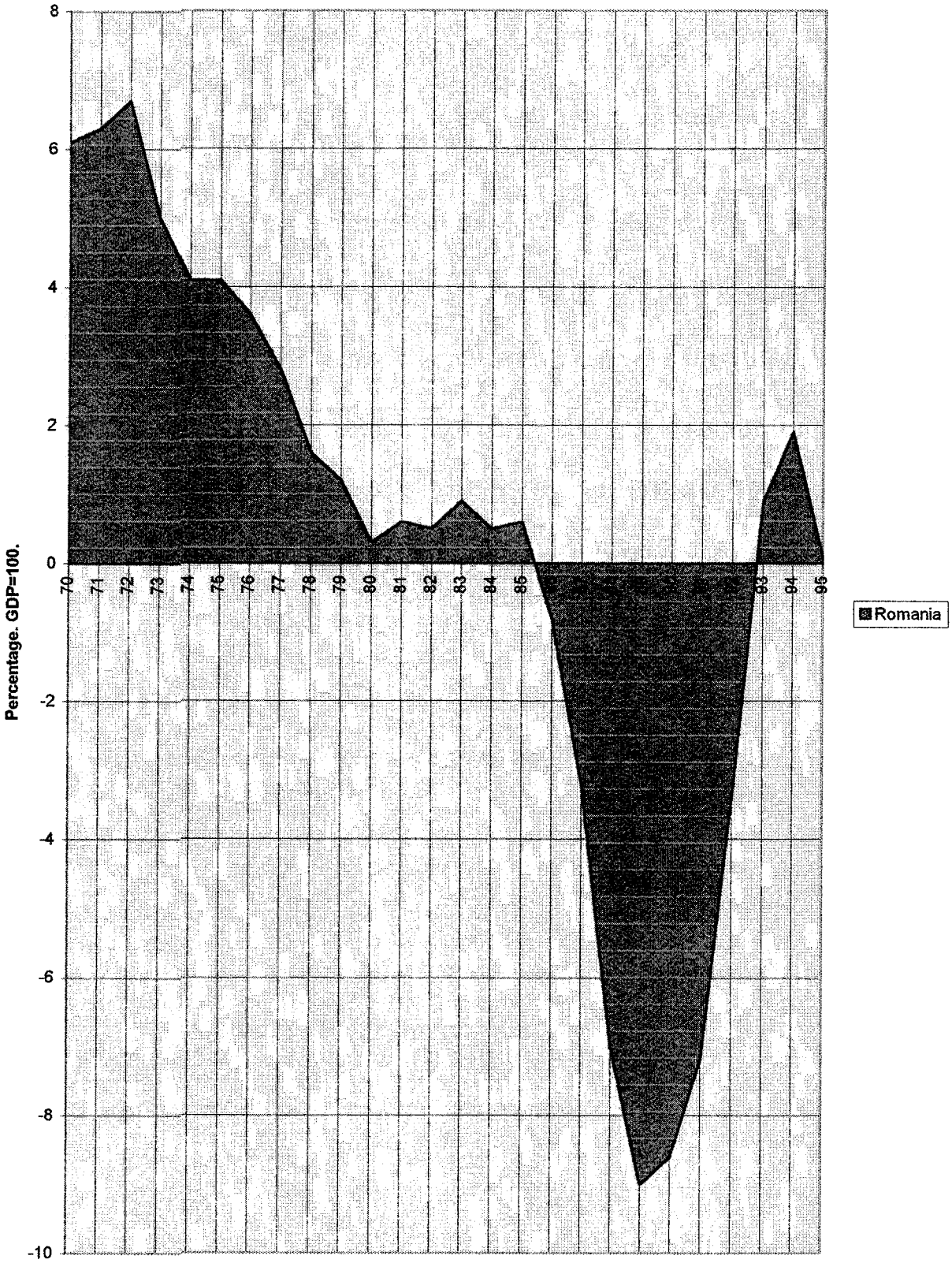
Sources: Maddison, 1995; EBRD 1996a-b in Hoen, 1998; ESE No.1, 1999.

Graph 4. Annual growth rates of total GDP, Romania 1970-1994. (a)



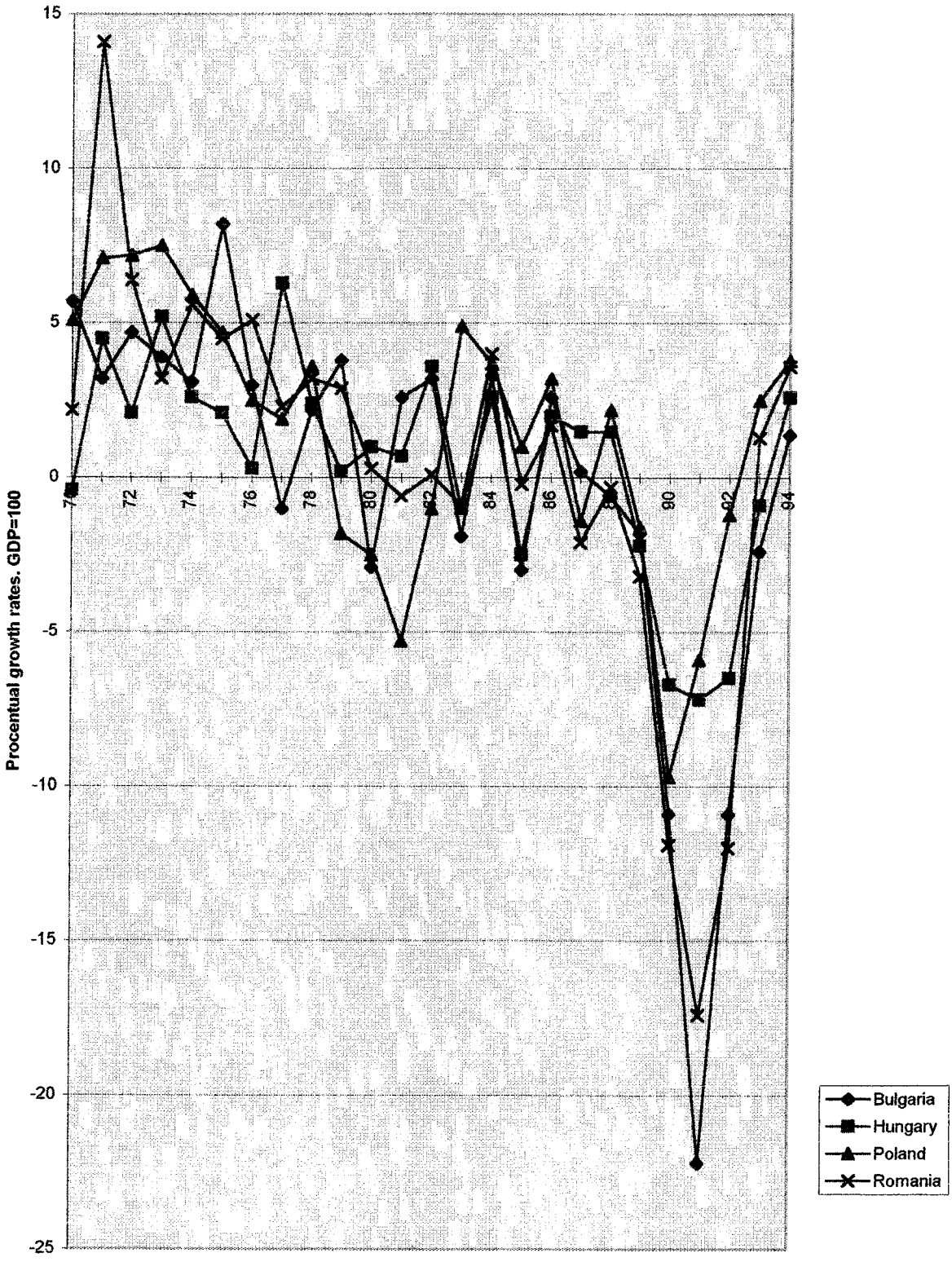
Sources: For 1970-92, Maddison, 1995, p. 187, GDP in Geary-Khamis dollars.
For 1993-94, EBE vol.47, 1995, internet table 2.2.1.

Graph 4. Five year slide mean of total GDP for Romania, 1970-1995. (b)



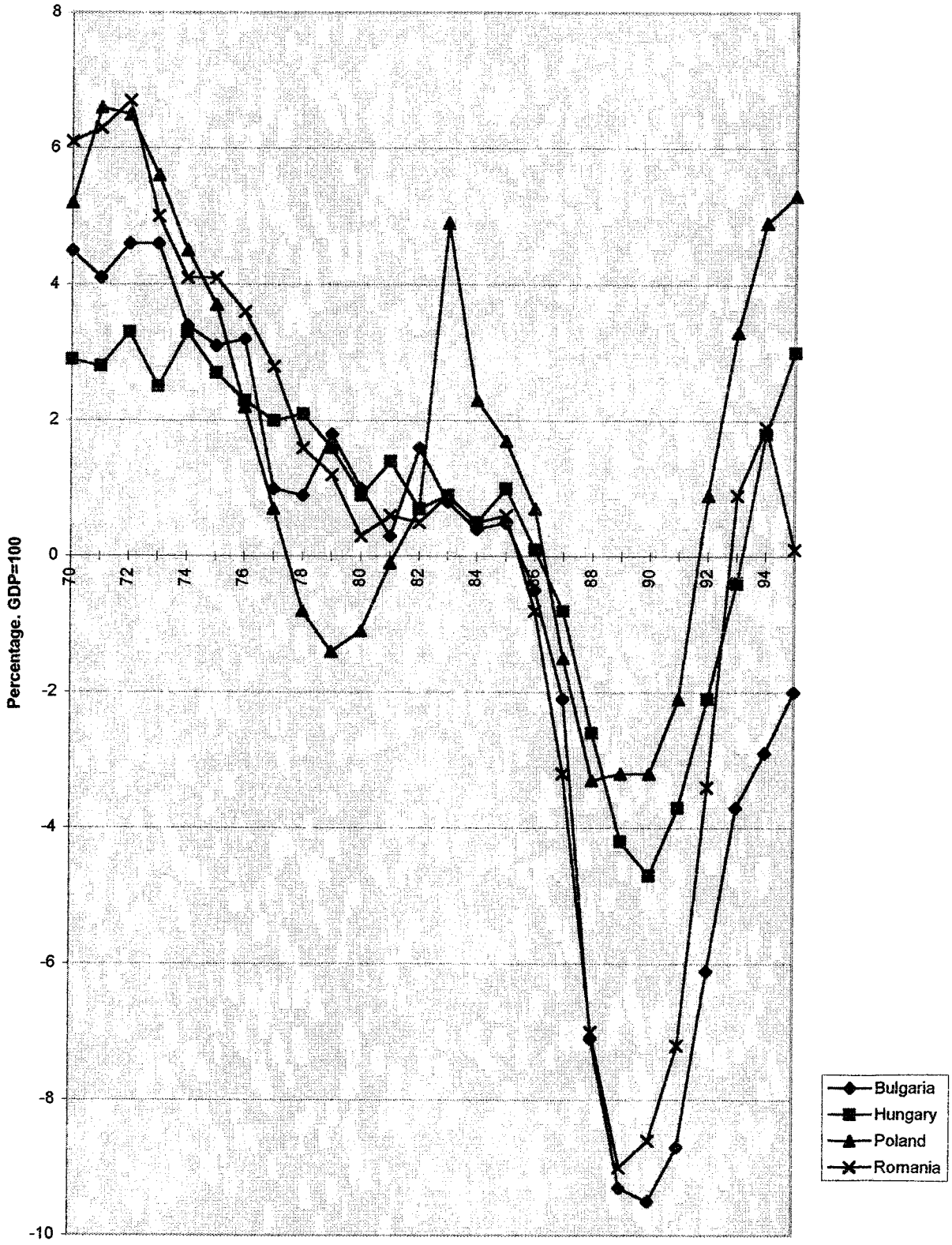
Sources: Maddison, 1995; EIU Country Report, 1998; ESE No.1, 1999.

Graph 5. Annual growth rates of total GDP, 1970-1994. (a)



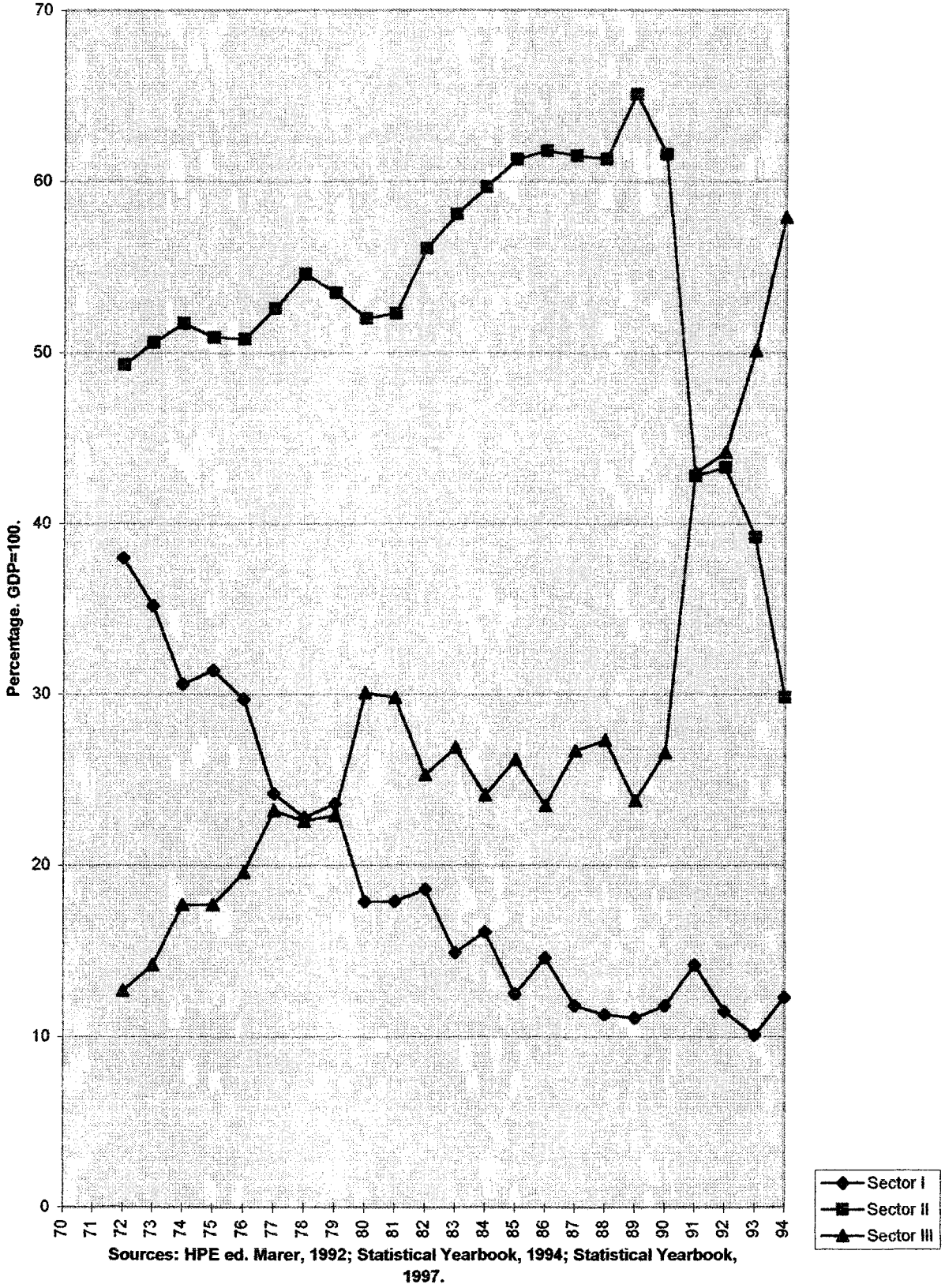
Sources. For 1970-1992 Maddison,1995, p.187. For 1993-94, EBRD, 1996a-b, in HOEN, 1998, p. 85, 111, for Hungary and Poland. For 1993-94, EBE vol.47, 1995, for Bulgary and Romania.

Graph 5. Five year slide mean of total GDP, 1970-1995. (b)



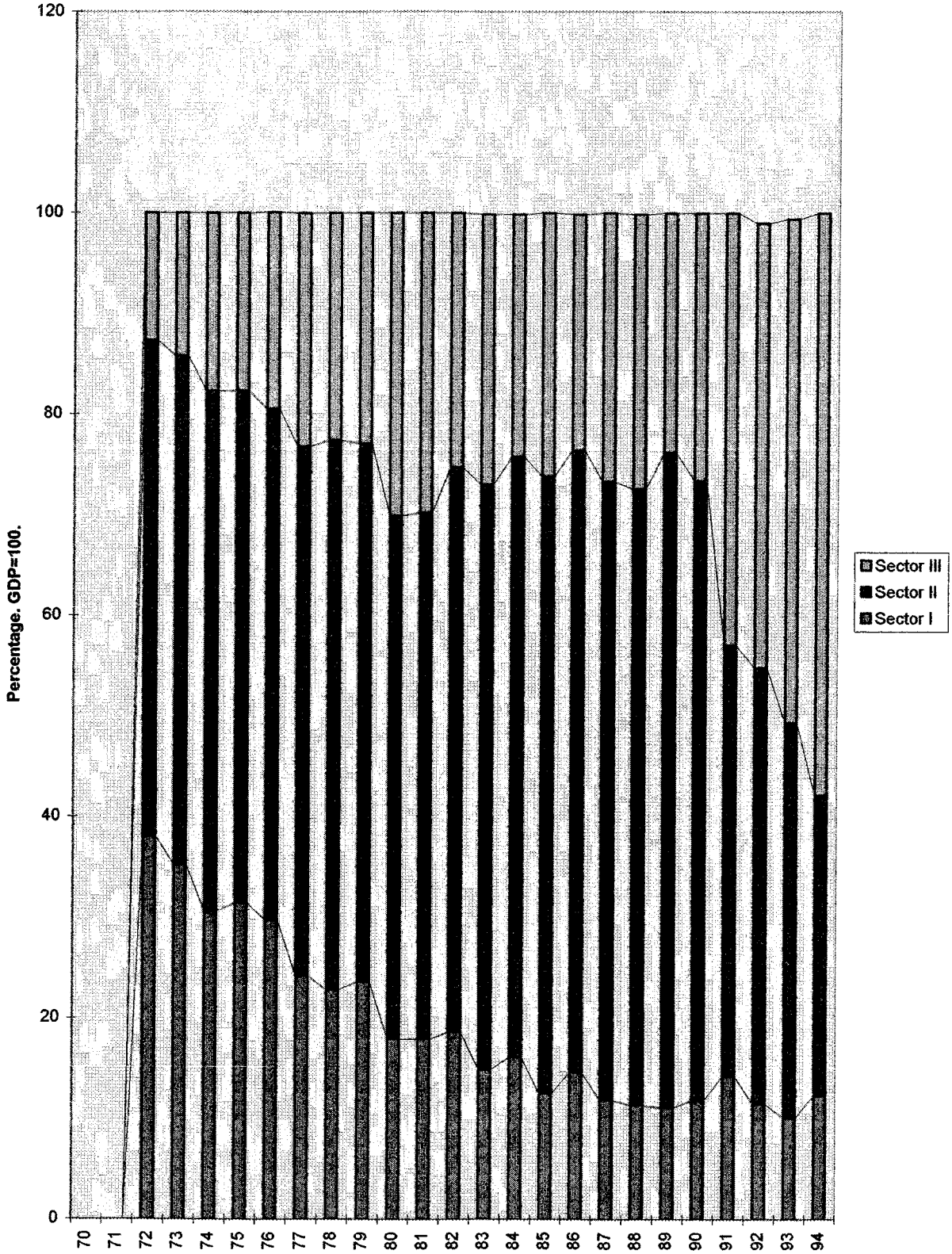
Sources: Maddison, 1995; ESE No.1, 1999; EBRD, 1996a-b (in Hoen,1998); EIU, 1998; OECD Ec. Surveys Bulgaria, 1997.

Graph 6. Annual basic sectoral shares of total GDP for Bulgaria, 1972-1994. (a)



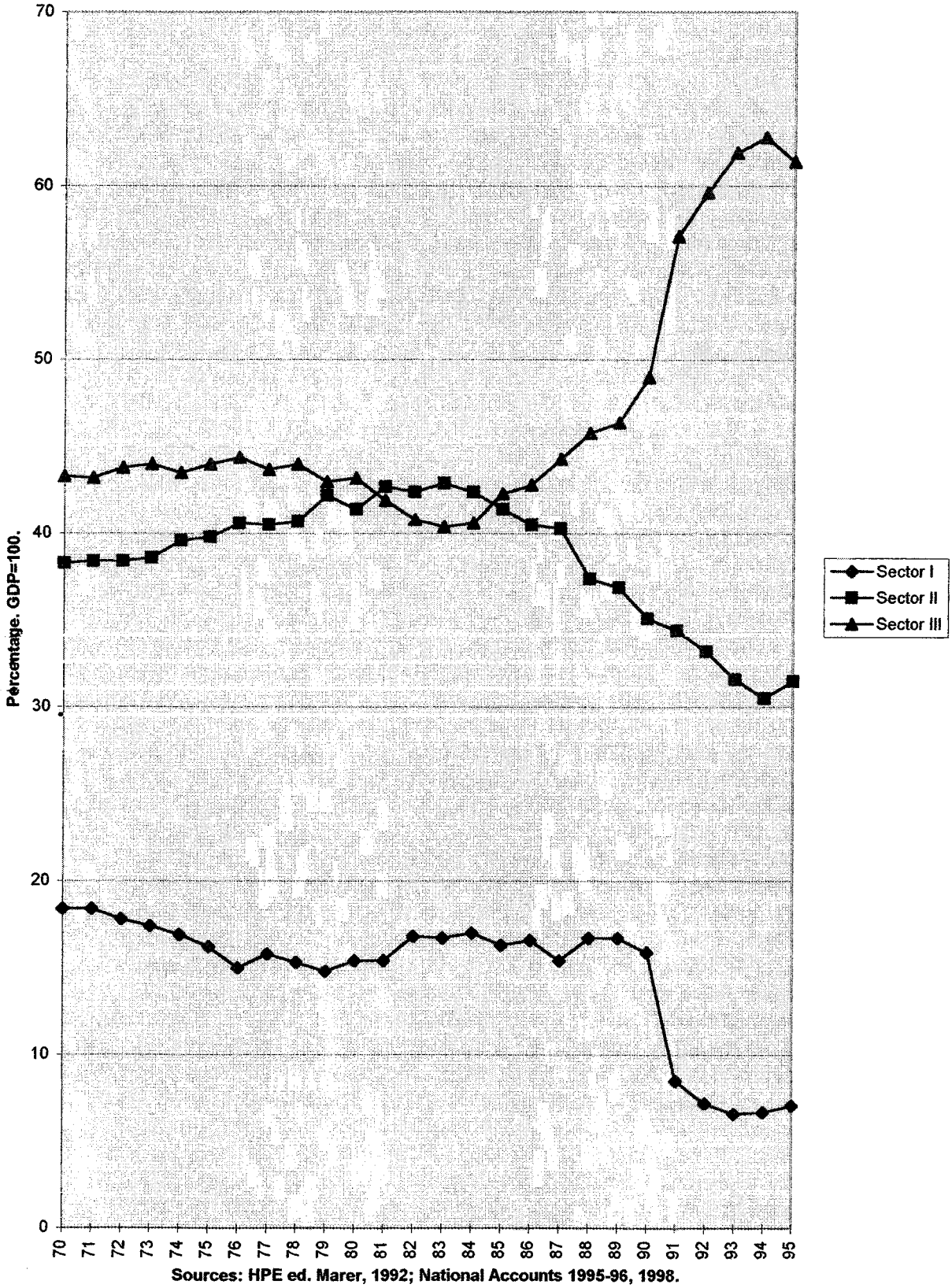
Sources: HPE ed. Marer, 1992; Statistical Yearbook, 1994; Statistical Yearbook, 1997.

Graph 6. Annual basic sectoral shares of total GDP for Bulgaria, 1972-1994. (b)



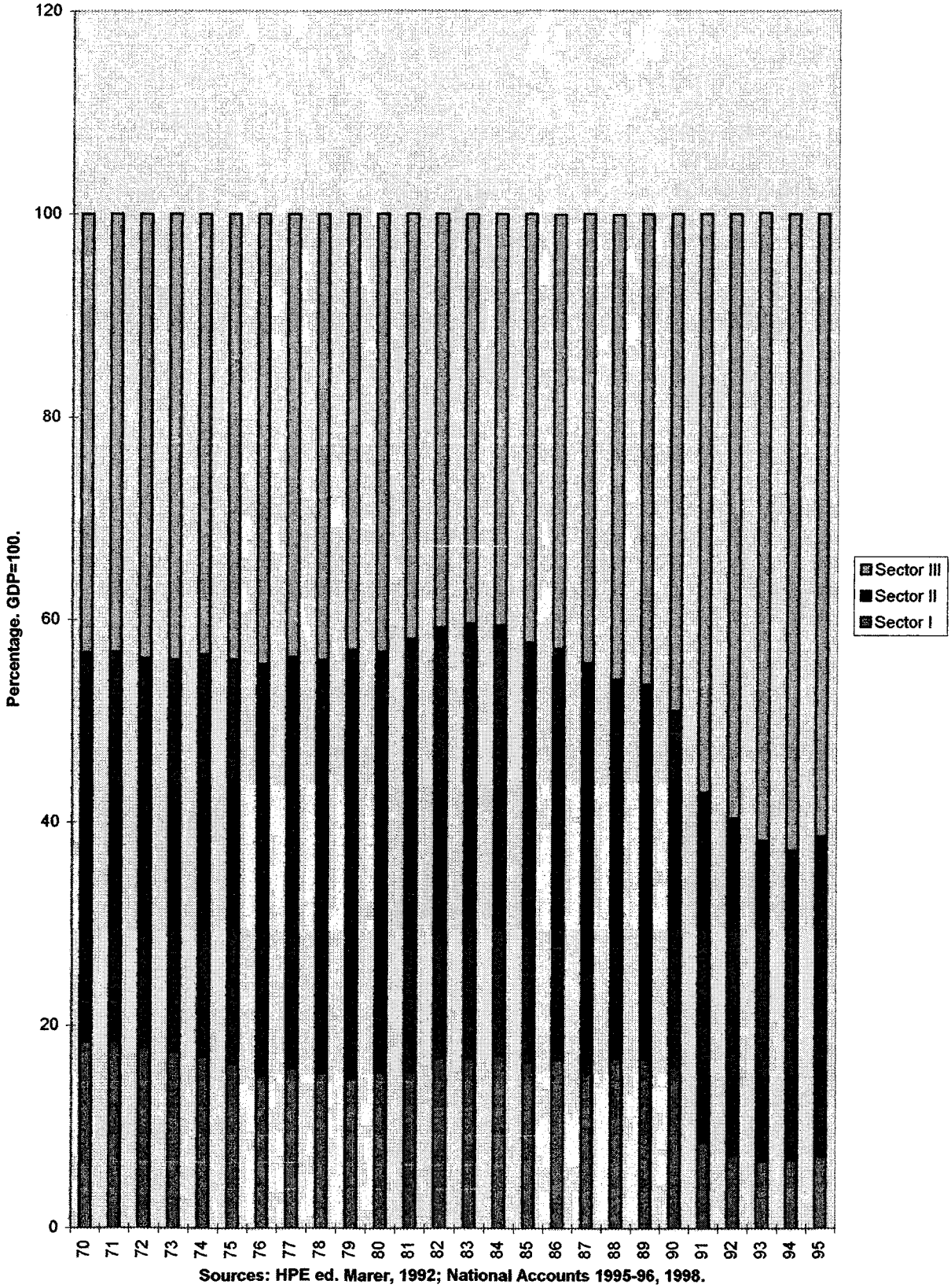
Sources: HPE ed. Marer, 1992; Statistical Yearbook, 1994; Statistical Yearbook, 1997.

Graph 7. Annual basic sectoral shares of total GDP for Hungary, 1970-1995 (a)



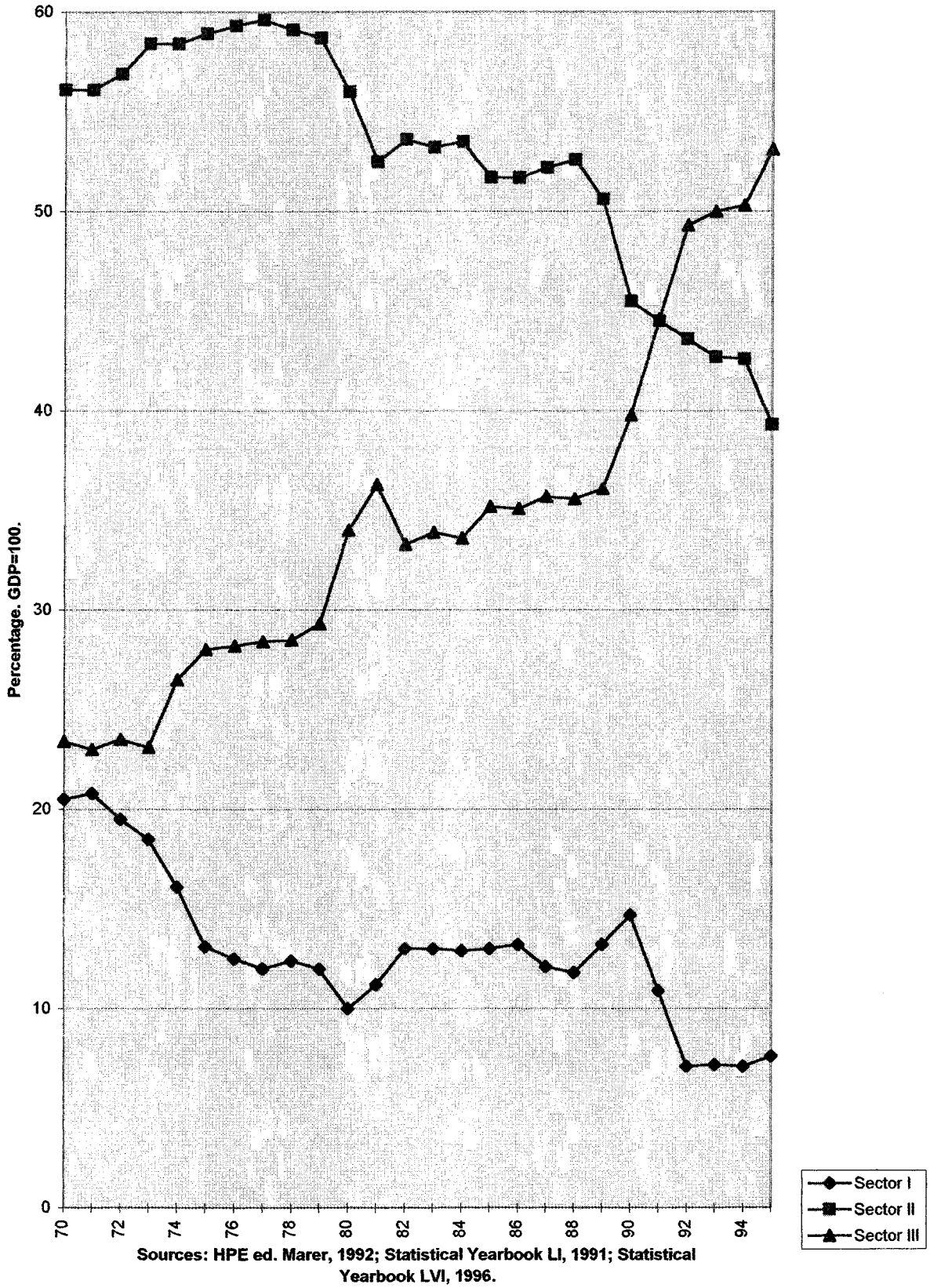
Sources: HPE ed. Marer, 1992; National Accounts 1995-96, 1998.

Graph 7. Annual basic sectoral shares of total GDP for Hungary, 1970-1995. (b)



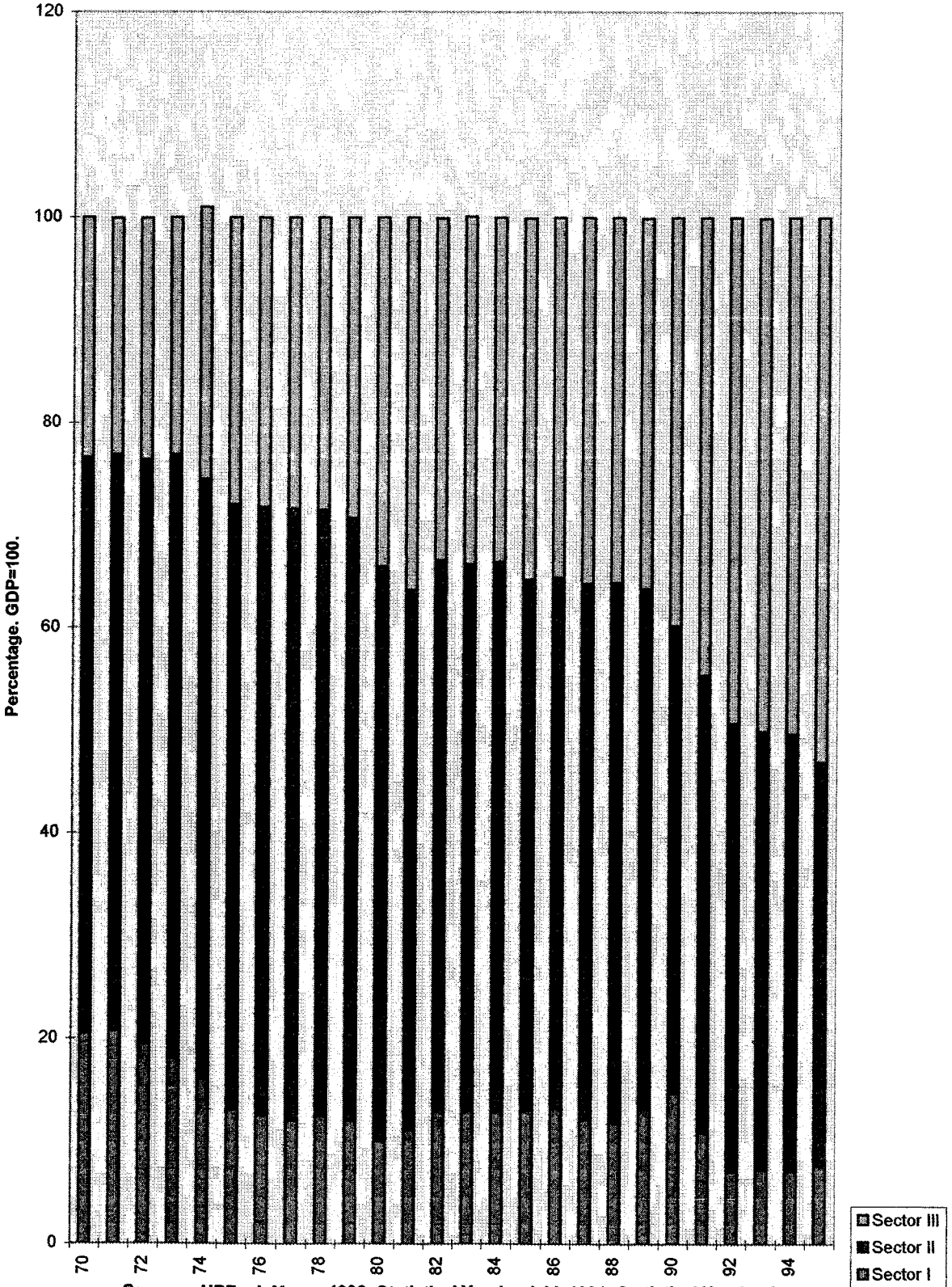
Sources: HPE ed. Marer, 1992; National Accounts 1995-96, 1998.

Graph 8. Annual basic sectoral shares of total GDP for Poland, 1970-1995. (a)



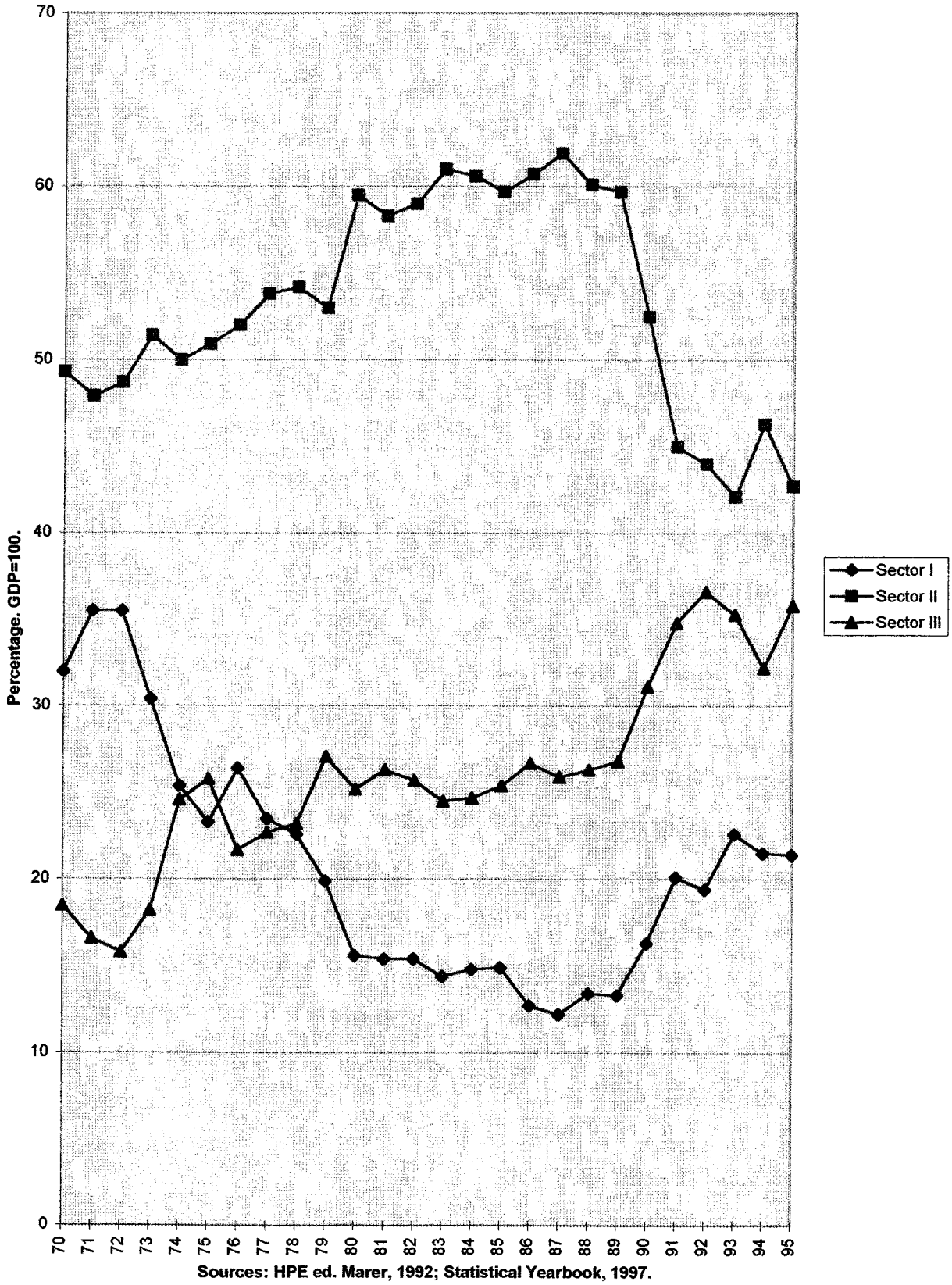
Sources: HPE ed. Marer, 1992; Statistical Yearbook LI, 1991; Statistical Yearbook LVI, 1996.

Graph 8. Annual basic sectoral shares of total GDP for Poland, 1970-1995. (b)



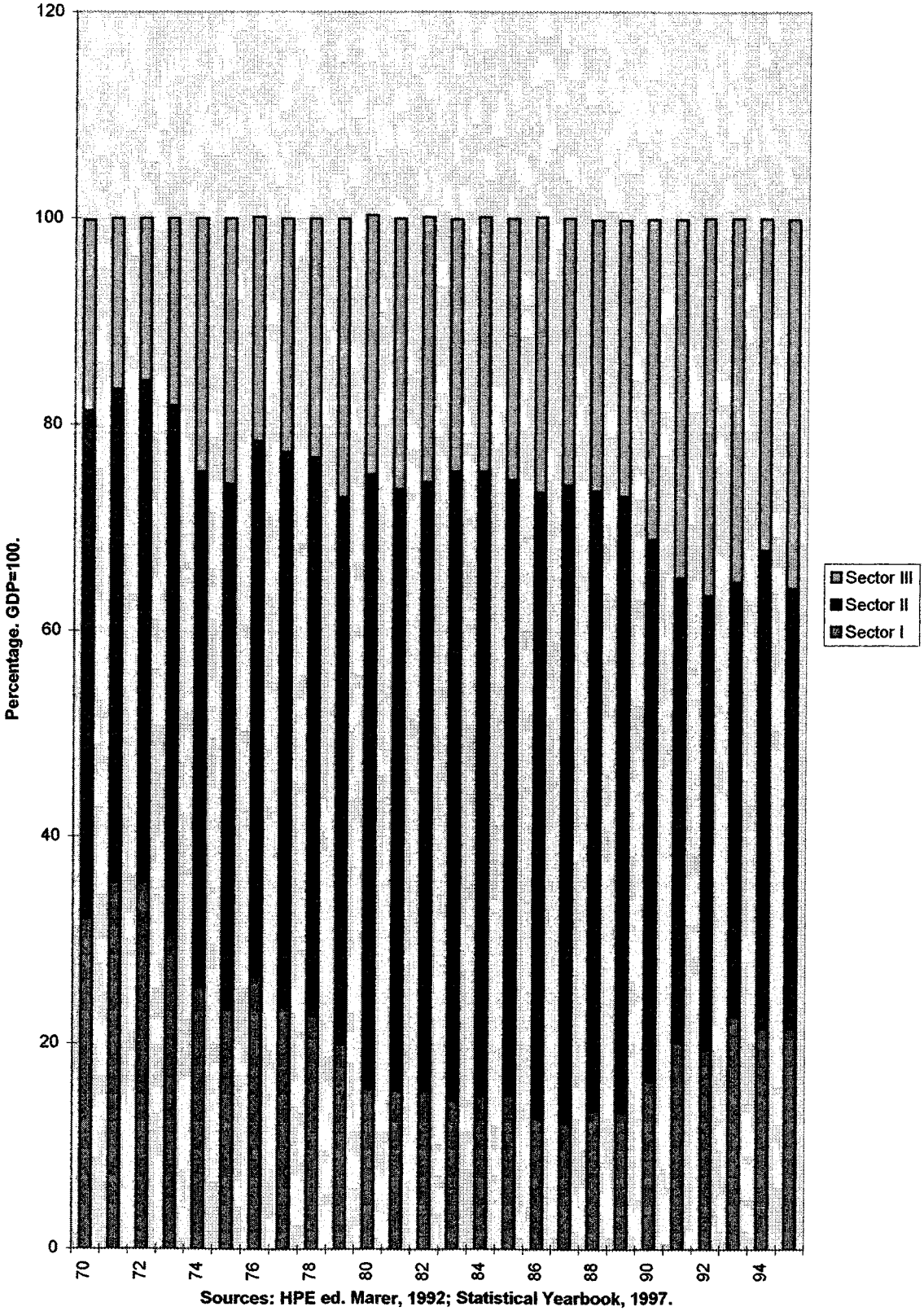
Sources: HPE ed. Marer, 1992; Statistical Yearbook LI, 1991; Statistical Yearbook LVI, 1996.

Graph 9. Annual basic sectoral shares of total GDP for Romania, 1970-1995. (a)



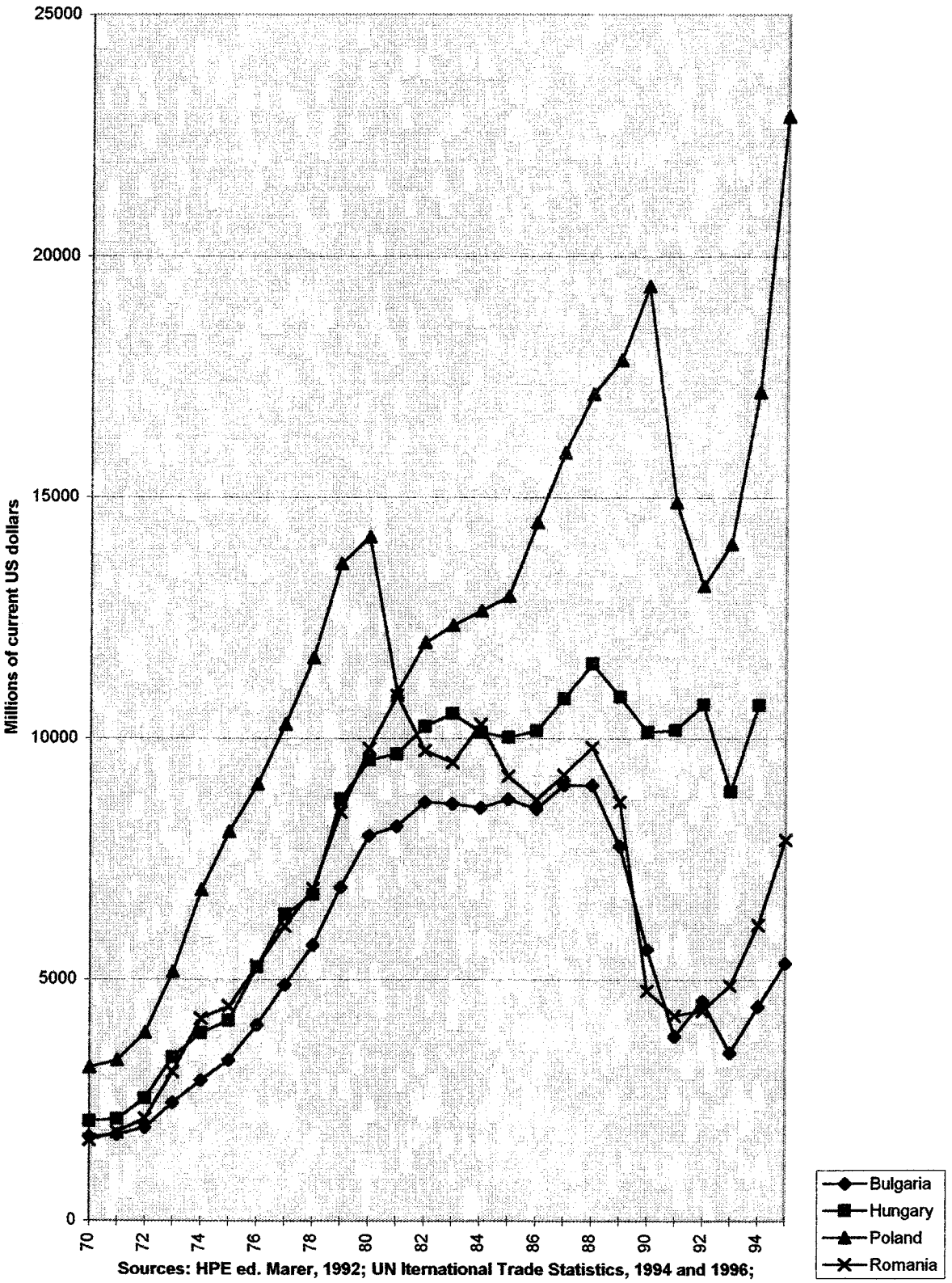
Sources: HPE ed. Marer, 1992; Statistical Yearbook, 1997.

Graph 9. Annual basic sectoral shares of total GDP for Romania, 1970-1995. (b)



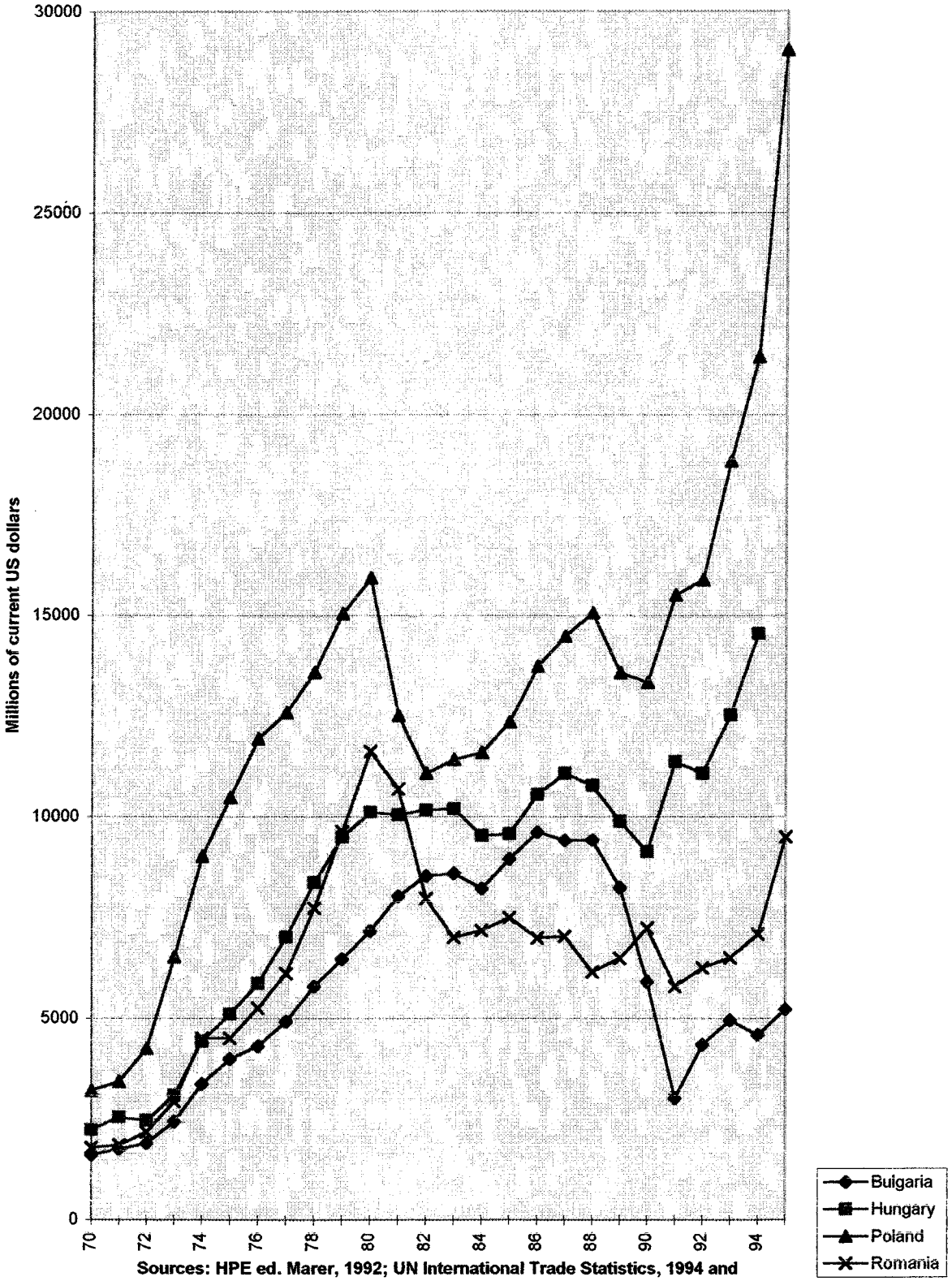
Sources: HPE ed. Marer, 1992; Statistical Yearbook, 1997.

Graph 10. Annual physical volume of exports, 1970-1995.



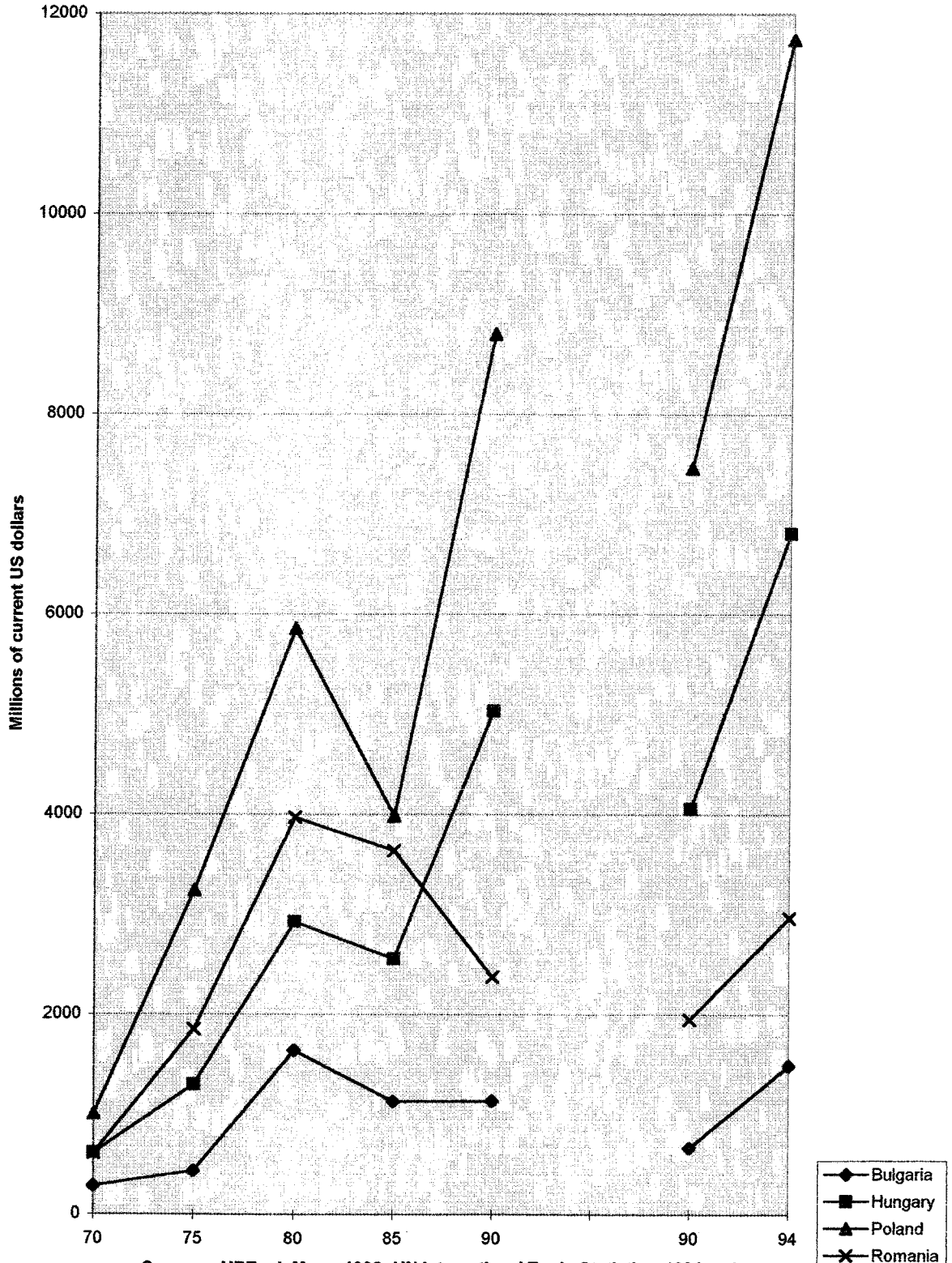
Sources: HPE ed. Marer, 1992; UN International Trade Statistics, 1994 and 1996; Rom. Foreign Trade Statistics, 1997; EIU Poland, 1998; OECD Ec. Surveys Bulgaria, 1997.

Graph 11. Annual physical volume of imports, 1970-1995.



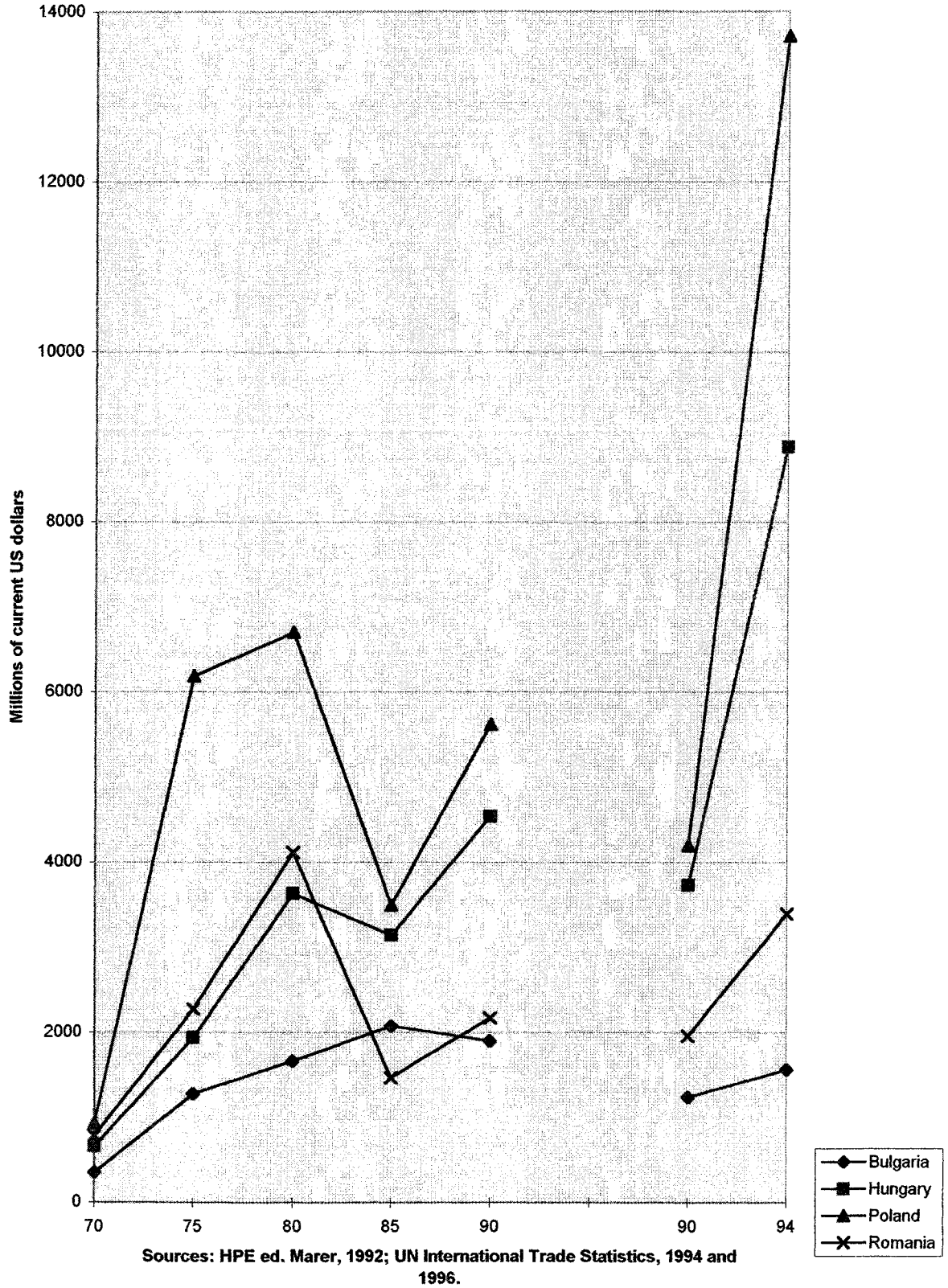
Sources: HPE ed. Marer, 1992; UN International Trade Statistics, 1994 and 1996; Rom. Foreign Trade Statistics, 1997; EIU Poland, 1998; OECD Ec. Surveys Bulgaria, 1997.

Graph 12. Exports to developed countries, 1970-1990, and to EU in 1990 and 1994.



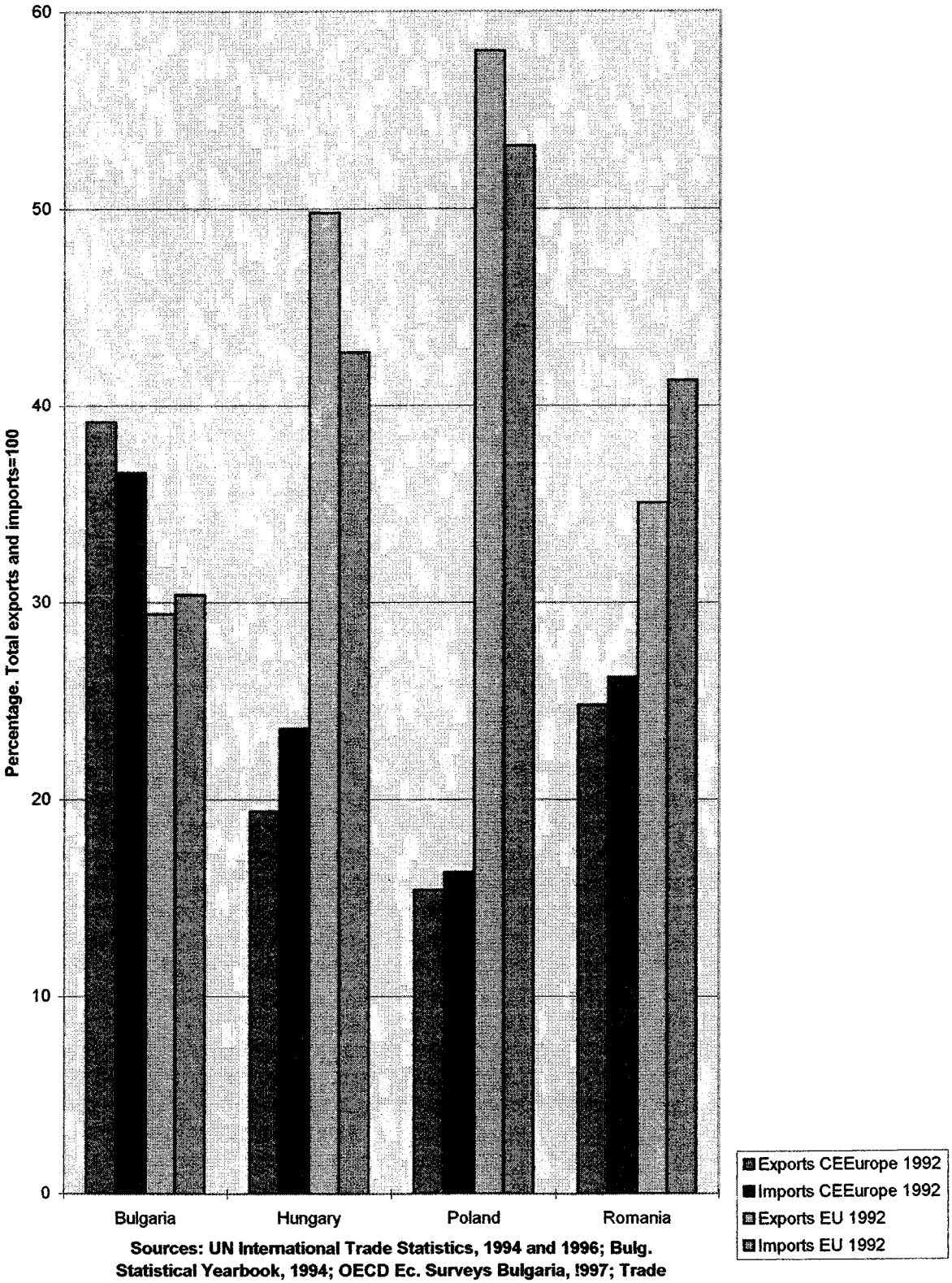
Sources: HPE ed. Marer,1992; UN International Trade Statistics, 1994 and 1996.

Graph 13. Imports from developed countries, 1970-1990, and from EU in 1990 and 1994.



Sources: HPE ed. Marer, 1992; UN International Trade Statistics, 1994 and 1996.

Graph 14. Shares from total foreign trade by 1992.



Sources: UN International Trade Statistics, 1994 and 1996; Bulg. Statistical Yearbook, 1994; OECD Ec. Surveys Bulgaria, !997; Trade Yearbooks Poland, 1996; Yearbook of Ec. Statistics 1992 Hungary, 1994; Romanian Statistical Yearbook, 1997.

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