

Is there an institutional base of the new economy?

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Introduction

The 'new economy' phenomenon possesses many interrelated aspects that concern the micro, meso and macro levels. The basic idea is that 'something new' is happening in the fields of technology, work organisation, macroeconomic policy, pattern of Public intervention, economic geography... To sum up, one could say that a relatively widespread thesis is basically the following: (i) the "new economy" defines a new long-term growth trajectory based on a few 'generic' technologies –mainly Information and Communication Technologies (ICT) but also biotechnologies– and the 'weightless' economy (ii) associated with this new trajectory are an array of institutions that are capable of stimulating the technical change and structural changes which are needed to launch the technological trajectory that the new economy has defined; (iii) lastly, as would seem to be indicated on one hand by the United States' advance in the new ICT-related technologies, and by its superior macro-economic performances during the 1990s on the other, to be successful one has to adopt American institutional characteristics. The example of the United Kingdom allegedly represents the confirmation of this thesis, as well as the proof that it is possible to overcome Euro-sclerosis. In sum, changes in modern capitalism are supposedly leading the developed countries towards an "Anglo-Saxon" model, replete with deregulated financial markets, 'flexible' labour markets, technologically dynamic newly created firms, greater competition in the product markets, etc. All in all, a situation that is relatively distant from the trajectory followed by the Continental European economies in the aftermath of the Second World War.

Underlying such a thesis is the idea that a certain ideal institutional infrastructures corresponds to a set of given technological and economic constraints. Since the 'new economy' seems to have redefined the bases for growth and competitiveness, it is recommended that countries should adopt the institutional frame that appears to warrant the best possible adaptation to the requirements of the new economy. Institutional change in every area is thus called for: labour markets, finance, scientific systems, education... An extreme version of this thesis is that there exists one best way to achieve the most satisfying economic performance whatever the historical period, the dominant technological paradigm, the international regime, etc. The 'new economy' thesis referred to above needs not starting from such an extreme point of view: the institutional features of continental European countries might have been instrumental in achieving a high degree of economic stability and growth in the post-war period, but they might no longer be suited to the new growth trajectory for a variety of reasons. On the other hand, the institutions characteristic of the Anglo-Saxon economies appear to favour the emergence of the 'new' economy. If there exists an ideal economic model at the present time, it would then appear to be the US.

This statement questions the existence of institutional diversity among developed economies. Diversity is fact that can be easily observed, but the interpretation of this diversity is a matter of debate. Should diversity be interpreted as heterogeneity of countries with respect to the process of adaptation to the ideal model? Several researchers argue that diversity should not be understood that way.¹ In fact, diversity reflects the fact that there is no single one-best-way for a modern capitalist economy, but several varieties of capitalism may coexist, each one

¹ For a recent contribution, see Hall and Soskice [2001].

possessing its own strong and weak points, reflected among other things in its pattern of trade specialisation² or its innovation system.³

The purpose of the present article is to analyse the diversity of capitalism and try to assess whether one particular type of capitalism is best suited to the new economy trajectory. The first section of the paper analyses the diversity of capitalism with the help of the concept of institutional complementarity. The second section proposes a typology of modern capitalism based on identified complementarities. The third section tries to empirically identify the existence of the different types. The fourth section tests for the effect of different technological or institutional variables on macroeconomic performance.

1. Institutional complementarity

. Globalisation and institutional diversity

The current debate about the transformations affecting contemporary economies is often centred on two main ideas. The first one is "globalisation", or more simply, economies' recent internationalisation trends. Such arguments could be rapidly summarised as follows: we are witnessing an intensification of international economic relationships thanks to the deregulation of commercial trade, which increases competition on the product markets; and due to financial liberalisation, which facilitates investment flows and tends to generalise the principles of market-based finance worldwide. Amongst other effects, this latter trend has led to a greater need for investment liquidity; to new principles of corporate governance (in which the financial incentivisation of executives plays a greater role); and to an ex post control of businesses that are under the threat of being taken over (an active market for corporate governance). Capital has become increasingly mobile, leading to an extension of the sphere within which private companies can act, thereby lowering the possibility for Public intervention in the economy –and firms have centred their strategies on the world market rather than the national or "regional" ones. This implies a weaker bargaining position for labour, with changes in the nature of the employment relationship having led to increased differentiation in employee status, an individualisation of remuneration, etc.⁴ The main consequence of this trend is increased competition between national spaces that define their competitiveness in terms of their "factor endowment" - infrastructure, but also (and above all) the economic institutions that are present in these territories. Also included are the regulations that affect the functioning of the factor markets (labour and capital), the efficiency of the educational and training systems, etc. The implications of this increased competition can be understood intuitively; and it is strongly recommended that countries experiencing economic difficulties align themselves with current best practices if they do not wish to fall behind in terms of their international competitiveness. But how can one recognise these best practices? From an empirical point of view, they are necessarily those practices that have been adopted by the countries who have achieved the best economic performances. Alternatively, from a theoretical point of view, the best practices are the ones that bring markets

² The 'institutional comparative advantage' in Hall and Soskice [2001].

³ See the analysis of 'social systems of innovation and production' in Amable, Barré and Boyer [1997].

⁴ See Beffa, Boyer & Touffut [1999] regarding the transformations of the employment relationship

closer to a state of perfection. Luckily enough, the developed countries' comparative performances over the past decade would seem to indicate the coincidence of these two criteria. The most dynamic economies are also the ones that have adopted the practices (or attitudes) that most closely approximate this market-based ideal. The other economies (Japan, Europe) are supposedly suffering, on the other hand, from over-regulation, high taxes, barriers to competition, etc.

The second idea is more technological in nature, and revolves around the composite notion of a 'new economy' –this being a concept that certain observers use to signify a relatively vast array of transformations.⁵ The effect of this intensification of technical progress has been to raise productivity gains wherever they had been stagnating (in the United States). Technical progress has been concentrated in certain technologies and sectors, as suggested by neo-Schumpeterian theories⁶ concerning long-term cycles. These are the sectors that are involved in information and communication technologies (ICT), with innovation and technological dynamism playing a greater role in the definition of competitiveness, both for firms and for countries as a whole. It is therefore important to stay on the bandwagon of ICT-related transformations. More than ever, technological dynamism is seen as being dependent on small innovative firms (the *start-ups*). Moreover, in order to develop, these firms need a favourable environment (flexible labour markets, the ease with which a company can be created or disbanded, the availability of qualified personnel, of venture capital, etc.). Market-based financing is supposedly more efficient than bank financing in supporting a technological trajectory that revolves around these kinds of firms. This is not an exhaustive list of the characteristics of the 'new economy', but it is sufficient to elucidate its major orientations.

The consequence of 'globalisation' and the 'new economy' should then be that even if current orientations are not leading to a disappearance of specific national markets, they are at the very least causing a significant diminution in the contemporary economies' diversity. Given that these trends are being forced upon countries all across the world, any delay in adapting to these new conditions leads, in this view, to a handicap in competitiveness. This is a summary of the argument that all countries should be trying to adapt to globalisation. Moreover, even those who oppose this point of view usually agree that the new internationalisation modalities of the world's economies infer a more or less rapid convergence towards a single model - one that is based on deregulated market-based finance; on the primacy of shareholder value; on pension funds; on the dismantling of welfare systems; on the privatisation of public services; on the existence of an "underclass", of a digital divide... What they question is whether this trend is desirable - but not the diagnosis itself.

There is also a more or less homogenous school of thought that focuses on the "diversity of capitalism". This diversity is not seen as something that is accidental or temporary, but as the consequence of mechanisms that can be grouped under the generic title of "institutional complementarities".⁷ In this view, economies basically diverge in terms of the institutions that characterise them, depending on the particular aspect of the economy that is being studied. The labour market can be more or less regulated; wage bargaining more or less centralised; and the financial systems more

⁵ See OECD [2000].

⁶ Freeman & Soete [1997]

⁷ See Aoki [1994], [2000] and [2001], Amable [2000], Amable, Ernst & Palombarini [2000].

or less reliant upon the banks, or else on the freedom that they give to the financial markets. In general, education is organised quite differently from one country to the next, with more or less close ties to industry; universities that are more or less independent; and a competition between private companies that is more or less intense. An initial approach would be to suppose that an optimal solution exists in each these areas, independently of the institutional configurations that are present in any of the other areas. The best institutional configuration for an economy is therefore the one that is closest to the sum total of these optimal local configurations. This conception is very probably the driver behind benchmarking efforts - and the basis of international comparisons such as those that have been carried out by the World Economic Forum (Davos) or more recently by Lehman Brothers.⁸ The purpose of such studies is usually to classify countries in terms of their competitiveness. Towards this end, a certain number of categories are defined, and countries are marked for their performance in a given category. An overall mark is then obtained by adding up the scores from each area. The best model is the one that is closest to the profile that has been defined as being the best local configuration. Their findings can be interpreted as follows: the ideal economy possesses Denmark's educational system; Sweden's technology and employment policy; the competitive environment of Finland's high-tech sector; and the entrepreneurial environment, wage flexibility, (non)-protection of employment, fiscal system, competitive environment, economies of scale and productivity of the United States. It remains to be seen whether this mixture of American and Scandinavian institutions would be viable. The answer is yes if one believes that it is possible to play 'institutional lego'. If one adapts a view that encompasses inter-institutional interactions, nothing is less certain.

Institutions' influence on the economy should not be considered independently from one another; they exert a joint influence on the economy. Institutions affecting one area of the economy (e.g. the labour market) will have consequences beyond that particular area, if only because of general equilibrium effects. We can take the simple example of wage bargaining: the outcome depends on each party's outside options. These outside options are in turn dependent on the institutions affecting other areas than the labour market. It can be the alternative job for the worker, which may depend on its skill level and hence on the institutions concerning the education and training system; the alternative option for the firm may depend on its relocation possibilities, i.e. on the regulatory environment, the liquidity of the financial market...

One may give several definitions for institutional complementarity.

- **The differential definition** requires continuity and is derived from the standard definition of complementarity in economics. The marginal 'efficiency' of a certain institution is positively related to the presence/intensity of another institution in another area. For instance, if there is a complementarity between deregulated labour market and deregulated product markets, less regulation in the labour market increases the marginal gain to deregulation in product markets.
- **comparative performance.** The same logic as above applies, but comparison of several situations is made; sticking with product and labour markets, which may be regulated or not, we have 4 possibilities. Which is the best institutional combination? One considers discrete changes in the institutional environment instead of an institutional

⁸ Edwards & Schanz [2001].

continuum. The conclusion may differ from that obtained with the differential method.⁹

- **Dynamic definition.** The presence of one institutional form in one area leads to the adoption of an institutional form in another area. The foundations of the institutional dynamics are left unspecified.
- **Conformity to a general logic.** Institutions are said to be complementary when they have the same operating principles. For instance the liberal or the coordinated logic leads to the adoption of deregulated or coordinated market features respectively.

The first three definitions are very clearly related to one another. They make implicit reference to a 'performance' criterion, which is necessary for appreciating complementarity. One may find 'local' criteria: the level of unemployment for labour markets, the level of investment or the cost of capital for the financial system, the rate of innovation for the innovation system, but the logic of institutional complementarity seems to imply the consideration of a more aggregate indicator: welfare, GDP level or growth rate. Of course, this is not a matter of statistics, it concerns the way specific institutional forms are chosen. Agents with conflicting objectives will have different criteria for appreciating the 'performance' of institutions: wages for workers, profits for firms, etc. How are each agent's criteria related to a global performance index? Do agents internalise the interrelations between criteria? Workers may be aware that future employment depends on investment, hence on profits, etc. This 'internalisation' is itself institutions-dependent. Whether agents' time horizons are long-term or short-term may depend on the capacity of institutions to stabilise the forecasting perspectives.

The fourth definition is a little more problematic. The institutional complementarity approach considers economic 'models' or 'systems' as a set of complementary institutions. Whether one can sum up this pattern of complementarities in one general 'logic' is debatable. If we consider for instance the Anglo-Saxon economies, defined as a set of complementary institutional forms such as a deregulated labour market, a financial markets-based financial system, etc, can we identify a general principle which would ensure that the whole 'liberal market economies' (LME)¹⁰ model is coherent and viable? This remains an open question.

The challenge to the institutional complementarity approach is to account for the existence of diverse institutional configurations (economic 'models') which are stable and viable for long enough, yet not eternal; change must be possible. It may come from different factors.

⁹ If certain conditions are met, negotiations between social partners in a given labour market can create the sort of stable compromises that could help the workforce to receive a high level of training. In addition, physical investment is facilitated by the existence of close relationships between banks and firms. In this scenario, the existence of durable relationships, and of proximity between banks and firms, enhances the implementation of long-term investment projects, and *in return* this facilitates the establishment of stable compromises in the labour market. Conversely, a flexible labour market, one that facilitates employee mobility, is seen here as complementing a financial system that facilitates the reversibility of commitments and the liquidation of investments. This means that the range of potential complementarities can be extended to cover such areas as innovation, professional training systems, etc.

¹⁰ It is Hall and Soskice's definition. LMEs are unified by market principles. Coordinated market economies (CME) such as Germany are unified by a principle of 'strategic coordination'.

- *A changing environment.* Technology is often mentioned in this respect. The existence of technological regimes suggests that inherent technological requirements may make industries perform differently in countries with distinct institutional systems. However, technology may evolve over time. Consequently, a change in the technological requirements of well-established industries may put a country's institutional system under stress, eventually leading to a break-up of the historic compromise that underlies the system. Moreover, technologies may benefit differently from distinct institutional systems during their evolution from being nascent to mature. An exogenous dynamic pattern of technological evolution may hence put pressure on any institutional setting from time to time. For instance, the new technological regime centred on ICT is supposed to have endangered the capital/labour compromise on which rested other economies than the Anglo-Saxon model.
- *Unintended consequences.* Agents may take decisions that unintentionally affect the institutional structure, because of the presence of externalities, or because the consequences of their decisions are effective well beyond their time horizon.
- *Conscious attempts at institutional design.* Institutions are the result of deliberate decisions. In times of crisis, agents may have their own motives for altering the institutional structure. Whether change actually takes place depends on the polity.

1.b. Diverse types of capitalism

There exists many studies on the diversity of capitalism, taking either each country as a specific case, or taking more general categories (e.g. liberal market economies versus coordinated market economies). A theoretical analysis and an exercise in international comparisons, Amable et. al. [1997] highlighted four main types of "capitalism" or Social Systems of Innovation and Production (SSIP):

- the market-based SSIP (the United States, Great Britain, Australia and Canada);
- the social-democratic SSIP (the Scandinavian countries)
- the mesocorporatist SSIP (Japan);
- the "European" SSIP (France, Germany, Italy and the Netherlands).

SSIP's should be seen as ideal-types, instead of as more or less stylised descriptions of the main characteristics of a given country.¹¹ This obviates the need to come up with an exact identikit creating a match between a given SSIP and the group of countries that best embodies it.

¹¹ On problems of methodology in international comparisons, see Théret [1997]. Here we are following a compromise approach (Théret, [1997]: pp.178-179) between increased generalisation (a formalisation that is based on empirical characteristics) and a diminished contextualisation of universal categories (which incorporates into the indicators both contextual and universal elements). Note that Théret [1997] has also put together a country-by-country classification that is very similar to the SSIP approach, based on comparisons of levels of social protection. On this topic, also see Théret [2001].

Identifying SSIP's involves both theoretical elements (i.e., an expression of the institutional complementarities that are at work in the countries comprising these SSIP's) and empirical elements (through the processing of a large base of statistical indicators covering these 12 countries – the data being analysed in such a way as to identify country typologies). Devising a theoretical underpinning for the typologies derived from this empirical analysis¹² is not necessarily the same thing as “naming” the model or SSIP that has been discovered. It is not always possible to come up with a name that can correctly summarise the SSIP. Take for example the “market-oriented” SSIP that is linked to the Anglo-Saxon countries. The descriptor “market-oriented” does not at first glance appear to cause any conflicts with traditional writings in this field. It is an indication that the basic principle underlying the SSIP in question is a ‘market’ logic, characterised by the significance of price-driven regulation, by competition between the agents, by flexible arrangements, by speedy reactions to price signals, etc

It is however generally difficult to see a model as nothing more than the expression of a single logic - especially when this logic has to be expressed with simplicity. Several interrelated logics are involved in the coherency of any given model. These logics are sometimes local inasmuch as the mechanisms involved only affect a limited number of institutions and areas. This does not necessarily infer the existence of a single unifying principle, active throughout the economic model in question. Describing one and the same model as ‘Anglo-Saxon’ might be less risky than using the term “market-oriented”. One can always contest the pre-eminence of market mechanisms in these economies, but it is difficult to deny that these are the so-called Anglo-Saxon countries. The problem with this labelling is that it is not very explicit about whatever it is that the countries in this model share; and it does not express any economic theory for this model. It does however infer a number of things: the role of history, a common culture, etc. These inferences need to be rendered explicit and justified at a theoretical level - after all, “culture” is utilised as a last resort argument in many comparative studies.

Table 1. Four types of Social Systems of Innovation and Production

| | Market-based | Meso-Corporatist | European integration Public | Social-democratic |
|-------------------------|---|--|--|--|
| Implications For | | | | |
| Science | Research system based on competitions between researchers and between research institutions | Important in-house research largely disconnected from the academic world | Public basic research disconnected from new products development | Importance of social needs in the definition of research objectives |
| Technology | Importance of intellectual property rights protection, patents and copyrights as incentives to and protection of innovation | Importance of tacit knowledge and in-house innovation | Importance of public impetus for private research | Gradual evolution towards advanced technologies and new sectors: from natural resources exploitation to information technology |

¹² Principal components and cluster analyses.

| | | | | |
|------------------------------|---|---|--|--|
| Competence and skills | Highly segmented labour force, innovation and skills on one side, low skills and production on the other. | Homogenised general education; specific skills developed within the corporation, but labour market dualism | External rather than internal mobility of the labour force | Egalitarian ideals in education and wage setting. Limits to the adverse consequences of technical progress through public action |
| Labour markets | Decentralisation of wage bargaining, individualised wage and labour market segmentation | Wage compromise within the large corporation but synchronising of wage rises | Strong institutionalisation of employment rules, working hours and social protection | Centralisation of wage bargaining under the external competitiveness constraint |
| Competition | Limits to concentration by legal action; constant evolution of oligopolistic competition | Strong competition on internal product markets between large firms | Once moderate competition because of public intervention or business associations has intensified within the single market; concentration of capital | Small number of large internationalised firms and networks of small local suppliers |
| Finance | Market-based finance and sophistication of financial services. Financial innovation, strong influence of shareholders | Stable long-term relationships between the Main Bank and a keiretsu. Strong involvement of public authorities (MOF and Central bank) in private banking | Importance of banks. Relatively low sophistication of financial services | Bank-based financial system, no sophistication of financial services |
| Products | Important product innovation | Adaptation of products and processes in the catching up phase, fast product innovation after | Slow adaptation to market changes | Importance of quality, services and differentiation |
| Other characteristics | | | | |
| Public Intervention | Fragmented in a series of agencies and monitoring institutions. Strong limits to public intervention, political competition | Furnishes collective services and acts as a co-ordinator. Small size but significant role | Important public intervention (central state or local authorities): firms, regulation, public spending, social security,... | Many forms of public intervention with financial transfers and extensive regulation |
| | Importance of large public research programmes (defence,...) which supplements private research | No large public programs of the 'mission' type | Large variability among the different countries concerned | Largely open economies |
| International regime | Adherence to free trade principles. Status and autonomy of nations depends on size (US vs. UK...) | Economic development conditions all choices in terms of international trade | Regionalism (EU) favoured over multilateralism. Political will for european integration conditions economic | Small countries, strong external constraint |

| | | | | |
|---------------------------|--|---|---|---|
| | | | integration | |
| Consequences for | | | | |
| Innovation | Schumpeterian waves of (radical) innovations. Importance of patents and individual rewards to innovation | Ability to imitate, transfer and transform technology starting with incremental innovation | Both 'mission'-type projects of large size and incremental, quality innovation | Innovation linked to solutions to social or economic problems |
| Industrial specialisation | Sectors linked to 'radical' innovations: information technology, aerospace, pharmaceuticals, finance... | Sectors where coordination is necessary and where competence is localised and cumulative: automobile, electronics, robotics | Sectors linked to public infrastructures (France,...) and/or where competence rests on a skilled labour force: aerospace, mechanics, automobile | Sectors linked to social demand (health, security, environment) or exploiting natural resources |

New analyses were made in Amable and Petit [2001] which led to a refined typology of SSIP. Extending the empirical analysis to 21 countries¹³ and updating it to consider the end of the 1990s, six SSIP were distinguished:

- the market-based SSIP
- the social-democratic SSIP. The mesocorporatist SSIP, with Korea now joining Japan.
- The "European integration" (or "public") SSIP. This includes the countries that already belonged to this SSIP (France, Germany, the Netherlands), minus Italy, but now including Belgium and Ireland.
- An "Alpine" variant of the preceding SSIP, comprising Austria and Switzerland.
- A "Mediterranean" variant of the European SSIP, comprising Spain, Italy, Greece and Portugal.

Besides the differentiation of the European SSIP into three variants, the main results reported in Amable and Petit [2001] were that there did not seem to be any general pattern of convergence toward the market-based SSIP, but the advance of some market mechanisms in specific areas (mostly the financial system), and that 'globalisation' affected SSIPs in a differentiated manner. The market-based and 'Mediterranean' SSIPs were unaffected as a grouping of countries by the empirical analyses on data related to the new pattern of internationalisation.¹⁴ Other groupings of countries were reshuffled, indicating that a process of recomposition of the variety of SSIP could be taking place.

2. Diversity of capitalism

In order to check the existence and stability of the different varieties of capitalism, we perform here a new analysis. The present analysis differs from the

¹³ the United States, Japan, the United Kingdom, Canada, Australia, Italy, Spain, Portugal, Greece, France, Belgium, Denmark, Norway, Sweden, Finland, Germany, Austria, Switzerland, the Netherlands, Ireland, and Korea. The empirical data considered related to scientific and technological fields, economic structure, the educational system and the labour market. As such, this is an extended innovation system conception.

¹⁴ Data on foreign direct investment, international trade and the evolution of the financial systems.

previous one in several respects. The previous characterisations of SSIP were based on institutional variables as well as variables reflecting the economic structure: scientific, technological and industrial specialisation for instance. This was somehow logical since a close connection between institutions and economic structures was assumed.¹⁵ Furthermore, data on economic and technological structures are readily available whereas variables on institutional elements related to these elements are much more difficult to find. This time, in order to make comparisons with the literature on variety of capitalism, we distinguish as much as possible institutional from economic variables and we do not take into account variables related to innovation or technology as such.

Five institutional areas are identified: product market competition, the wage-labour nexus, the financial sector, social protection and the education sector. Based on previous results and other contributions to the literature,¹⁶ we can distinguish five different varieties of capitalism:

- the market-based economies a.k.a. liberal market economies or the Anglo-Saxon model;
- social-democratic economies;
- Asian capitalism, i.e. the basic features of the Japanese model;
- Continental European capitalism;
- South-European capitalism

The last two varieties differ in some respects but present also common features. The institutional characteristics of the five varieties of capitalism are briefly summarised in Table 2. Since varieties of capitalism are founded on institutional complementarities, we can emphasise the main complementarities characteristic of each variety. We summarise in Table 3 the main relations between institutional areas.

¹⁵ See Amable [2000].

¹⁶ Aoki [2001], Hall and Soskice [2001]...

Table 2.

| | Market-based capitalism | Social-democratic economies | Asian capitalism | Continental European capitalism | South European capitalism |
|-----------------------------------|---|--|--|--|--|
| Product market competition | <ul style="list-style-type: none"> - importance of price competition - non-involvement of the state - 'coordination' through market (price) signals - openness to foreign competition and investment | <ul style="list-style-type: none"> - importance of quality competition - high involvement of the state - high degree of 'coordination' through other channels than market signals¹⁷ - openness to foreign competition and investment - low barriers to small firms | <ul style="list-style-type: none"> - importance of both price and quality competition - high involvement of the state - high degree of non-price 'coordination' - high protection against foreign firms and investment | <ul style="list-style-type: none"> - moderate importance of price competition - involvement of the state - moderate to high non-price 'coordination' - low protection against foreign firms and investment | <ul style="list-style-type: none"> - importance of price competition - involvement of the state - no 'coordination' - moderate protection against foreign trade or investment - importance of small firms |
| Wage labour nexus | <ul style="list-style-type: none"> - low employment protection - easy recourse to temporary work - low seniority - short notice period - no active employment policy - defensive union strategies | <ul style="list-style-type: none"> - high employment protection - high seniority - corporatism - active employment policy - strong unions - high centralisation of wage bargaining - cooperative | <ul style="list-style-type: none"> - employment protection within the large corporation - limited recourse to temporary work - high seniority - cooperative industrial relations - no active | <ul style="list-style-type: none"> - high employment protection - limited recourse to temporary work - high seniority - conflictual industrial relations - active employment policy - moderately | <ul style="list-style-type: none"> - high employment protection (large firms) - recourse to temporary work and fixed terms contracts - conflictual industrial relations - no active employment |

¹⁷ On the issue of coordination, see Hall and Soskice [2001].

| | | | | | |
|--------------------------|--|--|--|---|--|
| | <ul style="list-style-type: none"> - decentralisation of wage bargaining | <p>industrial relations</p> | <p>employment policy</p> <ul style="list-style-type: none"> - strong firms unions - decentralisation of wage bargaining | <p>strong unions</p> <ul style="list-style-type: none"> - centralisation of wage bargaining | <p>policy</p> <ul style="list-style-type: none"> - centralisation of wage bargaining |
| Financial sector | <ul style="list-style-type: none"> - high protection of minority shareholders - low ownership concentration - high share of institutional investors - active market for corporate control (takeovers, Mergers & Acquisitions) - high sophistication of financial markets - good availability of venture capital | <ul style="list-style-type: none"> - protection of external shareholders - high ownership concentration - high share of institutional investors - no market for corporate control (takeovers, M&A) - no sophistication of financial markets - high degree of banking concentration | <ul style="list-style-type: none"> - low protection of external shareholders - high ownership concentration - involvement of banks in corporate governance - no market for corporate control (takeovers, M&A) - no sophistication of financial markets - low availability of venture capital - high banking concentration | <ul style="list-style-type: none"> - low protection of external shareholders - high ownership concentration - no active market for corporate control (takeovers, M&A) - low sophistication of financial markets - weak availability of venture capital - high banking concentration - importance of bank funding | <ul style="list-style-type: none"> - low protection of external shareholders - high ownership concentration - bank-based corporate governance - no market for corporate control (takeovers, M&A) - low sophistication of financial markets - low availability of venture capital - high banking concentration |
| Social protection | <ul style="list-style-type: none"> - weak social protection - low involvement of the State - emphasis on poverty alleviation (social safety net) | <ul style="list-style-type: none"> - high level of social protection - high involvement of the state - high share of welfare in public expenditures - high share of welfare in GDP | <ul style="list-style-type: none"> - low social protection - expenditures directed towards poverty alleviation - low share of public expenditures in welfare - low share of welfare | <ul style="list-style-type: none"> - high degree of social protection - high share of health expenditures - involvement of the State - high share of welfare in GDP | <ul style="list-style-type: none"> - moderate level of social protection - expenditures structure oriented towards the poor and the elderly - high share of public expenditures in welfare - low share of welfare in total |

| | | | | | |
|------------------|---|---|--|---|---|
| | | | expenditures in GDP | | public expenditures - low share of welfare in GDP |
| education | <ul style="list-style-type: none"> - low public expenditures - high enrolment rates in tertiary education - weak secondary education - weak vocational training - competitive universities - emphasis on general skills | <ul style="list-style-type: none"> - high level of public expenditures - high enrolment rates - strong primary and secondary education - importance of vocational training - emphasis on specific skills - importance of retraining | <ul style="list-style-type: none"> - low level of public expenditures - high enrolment rates - emphasis on secondary education - company-based training - importance of scientific and technical education - emphasis on specific skills | <ul style="list-style-type: none"> - high level of public expenditures - high enrolment rates in secondary education - emphasis on secondary education - developed vocational training - emphasis on specific skills | <ul style="list-style-type: none"> - low public expenditures - low enrolment rates in tertiary education - weak universities - weak vocational training - emphasis on general skills |

Table 3. Institutional complementarities

Market-based capitalism complementarities

| | Product markets | Labour market | Financial system | Social protection | Education system |
|--------------------------|---|---|--|--|---|
| Product markets | | Intense product markets competition requires employment flexibility | Competitive markets pressure has firms wanting quickly-reacting finance | | Fast structural change requires a labour force with flexible skills |
| Labour market | Decentralised labour markets favours firms' adjustment to competitive pressure and make structural change less costly | | | Liquid labour markets diminish unemployment risks and lower the demand for social protection | Weak employment protection and important structural change are incentives to invest in general skills |
| Financial system | Sophisticated financial markets enable a quick reaction to opening markets and favour industrial dynamism | Short-term constraints prevents the establishment of a high level of employment protection | | A market-based system favours instantaneous risk diversification and lowers the need for a public-funded system of welfare | Shareholders' protection, not stakeholders', hence low incentives to invest in specific skills |
| Social protection | No need for high tax levels | | Low degree of public-funded social protection calls for market-based means of risk diversification | | No protection for specific skills investment |
| Education system | Labour force with general skills favours structural change | Low specific skills investments, hence no hold-up problem. less need for high employment protection | | No strong demand for specific skills protection | |

Social-democratic economies complementarities

| | Product markets | Labour market | Financial system | Social protection | Education system |
|--------------------------|---|---|---|---|---|
| Product markets | | Competitive pressure requires some labour flexibility | | Strong competition implies risk for wage earners, which calls for social protection in the absence of sophisticated financial markets | Foreign competitiveness requires a highly-skilled work force |
| Labour market | Centralisation of wage bargaining and corporatism favours 'coordination' among firms | | Employment protection calls for the absence of short-term constraints | Labour flexibility augments the demand for social protection | Competitive pressure and employment protection calls for some skills flexibility. Need for constant retraining Centralisation and coordination favour the definition of useful specific skills |
| Financial system | Patient capital allows long-term strategies | No short-term constraints enables employment protection | | The financial system cannot provide individual risk diversification | |
| Social protection | High welfare expenditures imply high tax levels and distortions on domestic markets | High levels of social protection allow workers to be flexible | | | Allows protection of specific skills investment |
| Education system | High levels of education and skills make sophisticated consumers on the domestic market | Demand for specific skills protection, i.e. employment protection Skill levels allow for (offensive) flexibility | | Demand for specific skills protection even with a high competitive pressure; hence the need for the welfare state | |

Asian capitalism complementarities

| | Product markets | Labour market | Financial system | Social protection | Education system |
|--------------------------|---|--|--|--|---|
| Product markets | | Long-term corporate strategies allow de facto employment stability | Protection against foreign investment does not provide incentives to develop highly sophisticated corporate governance | Corporate and competitive structure allows a certain protection for workers without a fully-developed welfare system | Efficient Corporate training requires a good level of secondary education |
| Labour market | Corporation-based labour markets favour internal structural change | | Corporation-based market calls for insurance against short-term demands from financial markets | De facto employment stability lowers the need for formal social protection | |
| Financial system | Absence of short-term constraint enables long-term strategies and intra-corporation restructuring | No short-term constraints for the large corporation allows de facto employment stability | | Lack of sophisticated financial markets would create a demand for social protection | |
| Social protection | Low welfare expenditures imply low taxes | Low levels of social protection make wage-earners more dependent on the corporation | | | Lack of protection deters from investing in too specific skills |
| Education system | A highly educated workforce makes sophisticated consumers | | | A workforce with general skills does not need so much a high level of welfare expenditures | |

Continental European capitalism complementarities

| | Product markets | Labour market | Financial system | Social protection | Education system |
|--------------------------|--|--|---|--|---|
| Product markets | | Moderate competitive pressure enables a high degree of employment protection | Moderate competitive pressure allows the establishment of stable finance-industry relations | | Slow structural change favours the acquisition for specialised skills |
| Labour market | Employment protection prevents fast structural change | | | | Employment protection is an incentive to invest in specific skills Centralisation and coordination favour the definition of useful specific skills |
| Financial system | Absence of short-term constraint enables long-term strategies | Lack of short-term constraints enables employment stability | | Weak individual risk diversification possibilities; hence need for social protection | |
| Social protection | Welfare expenditures imply high taxes | | High welfare expenditures lower the need for individual risk diversification | | High level of social protection enables specialised skills acquisition |
| Education system | Labour force with specialised skills allows to follow stable industrial strategies | Demand for specific investments' protection | | High demand for specific skills protection | |

South European capitalism complementarities

| | Product markets | Labour market | Financial system | Social protection | Education system |
|--------------------------|---|--|--|--|---|
| Product markets | | Low competitive pressure allows employment stability (large firms) | Low competitive pressure allows the establishment of stable finance-industry relations | | Industrial specialisation and structure (small firms) do not require a highly skilled workforce |
| Labour market | Formal employment protection prevents fast structural change (large firms) | | Employment stability demands a lack of short-term constraints | De facto employment stability lowers the demand for social protection | |
| Financial system | Underdeveloped financial markets and stable bank-industry relations slow down structural change | Lack of short-term constraints enables employment stability | | Weak individual risk diversification possibility would imply a higher level of social protection | |
| Social protection | Low welfare expenditures imply lower tax distortions on the domestic market | | Low welfare expenditures would increase the demand for individual risk diversification | | Low levels of social protection deter from investing in specific skills |
| Education system | The skill level of the work force prevents to engage in high-tech activities | The education system does not allow a large highly-skilled workforce | | Low specific investments lower the demand for protection | |

In order to check the relevance of these ideal-typical varieties of capitalism, we perform an empirical analysis using variables characterising the institutional areas taken into account previously. For product market competition, we use the set of indicators on product markets regulation elaborated by the OECD.¹⁸ These indicators measure the intensity of regulation in domestic markets as well as protection against foreign competitors. For the wage-labour nexus, several dimensions were taken into account. Various indicators of employment protection were taken into account, most of them originating from the same source as the indicators for product markets regulation. Various sources provided indicators on industrial relations and wage bargaining.¹⁹ Also, data on active labour market policies (OECD data) were considered. Indicators characterising the financial sector considered here include both regulatory indicators²⁰ and data reflecting the structure of funding of non financial enterprises or the development of venture capital. Finally, OECD data on social protection (welfare expenditures) and education (expenditures, schooling rates, etc) were added. These data concern the end of the 1990s.

Cluster analysis for each of the five institutional areas were performed, but in order to check whether one can identify the whole pattern of institutional complementarities, the following procedure was implemented. First, data on product markets competition and labour markets (employment protection and bargaining structures, i.e. data concerning the wage-labour nexus minus employment policy) were jointly analysed. A cluster analysis was made with these data. Then data for employment policy was added to the set and another cluster analysis was made. Then, data sets concerning another institutional area were added one at a time, and a cluster analysis was performed at each time. We therefore obtain five clusterings, the first one concerning data related to product and labour markets, the last one concerning the data for all institutional variables. The results of this procedure are presented below.

The Table can be read as follows. The first cluster analysis (product and labour markets) led to the identification of 6 clusters. The first cluster included Australia, Canada, the US and the UK; the second cluster included Switzerland, Denmark and Finland, the third Japan, the Netherlands, Ireland, Germany, Austria and Sweden, etc. The number of clusters varied according to the results of the analyses. In the end, with all institutional variables included, we identify six clusters.

¹⁸ Nicoletti, Scarpetta and Boylaud [2000].

¹⁹ The indicators are for instance union coverage, corporatism index, degree of centralisation of the wage bargaining, etc.

²⁰ The indicators are taken from the various papers of La Porta et al.

Table 4

| | product and labour markets | product and labour markets, employment policy | product and labour markets, employment policy, financial sector | product and labour markets, employment policy, financial sector, welfare systems | product and labour markets, employment policy, financial sector, welfare and education systems |
|----------------|----------------------------|---|---|--|--|
| Australia | 1 | 1 | 1 | 1 | 1 |
| Canada | 1 | 1 | 1 | 1 | 1 |
| United Kingdom | 1 | 1 | 1 | 1 | 1 |
| USA | 1 | 1 | 1 | 1 | 1 |
| Japan | 3 | 3 | 5 | 6 | 2 |
| Korea | 5 | 3 | 5 | 6 | 2 |
| Switzerland | 2 | 1 | 2 | 2 | 3 |
| Netherlands | 3 | 2 | 2 | 2 | 3 |
| Ireland | 3 | 2 | 3 | 3 | 4 |
| Belgium | 6 | 4 | 2 | 3 | 4 |
| Norway | 4 | 5 | 4 | 4 | 4 |
| Germany | 3 | 4 | 5 | 3 | 4 |
| France | 6 | 4 | 5 | 3 | 4 |
| Austria | 3 | 4 | 5 | 3 | 4 |
| Denmark | 2 | 2 | 3 | 5 | 5 |
| Finland | 2 | 2 | 3 | 5 | 5 |
| Sweden | 3 | 2 | 3 | 5 | 5 |
| Greece | 6 | 5 | 6 | 7 | 6 |
| Italy | 6 | 6 | 6 | 7 | 6 |
| Portugal | 6 | 6 | 5 | 7 | 6 |
| Spain | 6 | 4 | 5 | 7 | 6 |

The empirical results partly confirm the ideal-types identified earlier. The first cluster is clearly that of the market-based capitalism, the second is Asian capitalism, the fifth represents the social-democratic model and the sixth is South European capitalism. Continental European capitalism is not that clearly identified. From the Table above, one could venture that the fourth cluster (Ireland, Belgium, Norway, Germany, France and Austria) represents this particular variety of capitalism, but this grouping of countries appears as the less 'coherent': the cluster only emerges at the end of the analysis, i.e. once all the variables have been included, whereas the market-based cluster for instance is already formed after the first analysis. Countries within this cluster changed groups frequently through the whole series of analyses, only France, Germany and Austria stayed together after the second analysis. Finally, two countries, Switzerland and the Netherlands, appear different enough from the countries of the continental European capitalism to form a cluster of their own.

Space prevents a full discussion of these results. We can conclude this section by checking whether some of the variables associated with the 'new economy' or the knowledge-based economy are significantly associated to the above

identified clusters. The following Table sums up the findings. One can say that the market-based model is not the only one associated with a ‘specialisation’ in ‘new economy’ related activities, the social democratic model performs as well. More precisely, the social democratic model seems good at diffusing ICT, whereas the market-based model is also good at producing ICT. On the other hand, only the South European countries seem to suffer from a significant lag in the ‘new economy’, at least in its ICT part. The other types of capitalism are not significantly associated to any ICT variable.

| | Market-based capitalism | Social democratic economies | South European capitalism |
|---|--|--|--|
| + | Total ICT market value as % of GDP Internet hosts per 100 inhabitants | Computers connected at secondary school level Computers per 100 pupils at secondary level GPs communicating with patients over the Internet Web-sites of municipalities with E-mail addresses of officer Households using an Internet connection (%) Internet users per 100 inhabitants | |
| - | | | Enterprises with Internet access (%) Internet users per 100 inhabitants Households having an Internet connection (%) Total ICT market value per capita (Euro) PC per 100 inhabitants |

4. The differentiation of economic performance

We can now turn to the comparison in terms of performance. The alleged superiority of the Anglo-Saxon model is mostly based on a comparison of the growth performance of the US vis-à-vis the largest countries of Continental Europe and Japan. One simple explanation for these differences could be summarised as follows: the nature of technical change has been modified, and as neo-Schumpeterian economists have foreseen, a new technological revolution is in effect, one that could drive a new phase of growth. One of the technological features of this new economy, and ostensibly a driver of productivity gains, is the new information and communication technologies (ICT). These sectors play a double role. On one hand, they are an arena for the highest level of technical progress, with productivity

gains that are significantly above gains in other sectors. They also feature a very high rate of product innovation. On the other hand, thanks to their diffusion throughout the whole economy, they enable other sectors to improve their own productivity, and to modify their offer in such a way as to encourage innovation. As such, information technologies play a role in their production as well as in their diffusion.

As a result, we can expect that those countries that have experienced a rapid diffusion of ICT, or who have been involved in a significant production of ICT, will be ahead of the other countries, at least during the ascending phase of a long-term cycle. It will be easier to understand this ascending phase insofar as its institutional conditions facilitate innovative dynamism. In particular, these conditions relate to the flexibility of the labour market, and above all to the dynamism of the financial markets: the availability of venture capital, the possibility that corporate executives can be incentivised through the attribution of stock options, the liquidity of the financial markets, etc. Market-based finance can be synthesised in one indicator - the price index of listed securities. In this view, the stock markets' dynamism can be crystallised as the changes in this indicator.

Another argument is closer to traditional macroeconomics and stresses that the developed countries did not all experience the same macroeconomic conditions over the course of the decade - if only because of the diversity of the macroeconomic policies that were being pursued (monetary policies in particular). The European recession of the early 1990s is not in fact unrelated to the restrictive monetary policies that were being carried out in light of the upcoming economic and monetary union.

Is it possible to explain international variations in macroeconomic performance on the basis of the aforementioned elements? We report here some results presented in Amable and Petit [2001]. The influence of the above mentioned variables on growth and unemployment was tested for a sample of 10 OECD countries over the period 1991-2000: Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, the United Kingdom, and the United States. The explanatory variables are ICT; the stock market; and monetary policy. ICT will encompass two separate variables: (i) the proportion of total GDP that was accounted for by the ICT producing sectors, and (ii) the same figures for ICT using sectors. Data on ICT producing and using sectors is drawn from the ICT database of the Groningen Growth and Development Center (University of Groningen, the Netherlands). We have no problems in interpreting the proportion accounted for by the ICT producing sectors, as this relates to the comparative importance of activities that are directly related to ICT. The ICT using sectors' proportion of total GDP replaces a variable that relates to the diffusion of such technologies. This is because of the well-known fact that capital goods diffusion variables are difficult to obtain for a whole economy over a period of several years - and because such variables are not particularly reliable. However, the proportion of total GDP that is accounted for by the main ICT using sectors does not tell us anything a priori about the actual diffusion of these capital goods. The other explanatory variables are the real interest rate (measuring the restrictive nature of the monetary policy) and the stock index growth rate for that particular country.

Our findings are summarised in Table 5. The growth rate model with fixed effects only comes up with one single variable that is significantly associated with growth rates - the proportion accounted for by the ICT producing sectors. The

utilisation of these technologies does not seem to have had any significant influence, and in fact, the estimated coefficient is negative. Moreover, neither monetary policy nor stock market developments seem to have any apparent influence on growth. The fixed effects are significant, indicating noticeable differences between the various countries' growth trends. This would tend to vindicate the idea that each is following a separate growth model. The random effect model presented parameters that are more interesting to interpret: the two variables that represent the importance of ICT (production and utilisation) have a significantly positive effect on growth, but this model must be rejected, failing to pass the specification tests. The fixed effect model gives as its only clear conclusion that the countries were following different growth. It also indicates that ICT production is probably a helpful phenomenon.

Table 5

| | Growth rate | Growth rate | Unemployment rate |
|--|---------------|----------------|-------------------|
| the share of ICT producing sectors in GDP (logs, lagged) | 0.106*** | 0.017*** | -3.24*** |
| the share of ICT using sectors in GDP (logs, lagged): | -0.069 | 0.037*** | -3.78* |
| the real rate of interest | -0.000 | -0.002* | -0.19* |
| the growth rate of the share price index | 0.228*** | 0.019* | |
| Growth rate | | | 23.13** |
| | Fixed Effects | Random Effects | Random Effects |

Findings from the unemployment rate test were slightly more explicit. The random effects model is satisfactory in specification testing terms. A significantly positive effect of growth rates can be observed. This is to say that once an adjustment has been made for the other effects, rapid growth leads to high unemployment. This counter-intuitive possibility that growth may have a negative impact on employment finds some substantiation in theoretical literature. Growth is based on innovation that possesses both creative and destructive elements.²¹ By itself, ICT would appear to have had a positive effect on employment. The utilisation, and above all the production, of information technologies helped to lower unemployment. Stock market developments did not have any significant effect and this variable is omitted from the findings being presented. Monetary policy had the

²¹ See Aghion & Howitt [1998: chapter 4].

anticipated effect, with a 1% rise in real interest rate leading to increase of 0.2% in unemployment.

We can go further and assess the impact of institutional characteristics on comparative performance of countries. In order to do so, we use the factor analyses previously mentioned. Each analysis (product markets competition, labour markets...) has given a representation of countries in a given factorial plane. Each factorial axis is built with institutional variables. We can use the axes of each analysis to define new institutional variables. For instance, the first axis of the analysis on product market regulation is a compound measure of competition. Therefore, the countries' projections on this axis indicate how much product market competition is regulated in each country. More generally, the countries' projections on the different axes of all of the principal components analyses give new composite institutional variables reflecting product markets competition, labour market regulation, financial systems characteristics, etc.

We can thus define specific variables. The countries' projection on the first axis of the analysis of product markets competition can be interpreted as a measure of the intensity of competition regulation, with the UK and the US being countries where product markets are the less regulated, as opposed to Italy (or Korea). Similarly, we use the projections on the first axes of the principal components analyses for labour market regulation, industrial relations, the financial sector, the education systems and the welfare systems. We define a variable for the intensity of labour market regulation. According to this new indicator, the US, the UK and Canada possess the less regulated labour markets, as opposed to Greece, Spain, France or Norway. Although the interpretation of the first axis of the analysis on industrial relations cannot easily be summed-up with a single word, we define the individual countries' projection along this axis as a measure of wage bargaining 'corporatism'. According to this measure, the most 'corporatist' countries are Scandinavian countries, whereas the US and Italy possess the less 'corporatist' patterns of industrial relations.

The analysis of the financial sector allows to measure the distance between 'market-based' financial systems and more 'bank-based' systems. The first axis of the analysis opposes 'decentralised' to 'centralised' systems, with countries relying much on stock markets on one side of the axis, and countries where ownership is concentrated at the other side. We will define the centralisation of the financial system as the projection on this first axis. Therefore, Italy and Austria will have the most centralised financial systems, and Great Britain and the USA will be characterised by decentralisation in this respect.

The extent of social protection can be easily measured along the first axis of the relevant data analysis. We define the welfare (state) variable as the negative of the projection on this axis. Thus, Finland and Sweden are characterised by high values for this new variable, reflecting the fact that these are countries where public-funded social protection is well developed, whereas Japan and the US lie at the other end of the spectrum. Finally, the first axis of the analysis on education systems reveals how much the tertiary education system is public-funded, opposing countries such as Austria, Finland and Germany to the US and Japan. Thus, the variable representing the importance of the public sector in tertiary education is defined as the negative of a country's projection on that axis.

In order to assess the importance of institutional complementarities, we will also use interaction effects for our institutional variables. If there is a complementarity between product market regulation and labour market regulation, one expects that a good macroeconomic performance should be associated with either a low or a high level of regulation in both product and labour markets. Our institutional variables can take both positive and negative signs so that a low a high value of the interaction term reflecting complementarity between regulation in product and labour markets can be obtained with positive as well as negative values for both indicators. We also used the final data analysis, i.e. the analysis which produced the final cluster analysis, to measure the dissimilarity across countries. The first factorial axis of that analysis opposes the market-based model countries

to the other countries. Projection on that axis can then be interpreted as an index of similarity or dissimilarity with respect to the market-based model. The second factorial axis of that analysis can be interpreted as reflecting the similarity with respect to the Asian capitalism model.

We use these variables to test for the impact of institutional variables on the growth pattern of our sample of 21 countries over the 1990s decade. Results are given in Table 6. We start with a simple model relating the growth rate to the real interest rate and the savings rate. In a short term perspective, one would expect a negative influence of these factors on growth. The inclusion of a 'catch-up' term (the lagged value of the GDP level) proved to be insignificant; the variable was thus subsequently dropped. The results of Table 6 can be interpreted as a support of the institutional complementarity approach and a qualification of the hypothesis that the market-based model is necessarily superior.

The most common ideas in this respect are that the institutional features characteristic of the market-based model should lead to superior performance by themselves. Therefore, lower product markets or labour market regulation as well as lower financial sector centralisation should induce higher growth. The results of Table 6 show that these variables act mostly in interaction with each other, so that a lower degree of product market regulation leads to superior performance when combined with a lower degree of labour market regulation or low financial sector centralisation. But conversely, employment protection combined with product markets regulation also leads to a higher growth performance. Therefore, institutional complementarities are such that a low (high) degree of product markets regulation must be combined with a low (high) degree of labour market regulation in order to obtain high rates of growth. The interaction terms combining product market and labour market regulation with financial sector centralisation even show that Anglo-Saxon type financial markets are not growth-enhancing institutions. Nevertheless, when conditioning for institutional complementarity terms, there appears to be a positive growth effect related to the proximity to the market-based model.

We also consider another indicator of performance, more related to technology, the inventiveness ratio, i.e. the number of patents divided by total population. Regression results with this indicator are reported in Table 7. The basic model relates inventiveness to the ratio of research and development expenditures to GDP. It appears at first sight that the market-based model has a clear advantage in inventiveness, but so does the social-democratic model. This echoes other results (Boyer [2001]) concerning the good macroeconomic performance of countries other than those of the Anglo-Saxon model (Denmark for instance). Adding institutional variables reveals that product market regulation may be bad for innovation when taken alone, but not other institutional features such as a non-flexible labour market or a centralised financial system. The interaction terms coefficients reveal that product market regulation is detrimental to innovation even when combined with labour market regulation unless there is centralisation in the financial sector. This could be interpreted as the existence of at least two ways to obtain a high innovative performance. The first one is the celebrated liberal market way, with product market deregulation combined with labour 'flexibility'. The other way would combine 'corporatism' with product market regulation provided a centralised financial system is present in order to secure long-term financing. This model would come near to the ideal-typical social democratic model but also to some of the features of the continental European model.

Table 6. Growth regressions

| | | | | | | | |
|---|---------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Real interest rate | -.0012449 *** (-3.37) | -.0009006 (-2.47) | -.0011359 (-3.01) | -.001165 (-3.15) | -.0009885 (-2.61) | -.0014735 (-3.74) | -.00161 (-4.08) |
| Saving rate | -.0005486 (-1.49) | -.0010496** (-2.81) | -.0011825 (-2.96) | -.0009339 (-2.60) | -.0011247 (-3.03) | -.0003323 (-0.84) | -.0008008 (-1.89) |
| Product market regulation | .0010944 (0.74) | .0016315 (1.96) | .0011877 (0.77) | .0008693 (0.69) | .0024056 (1.67) | .0013024 (0.86) | .0031529 (1.84) |
| Labour market regulation | .0016969 ** (2.12) | | .0040343 (3.47) | | | .0026665 (3.08) | .0037345 (3.44) |
| Financial sector centralisation | -.0004297 (-0.58) | | -.0056975 (-2.47) | | -.0011349 (-0.59) | .0001793 (0.26) | -.0054288 (-2.06) |
| Corporatism | | -.0007592 (-0.98) | | .0016329 (1.08) | | | |
| Product & labour markets interaction | .002871*** (3.97) | | .0018349 (2.06) | | | .0023535 (3.05) | .0024191 (3.19) |
| Product market & financial sector interaction | .0013628 ** (2.51) | | -.0003835 (-0.48) | | .0005831 (1.80) | .0013704 (2.40) | -.0002589 (-0.32) |
| Labour market & financial sector interaction | .0014948*** (4.44) | | .0021963 (3.97) | | | .0009337 (2.18) | .0019224 (3.17) |
| Product & labour markets & financial sector interaction | .0005595 *** (3.49) | | .000328 (2.00) | | | .0005616 (3.08) | .0003552 (2.04) |
| Product market regulation and corporatism interaction | | .0010108 (2.78) | | .001005 (2.28) | | | |
| Dissimilarity to the market-based model | | | -.0045912 (-2.24) | .0005978 (0.79) | -.0014118 (-1.10) | | -.0060871 (-2.33) |
| Similarity to the Asian model | | | .0021741 (2.52) | .0015482 (1.90) | .0018031 (3.31) | | |
| Net private transfers/GDP | | | | | | .0005398 (2.69) | .0007955 (3.65) |

Regressions are FGLS with panel-specific heteroskedasticity and AR1

Table 7. Inventiveness regressions

| | | | | |
|---|-----------------------------|---------------------------|---------------------------|-----------------------------|
| RD/GDP | .4207656 (5.85) | .6040248 (8.76) | .5520171 (7.08) | .3512235 (4.34) |
| Product market regulation | | -.020093 (-1.48) | -.0297776 (-1.00) | -.108166 (-5.14) |
| Labour market regulation | | | | .16097 (5.63) |
| Financial sector centralisation | | | .0159064 (0.51) | .0709569 (3.13) |
| Corporatism | | .1334307 (5.61) | .1380573 (4.12) | |
| Product & labour markets interaction | | | | -.0610981 (-5.94) |
| Product market & financial sector interaction | | | | .1085713 (9.80) |
| Labour market & financial sector interaction | | | | -.089308 (-8.63) |
| Product & labour markets & financial sector interaction | | | .0184656 (2.50) | .0114584 (4.38) |
| Product market and corporatism interaction | | .0622486 (4.77) | .0847713 (3.81) | |
| corporatism & financial sector interaction | | | .0478328 (2.37) | |
| Product & corporatism & financial sector interaction | | | .0231214 (3.71) | |
| Dissimilarity to the market-based model | -.0567688 (-9.99) | | | |
| Dissimilarity to the social-democratic model | -.0784494 (-6.14) | | | |

Regressions are FGLS with panel-specific heteroskedasticity and AR1

Conclusion (incomplete)

The diversity of modern capitalism seems to be a durable fact, not because of the existence of rigidity in the process of adapting to the one-best-way, but because there are systemic reasons for countries to adopt different institutional structures. The question of the transformation of the various models must be treated from another point of view than that of a comparison vis-à-vis the liberal market economies. In other words, just as the post-war growth regime was characterised by diversity of capitalism, there is no reason to think that the 'new economy' regime, if it is stable, will generate more institutional convergence.

However, diversity does not mean absence of change. Adaptation to the new technological regime and new patterns of internationalisation will bring changes to the different models. In fact, some types of capitalism are likely to be more affected than others. The continental European model is certainly under more stress than the

market-based model. Some transformations are under way in the fields of product markets competition, labour markets and financial systems, which question the somewhat fragile stability of this model.

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