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Editorial introduction: Cliometrics of transition

The New Economic History (a term proposed by Jonathan Hughes) or Cliometrics (coined by Stanley Reiter), meaning literally the *measurement of history*, is of very recent origin. The first to claim involvement in it were Conrad & Meyer in 1957 and 1958.

The birth of cliometrics amounts to a revolution, a total break with traditional economic history. A defender of the new school as Robert Fogel perceives a clear continuity between old and new economic history. What is certain is that economic history has assigned an increasingly important position to theory since the end of the 1950s. It also used increasingly rigorous statistical and econometric analysis for the simple reason that a fair number of the problems that remain unsolved in economic history are such that the only intellectually satisfactory answers are quantitative by definition.

Cliometrics does not concern economic history in the limited, technical meaning of the term. It modifies historical research in general. It represents the quantitative projection of social sciences in the past. For example, the question of knowing whether slavery benefited the United States before the Civil War or not, or whether the railways had substantial effects on the development of the US economy is as important for general history as for economic history and will necessarily weigh on any interpretation or appraisal (anthropological, legal, political, sociological, psychological, etc.) of the course of American history.

Furthermore cliometrics challenges one of the basic hypotheses of the idealistic school that history can never provide scientific proof as it is never possible to subject to experiment historical events that are by definition unique. It replies, that on the contrary, it is possible – at least in suitable cases – to construct a fictitious (contra-factual) situation that can be used to measure the deviation between what actually happened and what could have happened under different circumstances. This methodological principle, that is to say the measurement of the influence of a factor on a development by using the difference between the development actually observed and the hypothetical development that would have been observed if the factor in question had not existed, is perhaps, along with the historical econometrics of historical data series, the most important contribution of cliometrics for researchers in social science in general and historians in particular.

Fogel defined the methodological features of cliometrics. He considers it fundamental that cliometrics should lay stress on measurements and that it should recognise the existence of close links between measurement and the-

ory. There is no doubt that the distinguishing feature of the new school is the second characteristic and not the first. Indeed unless it is accompanied by statistical and/or econometric processing and systematic quantitative analysis, measurement is just another form of narrative history. It is true that it replaces words by figures but it does not bring in any new factors. In contrast cliometrics is innovative when it is used to attempt to formulate all the explanations of past economic development in terms of valid hypothetico-deductive models. In other words the essential characteristic of cliometrics is the use of these hypothetico-deductive models that call on the closest econometric techniques with the aim of establishing the interaction between variables in a given situation in mathematical form. This generally consists of constructing a model – of general or partial equilibrium – that represents the various components of the economic evolution in question and showing the way in which they interact. Williamson's general equilibrium model is a key reference here. Correlations and/or causalities can thus be established to measure the relative importance of each over a given period of time.

So far hypothetico-deductive models have mainly been used to determine the effects of innovations, institutions and industrial processes on growth and economic development. As there are no records stating what would have happened if the innovations in question had not occurred or if the factors involved had not been present, this can only be found out by drawing up a hypothetical model used for deducing a fictitious situation, that is to say the situation as it would have been in the absence of the circumstances in question. It is true that the use of propositions contrasting with the facts is not new in itself. Such propositions are implicitly involved in a whole series of judgements, some economic and others not. What would have happened, for example, if there had been opposition to Hitler's remilitarisation of the Rhineland in 1936?

The use of propositions contrary to the facts has not escaped criticism. Many scientists still consider today that the use of hypotheses that cannot be verified does not produce history but quasi-history. Furthermore the results obtained by the most elaborate cliometric applications have been less decisive than many cliometrics' specialists had hoped for. Critics are doubtless right to conclude that economic analysis in itself, with the use of econometric tools, is unable to provide causal explanations for the process and structure of change and development. There appear to be non-systematic breaks in normal economic life (wars, bad harvests, collective hysteria during stock market crashes, etc.) that require overall analysis but that are too frequently considered as extrinsic and abandoned in favour of an a priori formulation of theoretical suppositions.

Nevertheless in spite of the disappointments resulting from some of its more extreme demonstrations, cliometrics also has its successes together with continuous theoretical progress. The risk would obviously be that of allowing economic theory to neglect a whole body of empirical documentation that can enrich our knowledge of the reality of economic life. Conversely theory can

help to bring out certain constants and only mastery of theory makes it possible to distinguish between the regular and the irregular, between the foreseeable and the unforeseeable.

At the present stage the main achievement of cliometrics has been to slowly but surely establish a solid set of economic analyses of historical evolution by means of measurement and theory. Nothing can now replace rigorous statistical and econometric analysis based on systematically ordered data. Impressionistic judgements supported by doubtful figures and fallacious methods whose inadequacies are padded by subjective impressions have now lost all credibility with serious, honest scientists. Economic history in particular should cease to be a story illustrating material life during different periods with facts and become a systematic attempt to provide answers to specific questions. By extension the more the quest for facts is dominated by the conception of the problems, the more research work will address what forms the true function of economic history in the social sciences. This change of intellectual orientation, of cliometric reformulation, can thus reach associated disciplines (law, sociology, political science, geography, etc.) and engender similar changes. Indeed the most vigorous new trend in the social sciences is, without a doubt, the preoccupation with quantitative and theoretical aspects. It is the feature that best distinguishes the concepts of our decade from those current from after World War 2 until the 1980s. Everybody is ready to agree to this – even the most literary of our colleagues. There is nothing surprising about this interest. One of the characteristic features of today's younger generation is most certainly that its intellectual training is much more deeply marked by science and the scientific spirit than that of the generations that preceded us. It is therefore not surprising that young scientists should have lost patience with regard to the tentative approach of traditional historiography and have sought to build their work on foundations that are less artisanal.

The social sciences are thus becoming much more elaborate technically and it is difficult to believe that a reversal of the trend might occur. However, it is clear that many social scientists have not yet accepted the new trends aimed at using more elaborate methodology and clear concepts conforming to new norms in order to develop a truly scientific human and social science. This special issue on Cliometrics of Transition is a belief in these statements.

A quarter of a century has passed since the beginning of transition from centrally planned to market economies in Central Europe. Yet, post-Soviet economies still struggle with their past. Other transitions have taken many more decades but there is always a part of the globe where they have not reached their final stage. Cliometrics provides an additional insight into the evolution of institutions, customs, constraints, opportunities, failures and successes. In this volume, the authors elucidate various aspects of transitions. Ralph Hippe shows how governments affected the invention, adoption as well as the dissemination of the printing press and therefore how they triggered the long-run transition

from the low-level of knowledge to the current explosion of knowledge in the West. The Great Divergence may have also originated due to the different impact of the printing press on the production of knowledge in Europe and Asia. Faustine Perrin investigates the long-run relationship between gender inequality and economic growth. Gender equality contributes to economic growth through the distribution of roles within the households. A whole variety of factors closely related to gender equality explains the origins of human capital accumulation and the demographic transition. Claude Diebolt presents one of the cornerstones of the conceptual transition of economic history: Jeffrey Williamson's contribution to the development of cliometrics. It was the general equilibrium approach that allowed for the application of the most celebrated method inside the cliometric toolbox, namely the counterfactual analysis. Ilaria Petrarca and Roberto Ricciuti test the impact of political and economic liberalisation on Central European economies. Interestingly, the authors do not ignore the institutional background, showing that institutional variables might in fact be incorporated into the general equilibrium framework. Jacek Wallusch shows the persistence of technological underdevelopment in Poland. For the last 90 years the stock of knowledge has repeatedly returned to its long-run average. Even after the accession to the European Union the danger of returning to the slower increase of the stock of knowledge is still present.

Claude Diebolt and Jacek Wallusch