Institutions and Economic Performance: An Overview of Empirical Research with the Main Focus on Transition Economies

Adnan Efendic and Geoff Pugh

Abstract

The New Institutional Economics integrates the theory of institutions into mainstream economics. Institutions are formally and informally the "rules of the game" in society. As such, institutions structure economic activity and influence its outcomes at both micro and macro levels. This paper reviews the empirical literature, focussing on its relevance to transitional economies. We conclude that institutions matter profoundly for economic growth and development. However, although empirical research has increased understanding of the role of institutions in the economy, many questions remain open, especially for transition economies. Knowledge gaps that invite further investigation include: transmission channels between institutions and national output; the issue of mutual endogeneity between institutions and economic growth; the structure and size of the institutional framework and its influence on economic performance; and the links between success in integration with the EU of transition economies, financial support from the EU and the quality of institutions.

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1. Introduction

The New Institutional Economics contributes to explaining economic growth and development by considering not only standard factors of production but also institutions. Neo-classical theory assumes that the institutional framework within which markets operate exists and operates well. However, both institutional theory and the recent experience of transitional economies remind us that *market-promoting institutions cannot be taken for granted*, neither at the macro level of the political and legal systems which, together with social norms such as trust and reciprocity, determine the efficiency - even the possibility - of exchange, hence of all market relations and national economic growth, nor at the micro level, where laws, social norms and organisations influence the efficiency of markets in goods and services, labour and capital. Many empirical studies explore the role of institutions in the economy, including some that are focused on transition countries (TCs). Researchers apply a whole range of methodologies, each of which has particular strengths and weaknesses. However, a common conclusion of empirical research is that *institutions do matter in explaining economic differences between countries*.

The following sections present the theoretical background, discuss the empirical research in general and on TCs in particular, discuss methodological problems and knowledge gaps in the literature, and finally offer some concluding thoughts and observations.

2. Institutions and economic performance – the theoretical background

The New Institutional Economics integrates the theory of institutions into mainstream economics. Institutions are the

*Efendic : University of Sarajevo
School of Economics and Business,
Trg Oslobođenja 1, 71000 Sarajevo, Bosnia & Herzegovina
Phone: +387 (0)33 275 900
Fax: +387 (0)33 275 994

*Pugh: Staffordshire University
E-mail: G.T.Pugh@staffs.ac.uk

“rules of the game” in society, they may be formal or informal, and they determine both the costs of production and the efficiency with which markets operate. Neoclassical theory explains the functioning of the market but on the assumption that transactions do not impose costs. However, institutions should be included in economic models to account adequately for transactions costs (North, 2006): for example, law, non-corrupt institutions of contract enforcement, and norms of trust and reciprocity enable transactions to take place that otherwise would be too costly – even impossible – to accomplish. Another example is the institution of money, without which market relations would be limited to costly barter transactions. Consequently, economic models – for example, the production function approach to economic growth – omit an important explanatory variable if they do not account for institutional differences across countries (Gwartney et al. 2004).

Market economies can not work well without efficient non-market institutions. Which institutions matter for economic growth is less known. In spite of the fact that the institutional framework is not uniquely determined between different countries, Rodrik (1999) differentiates five general types of market-supporting institutions relevant to economic growth: property rights institutions; regulatory institutions; institutions for macroeconomic stabilisation; institutions for social insurance; and, finally, institutions of conflict management.

The channels through which institutions affect income are also still largely unexplored. However, some empirical research suggests that the largest impact of institutions is through their effects on factor productivity (Eicher et al. 2006). The quality of a country's institutions substantially determines its level of human and physical capital, incentives for investment, and the productivity of its resources (Gwartney et al. 2004).

A theoretical explanation of institutional change and economic performance in TCs has been advanced by Hare (2001). He argues that an adequate institutional framework is an important precondition for success in the transition process and sustained economic growth. At the first stage of transition, huge institutional reform is needed. Unfortunately, mainstream economic theory did not at first recognize the importance of the institutional framework. It was assumed that the necessary institutional structure would be established rapidly. This proved to be incorrect. Instead, it became apparent that if a country lacks important institutions, or if its institutions operate in a manner not conducive to market relations, then business activity and national economic performance are impaired or even devastated.

Empirical work in institutional economics is not a straightforward task. It is important to know the historical background of the institutional framework. In addition, researchers should explain the level of abstraction at which they operate. For example, cross-country comparisons involve a high level of abstraction, while a case study approach focusing on the concrete features of specific examples involves relatively little. Finally, it is very important to investigate the effects of institutional change on the economic environment as well as the potential causes of institutional change (Alston, 1996).

Empirical researchers that focus on the role of institutions in explaining economic growth and economic differences among countries include Scully 1988; Moers, 1999; Harvylyshyn et al. 2000; Sachs, 2001; Rodrik et al. 2002; Asane et al. 2003; Gwartney et al. 2004; Chousa et al. 2005a and 2005b; Redek et al. 2005; and Eicher et al. 2006. A common characteristic of the conclusions reached by all of these papers is that institutions are an important factor in explaining differences in economic development between countries. In the following subsections we present some representative research findings.

3. *Institutions and economic performance in empirical research*

An interesting paper is Rodrik, et al. (2002) with the striking title: “Institutions Rule: The Primacy of Institutions over Integration and Geography in Economic Development”. The authors find that the quality of institutions is the most important factor in explaining differences in economic performance between countries. The analysis includes samples of up to 140 countries and estimates the following regression model (subscript i indexes countries $1, \dots, N$; and $\ln$ denotes natural logarithm):

$$\ln y_i = \mu + \alpha \text{INST}_i + \beta \text{INT}_i + \gamma \text{GEO}_i + \varepsilon_i \quad (1)$$

Institutions are measured using variables that capture rule of law and protection of property rights (INST) according to the methodological approach of Kaufmann, Kraay and Zodio-Lobaton (2002, cited in Rodrik et al. 2002). The variable Integration (INT) is measured using two approaches – the ratio of trade/nominal GDP and trade/GDP estimated from a gravity model. Geography (GEO) is denoted as the distance from the equator. The final term is the standard error term (ε_i). The coefficients on Institutions, Integration and Geography all have the expected sign according to their economic explanation and they are all statistically significant (or very close to significant). The model explains more than 50 percent of between-country variation

in income. Countries with stronger institutions, more open economies and more distant from the equator are more likely to have higher levels of national income. The authors use a variety of alternative indicators to proxy geography, institutions and integration but they always find that *the quality of institutions is the main factor that explains income differences between countries*.

The New Institutional Economics assumes that it is necessary to 'restate the traditional production function' in empirical research (North, 2006). Some authors apply this approach using the output of institutions as an "additional factor of production" or include institutions as a "natural extension" of the production function (e.g. Assane et al. 2003; Gwartney et al. 2004; Redek et al. 2005; Eicher et al. 2006). For example, Assane et al. (2003) estimate the following regression model:

$$GDP_i = \beta_0 + \beta_1(ph.cap)_i + \beta_2(lab.gr)_i + \beta_3(hum.cap.for)_i + \beta_4(ecc.fr)_i + \beta_5(inst)_i + \beta_6(inst \cdot ecc.fr)_i + \varepsilon_i$$

(2)

The authors analyse a sample of 110 countries as well as sub-samples representing countries with different levels of development. The variables are: *ph.cap* - physical capital formation (output share of real investments); *lab.gr* - labor force growth (growth of the working-age population); *hum.cap.for* - human capital formation (human development index); *ecc.fr* - economic freedom (the socioeconomic liberty index). The institutional framework (*inst*) is represented by two variables. The first, *institutional efficiency*, is the unweighted average of nine indicators of government performance: the higher the value of institutional efficiency, the higher the "quality" of institutions. The second, *institutional quality*, is based on political risk ratings published in the *International Country Risk Guide*. Political risk is an unweighted average of 13 indicators of government performance. The results from estimating the model are significant for the whole sample as well as for two sub samples – less developed countries and medium developed countries. The model explains around 88 percent of national (i.e., between-country) variations in levels of income. The estimated coefficients suggest that human capital formation is the most important factor in explaining economic development among countries. Nevertheless, other variables are also very important in explaining economic development, including the institutional framework and institutional quality. In conclusion, they find that *a model with institutional variables is stronger in explaining economic growth than one without institutional variables*.

4. Institutions and economic performance in empirical research – the case of transition countries

After the first 'Mid Decade' of transition, interesting research emerged on economic performance and structural and institutional reform in transition economies. Sachs (2001) concludes that after the first five years of the transition process, rapid systematic transformation had been successful. Five years had been sufficient to establish the institutions of market economies and to achieve positive economic growth in some TCs. Sachs (2001) used the European Bank for Reconstruction and Development (EBRD) indices to measure the institutional performances of TCs in comparison with developed market economies. EBRD indices cover nine areas: large-scale privati-

zation; small-scale privatization; enterprise restructuring; price liberalization; trade and the foreign-exchange system; competition policy; banking reform; security markets; and legal rules on investment. Using those indices, he created an overall index of reform progress (IRP) as a simple sum of these sub-indices. He estimated two models:

$$GROWTH(1995)_i = \beta_0 + \beta_1(IRP)_i + \varepsilon_i$$

$$GROWTH(1989-1995)_i = \beta_0 + \beta_1(IRP)_i + \varepsilon_i$$

(3)

The estimated regressions suggest that both economic growth in the year 1995 as well as average annual growth in the period 1989-1995 are positively correlated with the overall reform progress. The estimated coefficients in both regressions are statistically significant and have the expected positive sign. Even though the success of TCs on average was positive after five years of transition, the author emphasizes that the success of those countries varies between the particular aspects of transition measured by the EBRD indices. The liberalization of the economy seems to be the most successful aspect of transition while the most difficult one was privatization, especially large-scale privatization. He also concludes that at the begin-

ning of the transformation process structural and institutional reforms examined together had produced ‘many losers, as well as winners’. Indeed, after more than fifteen years of transition, some countries still have problems in achieving their pre-transition level of development and obviously do not conform to the estimated model. Finally, the ‘simple sum’ of different structural, institutional and other indices as a proxy for overall success in the transition process may be questionable. A simple average does not tell us much about overall success, given that even one problematic area can impede the economic progress of a country.

Chousa et al. (2005a) developed a new formula to measure institutional efficiency using the shadow economy to reflect institutional efficiency/inefficiency:

$$I = \frac{1 - \left(\frac{H}{GDP} + \frac{B}{GDP} \right)}{\hat{H} / \hat{GDP}} \quad (4)$$

The variable H is the shadow economy, B is the volume of barter trade, and $\hat{H} / \hat{GDP}$ highlights the average indicator for the OECD economies. The main advantage of this indicator over the weighted indices is that here the “weights” are set by the market itself. The authors’ regression model is estimated from panel data compiled from 20 TCs over the period 1990-2000 (where i indexes countries $1, \dots, N$ and t indexes years $1, \dots, t$):

$$\ln(GDP)_{it} = \beta_1 \ln(INSTIT)_{it} + \beta_2 \ln(YEARS.COMM)_{it} + \beta_3 DEMOC.IND_{it} + \beta_4 FDI_{it} + \varepsilon_{it} \quad (5)$$

The independent variables are institutional efficiency (INSTIT), years under Communism (YEARS.COM) (to reflect the initial conditions of the reform process), democratization index (DEMOC.IND) and FDI inflow (FDI). The regression explains 92 percent of the variation of GDP as the dependent variable. The estimated coefficients from this model suggest that “good” institutions help transitional countries grow faster and to achieve conditional convergence. All of the independent variables in the regression make a significant contribution to economic growth, but the most important factor is “institutions”.

Finally, Redek et al. (2005) report panel analysis for 24 TCs over the period 1995-2002 in particular investigates the contribution of institutional quality to economic performance. Their maintained hypothesis is that better institutions mean better economic performance. Their index for institutional quality is obtained from the Heritage Foundation database. This index measures overall institutional quality by evaluating ten aspects of institutions: trade policy; fiscal burden of government; gov-

ernment intervention in the economy; monetary policy; capital flows and foreign investment; banking and finance; wages and prices; property rights; regulation; and informal market activity. Their estimated regression model is:

$$\ln Y_{it} = \beta_0 + \beta_1 INST_{it} + \beta_2 INSTlag(1)_{it} + \beta_3 INV_{it} + \beta_4 B.DEF_{it} + \beta_5 INFL_{it} + \beta_6 FDI_{it} + \varepsilon_{it} \quad (6)$$

where Y – GDP; INV , $B.DEF$, and FDI – respectively domestic investment, the budget deficit and foreign direct investment as a percentage of GDP; and $INFL$ – inflation. Specification without institutional variables yields poor results. However, after respecification to include institutions, the estimated model explains 51 percent of the variation of GDP (Y), while the estimated coefficients on the variables of interest are all highly significant and have the expected sign. In particular, the estimated coefficients reveal a strong output effect not only from current institutional quality (INST) but also from past institutional quality (INSTlag(1), the first lag of institutional quality). Overall, the results suggest that *the better the institutional quality, the higher the level of national output*. Moreover, both the quality of institutions and the speed of reform are important in explaining different economic outcomes in TCs.

5. Institutions and economic performance in empirical research – shortcomings and possible directions for future empirical analysis

A common conclusion of the presented studies is that institutional differences help us to understand differences in economic development between countries. Although institutions do not produce output, they do affect indirectly the level of output (Eicher et al. 2006).

The existing research implies that the quality of institutions may be measured using the following methodologies: institutional development indices, other relevant indicators, or questionnaires. Most research is based on existing institutional development indices that measure structural reform and institutional efficiency (Havrylyshyn, 2000; Sachs, 2001; Selowsky et al. 2001; Rodrik et al. 2002; Assane et al. 2003; Redek et al. 2005). Using indices such as the EBRD transition index, the Freedom House index, the Heritage Foundation index, the Indices of Economic Freedom, and the World Bank and Euro-money indices, researchers establish indices that capture the quality of the institutional framework. This ‘institutional index’ is then in-

cluded in econometric analysis, which is mainly implemented by ordinary least squares (OLS) methodology.

Even though this approach is predominant among empirical researchers, a potential shortcoming is the assumption that the institutional framework in different countries has the same structure and size. For example, institutions for macro-economic stabilisation (i.e. monetary policy institutions) may differ significantly among different countries. Four TCs have a Currency Board as their monetary regime that enables them to get a high rank in measurements of the efficiency of their monetary institutions. Yet, other transition countries have different monetary policy arrangements. Although the main institutional difference among transition countries may be the Currency Board regime, this issue is not considered in empirical research (Nenovsky et al. 2002). Moreover, the size of the institutional framework also varies considerably between TCs.

Institutional development indices are based on the judgement of outside experts and may be subjective and contain perception bias (Havrylyshyn, 2000). Instead, Chousa et al. (2005a) argue that the best reflection of institutional efficiency/inefficiency may be the shadow economy. The problem with this approach is that levels of grey economy 'acceptable' for different countries may vary. The other problem is that institutions are responsible for 'other' outputs that may not be best represented by the shadow economy. Finally, some authors (Brunetti et al. 1997) use existing surveys (e.g., the World Bank and EBRD *Business Environment and Enterprise Performance Survey*) and construct indicators for institutions using relevant questions. However, this approach is limited by problems generally associated with questionnaires, such as lack of relevant questions, observations, and sampling issues.

An unresolved problem that poses both conceptual and technical difficulties to researchers is the potential endogeneity of institutions and/or institutional development. The corresponding challenge is to measure the impact of institutions on income and growth while taking into account four possible outcomes with respect to causation: (1) institutions and growth (income) are uncorrelated; (2) better institutions cause higher economic growth; (3) higher economic growth causes better institutions; and (4) mutual or reverse causality between growth and institutions (i.e., better institutions favour growth while growth favours the development of good institutions).

To analyze different national institutional frameworks and the role of institutions in explaining differences among TCs, it may be important to take into consideration differences that exist with respect to the integration process with the EU. Some empirical research for TCs implies that the highest quality of

institutions and the best economic performances are shown mainly by TCs that are today members of the EU. Those TCs that are current EU members have received the highest level of financial support from the EU, which has been instrumental in improving the institutional framework. The possible problem of correlation between quality of institutions, success in integration with the EU and financial support from the EU is still unexplored.

6. Concluding remarks

Analysis of existing research implies that the quality of institutions may be measured using questionnaires, institutional development indices or other relevant indicators. Most research is based on existing institutional development indices, especially for TCs. However, in spite of different approaches to measuring institutional quality, the available empirical research on cross-country differences suggests that *institutions do matter for economic growth and development*.

Our short presentation of methodological differences in the empirical research suggests a number of persistent knowledge gaps and a corresponding need for additional research into the quality of institutions and their impact on the economy, especially for TCs. In particular, it would be instructive to extend and deepen analysis of the following areas: identification of the institutions that matter most for economic growth; interactions between institutions within different national institutional frameworks; transmission channels between institutions and national output; the structure and the size of the institutional framework and its corresponding influence on economic performance; causal relationships between the quality of institutions (institutional change and development) and income (economic growth and development); and the correlation between financial support from the EU, quality of institutions and economic development in TCs.

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