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Comment on: Ekkehard Ernst, “Financial Systems, Industrial Relations, and Industry Specialization – An Econometric Analysis of Institutional Complementarities”

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1. Introduction

Ekkehard Ernst examines in his paper the relationship between certain economic institutions – the characteristics of different financial systems and the structure of industrial relations – and their joint impact on industry growth and hence on the sectoral (manufacturing) specialization of a country. He finds econometrically that certain institutional combinations foster the growth of a particular type of industry in the countries featuring these institutional combinations. I want to discuss some aspects of the methodology and then the future research agenda for this strand of literature. Before I turn to this, I will briefly summarize the main results of the article in the subsequent section.

2. Summary of the Main Results

Ernst introduces first the concept of institutional complementarities as the result of market interactions and institutional constraints. The adoption of one institutional arrangement on one particular market – e.g., employment protection on the labor market – increases or decreases the marginal benefits of adopting another institutional arrangement on another market – e.g., minority stockholder protection on the financial market. This depends on the technological characteristics of an industry: Certain institutional combinations favor industries whose underlying technologies need flexible relations with the input providers (workforce, finance etc.), others favor industries whose underlying technologies need stable relations. Thus, the main hypothesis of the literature on institutional complementarities states that a country’s comparative technological advantage depends on its institutional environment, more precisely on the complementarities between its economic institutions.

Ernst proceeds with testing this hypothesis. In a first step, he groups 27

industries at the 3 – and 4 digit ISIC level in three categories – high-skill, highly bank financed and highly equity financed. He clusters 19 OECD countries following their institutional arrangements on the labor and the financial market into four groups for each industry category. Then he ranks the four groups following the average industry category growth rate. The first result which emerges is that industries grow faster in general in countries where labor and finance institutions are coherent, i.e. where institutional arrangements on labor and financial markets support stable relations with both finance and labor providers. They grow more slowly where one set of institutions favors stable and the other flexible relations, i.e. where institutions are incoherent. The second result is that industries perform better in countries where institutions are coherent and where the industry-specific relationship demands to finance and labor providers are supported by national institutional frameworks, e.g. Germany features high growth of high-skill industries.

In a second step, Ernst confirms these results by performing an econometric analysis using multivariate regressions with interactive terms. This analysis yields the result that in addition to the generalization of the two results above, the institutional characteristics of financial and labor markets taken together (the interactive terms) matter more for industry growth and hence economic specialization than the individual arrangements. This can be understood as an empirical validation of the theory of institutional complementarities.

3. Comments and Discussion

Ernst's finding is important, because approaches focusing on institutional complementarities have up to now provided little econometric evidence in favor of their claims, while approaches focusing on the impact of one set of institutions on growth have provided a lot of yet inconclusive evidence. The studies by Porter (1990), mainly based on trade data, and by Casper et al. (1999), based on patent data, seem to corroborate the impact of institutions on industry growth and economic specialization. The drawback of Ernst's approach against the complementarity approach is that he does not take account of product market institutions and the training system, two elements considered important for economic specialization; by comparison with the single institution-approaches it explains by design only industry growth, not aggregate growth. We do not know how institutional complementarities affect aggregate growth.

Next, I want to comment briefly on some methodological issues and then point out some tentative conclusions and directions for further research.

The main difficulty with performing an econometric analysis to identify the impact of institutions on industry growth is grouping industries according to their differing relational or institutional needs. One must either find proxies for

the relational needs – such as Ernst does – or group industries based on their underlying technological characteristics. Ernst's proxies follow the suggestions by Rajan and Zingales (1998) – industries are classified as high-skill, equity- or bank based following the level of the actual input factor in the country supposed to provide the best institutional framework for this particular input factor. E.g., an industry is classified as being high-skill – and thus in need of stable relations – when it has a high share of skilled workers in Germany; it is classified as equity based, when it uses more external finance than other industries in the U.S.A.

However, there may be functional equivalents in other countries, e.g. a combination of labor, financial and product market regulation might have the same beneficial impact on an industry as an institutional arrangement fostering external finance. This could be a reason why in the sensitivity analysis the exclusion of Japan and U.S.A from the regression causes some problems. The second way for the industry classification – using underlying technologies – might introduce artificial variance in the econometric analysis. The problem of both methods, as Ernst himself states, is that the official statistical industry classification index does not reflect underlying relational needs or technologies – various types of technology may co-exist in any given industry, the reported results could thus refer to statistical artefacts.

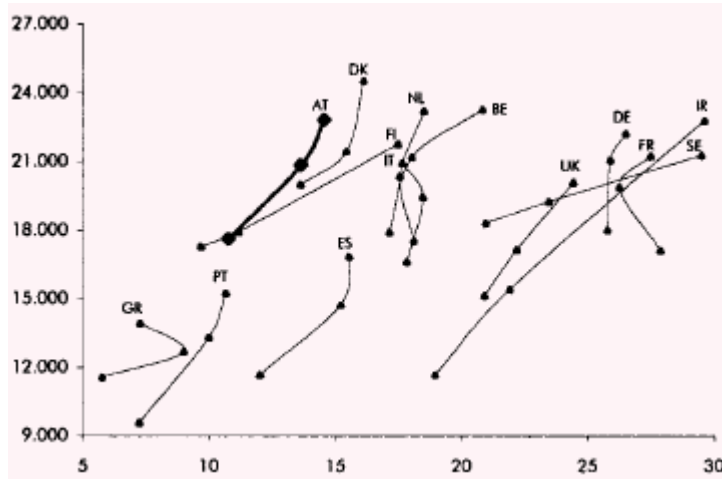
Another issue with analyzing institutional complementarities and their economic impact econometrically may be the direction of causality. Institutions influence industry growth, but especially over a long time span the representatives of industry have the possibility to influence the political process shaping a country's institutional framework. As always in institutional analysis, the analysis may by focusing on formal institutions (laws etc.) divert from the importance of informal institutions such as culture, or elements of culture like business customs, behavior-guiding values (German “communitaristic values vs. Anglo-Saxon “individualistic” values) etc.

Turning to the impact of Ernst's finding on economics and economic policy, the literature on institutional complementarities often seems to be more interested in the political economy aspect of institutional evolution, i.e. in the question of convergence or divergence of political-economic systems. However, the purely economic side of the discussion, the link to aggregate growth, seems to be particularly interesting against the background of economic stagnation in the eurozone and TFPtotal factor productivity)-trends falling in some countries and rising in others. What is the impact of institutional complementarities on aggregate growth, i.e. how could we establish a link between Ernst's findings at the meso-level and the macro-level?

There is a growing literature on industrial specialization and aggregate growth. Peneder (2002) for instance suggests that specialization in technology-intensive sectors is positive for aggregate growth via knowledge spillovers to other industries. Chart 1 plots the share of technology intensive industries in

GDP on the horizontal axis against the level of GDP per head in purchasing power parities in the years 1985, 1992 and 1998 on the vertical axis. This intuitive association between industrial structure and aggregate growth is also found econometrically.

Chart1: Share of Technology Intensive Industries and Level of GDP 1985, 1992, 1998



Source: Peneder, 2001, p. 742.

To link Ernst's findings to this, one has to establish a relationship between the relational needs of industries (stable vs. flexible relations) and their technological intensity. Hall and Soskice (2001) describe the relational needs of industries as the needs of incremental vs. radical innovation (the former benefiting from stable relations with input providers, the latter from flexible ones). Up to now, no such relationship between incremental and radical innovation on the one hand and technological intensity has been established empirically – a promising avenue for further research.

The link to the aggregate level becomes further blurred by only looking at the manufacturing sector. The services sector accounts for over 60% of GDP in most developed countries, yet the relational needs of services sectors are not fully known nor are there comprehensive empirical studies of the impact of institutional arrangements on individual services sectors.

Linking institutional complementarities to aggregate growth would obviously bear considerable policy relevance. So far, the only finding for economic policy is that institutions must be coherent – combinations of, e.g., flexible labor markets and bank-based financial markets do not seem to work well. This is

already per se very interesting for the current European economic reform discussion. National institutional frameworks should aim for coherence, and piecemeal reform of individual institutional arrangements may have unintended consequences by damaging a country's institutional comparative advantage. Should there be a link to aggregate growth, the transitional path to different institutional arrangement will also constitute a major area for research – how should change happen, by gradual steps or shock therapy? Kitschelt's (1991) argument of technological cycles which fit different countries' institutional frameworks at different times implies prudence in the face of any major institutional overhaul.

In the meantime, a more modest further research agenda would in addition to labor and financial markets look at product markets, as Ernst suggests, to strengthen the empirical evidence in favor of the presence of institutional complementarities. The latter's link to aggregate growth should, however, be the major direction for further empirical research.

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