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**Institutions and Economic Growth:
A Survey of the Recent Empirical Evidence**

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Summary

We take up the recent discussion about institutions, governance and geography. The main result of this debate is that institutions matter, be they the fundamental cause of growth or not. We first discuss economic institutions safeguarding economic freedom, including the role of the judiciary, then political institutions, especially democracy. While there is a large consensus that economic institutions matter for economic growth, the opinions with respect to political institutions as well as the empirical results differ quite a lot. Then we turn to institutions especially relevant for Switzerland: direct democracy and (fiscal) federalism. There is no indication that these institutions hamper economic growth. We conclude by asking for possible consequences of the empirical results presented.

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1 Introduction

[1] After World War II, there have been two very big natural experiments demonstrating the importance of institutions for economic development: the partitions of Germany and Korea into two parts, one with a market oriented economy and the other one with a heavily state regulated economy. Up to the point of their division, the two parts of these countries had a common history. In 1991, the year after the German unification, GDP per capita was about three times as high in West as in East Germany. In Korea, the difference is even more dramatic: It is estimated that GDP per capita is about fifteen times as high in South compared to North Korea. In both countries, before they have been divided, many factors that are usually considered as being important for economic growth have essentially been the same in both parts, capital equipment, especially human capital, but also culture, religion, and, last but not least, geography. Thus, these dramatic differences clearly indicate the importance of a shift in the institutions of a country.

[2] The Korean example might even be better than the German one. First, one might argue that the two parts of Germany have been treated differently by the victory countries of the war: while West Germany has been supported by the Western Allies since 1948, East Germany did not get similar support by the Soviet Union. Just the opposite happened: it still had to pay reparations. There was no similar difference in Korea. Moreover, the main difference in Korea was due to economic and, for the first decades, not due to political institutions: contrary to West Germany, up to the seventies political rights were strongly restricted in South Korea.¹⁾ Thus, Korea provides a very clear example for the effect of economic institutions.

[3] Germany, on the other side, provides a very good example for the long-lasting effect of institutions. After the unification in 1990, many people in East as well as in West Germany believed that East Germany would very soon catch up with West Germany; they hoped for a second economic miracle similar to the first one after the introduction of the German Mark (DM) in West Germany in 1948. Chancellor Helmut Kohl promised the East German population “flourishing landscapes” after a few years. Today, more than 18 years after the introduction of the German Mark in East Germany on July 1, 1990, and the political unification three months later, there is still a huge discrepancy between the two parts, with the East having about 33 percent less GDP per capita than the West. Moreover, as *Figure 1* shows, after the first few years there was no more catch-up of the East to the West: between 1996 and 2007 the average growth rate of GDP per capita was in both parts of Germany about 1.5 percent.

[4] Despite such obvious examples, in traditional economic growth theory, institutions (and especially political institutions) hardly ever played a role. There are three factors causing growth in the neoclassical model that goes back to R. SOLOW (1956): labour, capital, and (exogenous) technical progress. The latter might be influenced by institutions, but the theory

1. The Freedom House index gives South Korea a value of 5 for political rights and 6 for civil liberty for 1972, compared with values of 1 for West Germany, while East Germany and North Korea had values of 7 in both categories. (The ratings go from 1 (totally free) to 7 (totally not free). See <http://www.freedomhouse.org/template.cfm?page=15> (03/10/08).

supposes it to be exogenous. Modern, ‘Endogenous Growth Theory’ is not much better, however. There is, for example, no chapter about the role of institutions in the leading textbook by R.J. BARRO and X. SALA-I-MARTIN (1995). It is conceded that technical progress is not exogenous, it depends, for example, on the amount and quality of human capital in a society, but the special role of economic and/or political institutions is not taken into account. In the empirical analyses, variables reflecting economic and political institutions are considered as being “additional explanatory variables” (p. 436), that are not included in the basic regression model. Thus, while there have been papers that included political variables into growth regressions, questions concerning their impact were hardly ever at the centre of the growth debates.²⁾

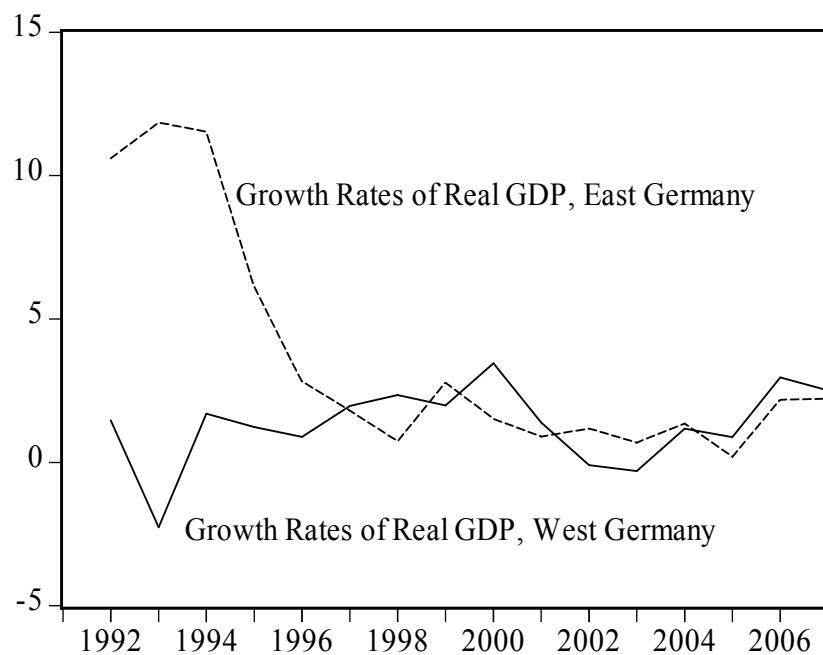


Figure 1: Growth Rates of Real GDP in West and East Germany

[5] This changed during the decade: there has been an intense discussion about the effects of institutions on economic growth. There are two sub-debates in this respect. The first question is whether geography or institutions matter. The starting point of this debate is tropical underdevelopment: countries in tropical regions are – on average – much less developed than countries with a milder climate in the North as well as in the South. The latter have, however, on average, also ‘better’ institutions. Thus, while the institutions cannot cause the climate but at best mitigate its effects, it might well be that different climate conditions give rise to different political institutions. Thus, the problem is to find the true causal link. The second question is whether governance (policies) or institutions matter: good policy might result in higher growth rates quite independent of the institutions of a country. There is again a problem of causality: good institutions might allow for better policy, but good policy might also allow for

2. Surveys of the earlier literature are given in L. SIROWY and A. INKELES (1990), A. PRZEWORSKI and F. LIMONGRI (1993) as well as A. BRUNETTI (1997).

the development of better institutions. Letting aside the natural experiments mentioned above it is impossible to use experimental data in this area. Using field data, it is, however, rather difficult to disentangle the different possible causal directions. Thus, a good deal of the discussions in this area has been about the appropriateness of the empirical procedures.

[6] A narrower question is whether democracy is supporting or hampering economic growth. It is obvious that many of the highly developed countries, especially in Europe, North America and Australia, have stable democracies, whereas many of the poor countries are either reigned by a dictator or have at least a rather fragile democratic regime.³⁾ On the other hand, authoritarian regimes had very high growth rates, like South Korea up to the seventies or China during the last decades, while developing countries with more democratic regimes like the Solomon Islands grew much less.⁴⁾ Thus, democracy might be a luxury good that countries can afford if they are already rich, but for poor countries it might be preferable to have a (mildly?) authoritarian political regime, though this does definitely not assure higher growth.

[7] The discussion so far shows that the international debate about the relation between institutions and economic growth hardly considers those institutions which are so special for Switzerland: direct democracy and federalism. It is mainly a discussion about the prospects of developing countries. On the other hand side, in recent years, in Switzerland there was an intense discussion about its ‘growth weakness’.⁵⁾ From the beginning of the nineties up to about 2006 Swiss growth rates have been very low; on average, they have been the lowest ones of all OECD countries.⁶⁾ Taking into account that Switzerland has not only a more open but also a less regulated market economy than its European neighbours and in particular a much less regulated labour market than most European countries, one of the mostly debated questions was whether the rather special political institutions of Switzerland, its large amount of direct political rights as well as its highly decentralised fiscal system, were responsible for this weakness. Are these institutions hampering economic growth, and would it therefore make sense to change to a representative democratic system as it exists in our neighbouring countries, and/or to reduce the number of cantons to build larger, more powerful political units? This debate did stop for the moment, after the relatively positive economic development in the most recent years, but it might come up again if growth would be low again in future years. Aside from this it is, nonetheless, a question of much more general relevance whether direct democracy and/or federalism contribute to economic growth or even hamper it.

[8] In the following we first take up the recent discussion about institutions, governance and geography (*Section 2*). In our perspective, the main result of this debate is that institutions

3. For 2005, the correlation between GDP per capita (estimates for 2007, measured by purchasing power parities) and the amount of political rights as measured by the Freedom House index is (-)0.362 and the amount of civil liberties (-) 0.421. Data for GDP are from the IMF (World Economic Outlook Database, October 2008).

4. See, for example, the contributions in L. STEINMANN and H. RENTSCH (2005).

5. See, for example, the contributions in L. STEINMANN and H. RENTSCH (2005).

6. Between 1991 and 2006, Switzerland had with 1.3 percent per year the lowest average GDP growth rate of all OECD countries. See *OECD Economic Outlook* 76 (December 2004, p. 167), 83 (June 2008, p. XX).

matter, be they the fundamental cause of growth or not. In *Section 3* we turn to economic institutions safeguarding economic freedom, including the role of the judiciary, in *Section 4* to political institutions, especially democracy. While there is a large consensus that economic institutions matter, the opinions with respect to political institutions as well as the empirical results differ quite a lot. Then we turn to institutions especially relevant for Switzerland: direct democracy (*Section 5*) and (fiscal) federalism (*Section 6*). *Section 7* concludes by asking for possible consequences of the empirical results presented.

2 Institutions, Governance, or Geography?

[9] As mentioned above, there is still an ongoing debate whether institutions, governance (policies), and/or geography are the ‘true’ causes for economic growth. Hardly anybody doubts that all three factors might play a role or are at least correlated with growth, but the question is one of causality: what does or did cause what, or what are the truly exogenous variables? Political institutions, for example, might seem to be important at a first glance, but their impact might be irrelevant if the governance of a country is good. Such a situation is, for example, described below where it is shown that de jure independence of the judiciary is more or less irrelevant; all that counts is de facto independence. But good institutions might be (and certainly are, at least to some extent) a pre-condition for good governance.

[10] Geography is, of course, truly exogenous⁷⁾ and can hardly be influenced either by political institutions or by good governance. What can be hoped at best is that political institutions (and/or good governance) might overcome some of the problems adverse to geographic conditions cause for economic development. It is not by chance that those countries that have been economically successful over the last centuries have a relatively mild climate. But today, these problems might be overcome by corresponding institutions. Thus, one of the questions is whether geography still matters once the effects of institutions are taken into account.

[11] That a positive correlation exists between climate, coastal proximity and economic development is convincingly demonstrated by A.D. MELLINGER, J.D. SACHS and J.L. GALLUP (2000). According to their results, only 8 percent of the world's surface is located in temperate ecozones within 100 km of the ocean or a sea-navigable waterway, but 23 percent of the world's population live their producing 53 percent of GDP. Thus, “the GDP densities in temperate ecozones proximate to the sea are on average eighteen times higher than in non-proximate non-temperate areas” (p. 169). This does, however, not imply that there is a direct causal link from geography to economic growth. This proposition is investigated by D. ACEMOGLU, S. JOHNSON and J. ROBINSON (2001). They acknowledge that, during colonial times, different ecological conditions led to different institutions which more or less persist to the present. If it is controlled for these institutions, geography does no longer have an independent impact on economic growth. Thus, geography has an impact but, according to these

7. In this discussion, ‘geography’ covers two aspects: climate conditions as well as proximity to an ocean or a sea-navigable waterway.

authors, only an indirect one via institutions. This result is reinforced in a similar study by D. RODRIK, A. SUBRAMANIAN and F. TREBBI (2004).

[12] This position is, however, contradicted again by J.W. MCARTHUR and J.D. SACHS (2001).⁸⁾ They acknowledge the importance of institutions as intervening variables, but insist that geographical factors do have an independent influence. They show that malaria incidence, for examples, as well as life expectancy at birth have a strong incidence on economic growth, even if it is controlled for institutions.⁹⁾ However, despite the fact that both of these factors, and malaria incidence in particular, are today still related to geography, this does not have to be the case. Malaria, for example, still existed in Southern European countries in the first half of the last century, but has been completely eradicated in the meantime. Thus, while geographical conditions cannot be changed, traditional consequences of these conditions might well be changed, at least to a very large extent.

[13] Thus, the whole discussion about institutions versus geography is a somewhat artificial one. Relevant for policy purposes are only those factors that can be influenced by policy. Trivially, geographical conditions cannot be changed. They might provide reasons for a bad performance of countries. At least in the long-run, this is, however, only justified if the economic consequences of these conditions cannot be compensated by policy measures. Those consequences mentioned by J.W. MCARTHUR and J.D. SACHS (2001) can, however, be compensated. Thus, they cannot exculpate governments which do not take on necessary measures. Moreover, even those authors who insist on an independent influence of geographical conditions on economic growth do not deny the effect of institutions. Thus, the really relevant question for policy purposes is how institutions in developing countries can be changed in order to promote (more) economic growth.¹⁰⁾

[14] The situation is different for the discussion over the relation between economic growth and institutions and/or governance (policies). Here, the causal direction could easily go in both ways: good institutions can cause good governance and/or good governance good institutions. Thus, the problem of isolation of the true causal links is more difficult than with respect to geography and institutions. As a consequence, there are rather different views presented in the literature. E.L. GLAESER, R. LA PORTA and A. SHLEIFER (2004), for example, suggest “that (a) human capital is a more basic source of growth than are institutions, (b) poor countries get out of poverty through good policies, often pursued by dictators, and (c) subsequently improve their political institutions” (p. 271). Thus, according to their results, human capital and good policies are the real driving force of economic development rather than (political) institutions. Contrary to this, D. ACEMOGLU, S. JOHNSON and J. ROBINSON (2005) insist that “insti-

8. See also J.D. SACHS (2003).

9. See also J.L. GALLUP and J.D. SACHS (2001).

10. Simple geographic determinism is also rejected by D.E. BLOOM, D. CANNING and J. SEVILLA (2003). They favour a ‘poverty trap model’ with two different equilibria, where the probability for being in the high income equilibrium was greater for countries with a more modest climate.

tutions are the fundamental cause of long-run growth”, and W. EASTERLY (2005) presents similar evidence.¹¹⁾

[15] The problem with this literature is that rather different indicators of governance are used and the term ‘institutions’ is used quite differently, sometimes only covering economic institutions, sometimes only referring to political ones. As will be discussed in the next section, economic institutions safeguarding the rule of law, at least with respect to economic processes, are essential for economic development. But it should be obvious that good governance is necessary as well: bad policies might lead to detrimental results even in the presence of good institutions while bad institutions might even prevent good governance. Thus, it should be obvious that both are needed. This is different with respect to political institutions: as several examples, as for example China, show: authoritarian regimes respecting the rule of law with respect to economic processes might produce high growth rates. Similar arguments hold with respect to the relation between human capital and institutions. Without human capital, even the best economic institutions will hardly produce a flourishing economy, but for providing human capital in an economy you have to have a good schooling system, one of the basic political institutions of a society.¹²⁾ Moreover, as F.A. GALLEGO (2008) shows, the quality of education depends on political institutions like democratisation and decentralisation.

[16] Without denying the interrelations between them, the problem is, therefore, less a question of the fundamental causes of growth but rather of the optimal combinations of institutions and governance. Thus, despite some different statements in the literature, in the following, we suppose that institutions matter, besides possible other influences and the questions will be regarding the effects of different institutions. In doing so, we start with the economic institutions that are much less controversial than political institutions, especially democracy, that are discussed in a further step.

3 The Role of Economic Institutions

[17] Hardly anybody will reject that at least some *economic* institutions play an important role in the economic process and, therefore, also for economic growth.¹³⁾ These institutions are to guarantee basic economic liberties and private property rights of the citizens as well as the prevalence of the rule of law. They allow for profitable exchanges which are the fundament of (modern) market economies. Thus, economic liberty is a precondition for a positive economic development. Besides the question of causality, the only questions really at debate

11. That there is hardly any single empirical growth model representing all the evidence is also shown in M. BLEANY and A. NISHIQAMA (2002).

12. P. TRIDICO (2007) shows, for example, that human capital is necessary but not sufficient for economic growth in transition countries; appropriate institutions are also needed.

13. See, for example, A.M. ALI (2003) or the survey by J. DE HAAN, S. LUNDSTRÖM and J.-E. STURM (2006).

are the quantitative effect and whether it increases in the long-run the growth rate or ‘only’ the income level.¹⁴⁾

[18] That economic freedom has an impact also on the growth rate of real income is, for example, stated in J.D. GWARTNEY, R.G. HOLCOMBE and R.A. LAWSON (2004) or E. WEEDE (2006). However, both papers fail to show this. The usual test is to include an indicator for (economic) freedom into the growth equation. If the lagged income level is also included, its coefficient should not be significantly different from zero. A (significant) negative coefficient indicates that the effect of an increase in the freedom indicator has a temporary but not permanent effect on the growth rate. Neither do J.D. GWARTNEY, R.G. HOLCOMBE and R.A. LAWSON (2004) nor E. WEEDE (2006) include the lagged income level into the growth equation and are, therefore, unable to test this proposition. E. WEEDE (2006) includes the level of 1980 and gets a highly significant negative coefficient for it. Taking the argument E. WEEDE (2006) makes for the positive effect of economic freedom in economic growth seriously this would – in analogy – imply that countries with lower GDP per capita in 1980 would also permanently have higher growth rates, a conclusion that is obviously absurd. Moreover, he does not include indicators for physical and human capital which have to be included into the growth equations in order to prevent mis-specifications.¹⁵⁾ Insofar, the results of J. DE HAAN and J.-E. STURM (2000) seem to be more reliable who come to the conclusion that an increase in economic freedom fosters economic growth, but that the level of economic freedom is not related to growth.

[19] An interesting point has been raised by C. DOUCOULIAGOS (2005): there might be a publication bias in the economic freedom and economic growth literature. As there is a general conviction among economists that economic freedom is important for economic development, it is hardly possible to publish a paper with a non-significant, let aside a significantly negative result. Though this is quite a general problem, and because of our general conviction, this debate might be especially prone to it. In examining the literature C. DOUCOULIAGOS (2005) finds evidence for such a bias. This does not imply that there is no relation between economic freedom and economic growth, but its quantitative impact might be overstated.

[20] To safeguard economic freedom, a strong independent judiciary is needed. It has to guarantee private property rights, but also that economic actors comply with the commitments they made when voluntarily concluding a contract, even if this implies a loss for one of the parties. This is necessary because otherwise many (ex ante) profitable contracts which include future obligations of the concluding parties would not be closed because of the uncertainty about the other party's future behaviour.

[21] A strong judiciary is also needed to make the rules of the economic process, as laid down in the constitution and/or in statutory laws, credible. A. BUNETTI, G. KISONKO and B. WEDER (1998) present, for example, in a panel analysis with 51 countries over the period of

14. Using Granger causality tests, J.C. HECKELMAN (2000) finds that the main direction is from economic freedom to economic growth, but he also finds some evidence for reversed causality.

15. See for this, for example, C. DOUCAGLIAGOS and M.A. ULUBASOGLU (2006).

the seventies and eighties strong evidence that credibility of rules has a large and significant impact on economic growth. This is, however, an indirect effect via investment: higher credibility leads to higher investment (accumulation of capital) and, therefore, to higher growth. If investment as well as a credibility indicator is included into the growth regressions only investment is significant.

[22] What counts is, however, not so much *de jure* but *de facto* independence of the judiciary. Both should, of course, be correlated, because the judiciary will hardly ever be *de facto* independent if it is not also *de jure*. On the other hand, *de jure* does not guarantee *de facto* independence. The two indicators developed by L.P. FELD and S. VOIGT (2003) show a surprising result: for the 57 countries in their sample the correlation between them is only 0.179, which is far from being significant even at the 10 percent level. Moreover, *de jure* independence does not have any significant effect on economic growth, while *de facto* independence clearly has. Due to the low correlation between the two indicators this is not really surprising.¹⁶⁾

[23] From this it can be concluded that one the important measures to improve the conditions for economic growth is to make the judiciary truly independent, not necessarily *de jure*, but in any case *de facto*.¹⁷⁾ However, at least when considering less developed countries, it is important to take notice of the existing more informal legal structures, and to take care that they are not destroyed by introducing formal ones. As R.E. MESSIK (1999) shows, there are several examples where the introduction of formal legal and/or judiciary systems destroyed the existing informal ones and, in this way, worsened the situation: The rule of law did hold less after than before the reform.

[24] Another factor that economists usually believe to be important for economic development is the openness of markets: The more open the markets of a country are, the more integrated it is into the world economy, the higher should the economic welfare – *ceteris paribus* – be for its citizens. The idea behind this is the theory of relative advantages developed by DAVID RICARDO (1817). It is the basic rationale behind all trade liberalisation we have seen since World War II, not only the GATT and the WTO but also regional free trade agreements like the European Union (EU), the European Free Trade Agreement (EFTA) or the North American Free Trade Agreement (NAFTA).

[25] There are, however, some doubts concerning this conventional wisdom. It is hardly ever questioned that the openness of an economy by itself is a good thing, promoting the welfare of the citizens of an economy, but the degree of openness is at stake, and especially the sequence of markets to be opened. The latter holds in particular for developing economies. While there is a wide consensus that a modern, highly developed economy needs an open financial system integrated into the world economy, it is debated when and how far developing countries should open their capital markets. While this opening was a major element of

16. In a more recent paper, L.P. FELD and S. VOIGT (2005) get similar results from a somewhat larger sample of countries.

17. See also K.W. DAM (2006).

the ‘Washington Consensus’¹⁸⁾ which in the nineties was the basis of development policy, in particular of the Breton Woods Institutions, the International Monetary Fund (IMF) and the World Bank, prominent economists like J. STIGLIZ (2002), who himself was chief economist of the World Bank for several years, reject this view and plea for open goods markets but relatively closed capital markets of such an economy. In this view, open capital markets have positive effects for a mature but not necessarily also for a developing economy.

[26] As mentioned above, the conventional wisdom was that trade fosters economic growth, i.e. the reduction of trade barriers is beneficial. In the eighties and nineties of the last century there have been performed quite a lot of empirical studies that tried to show this.¹⁹⁾ F. RODRIGUEZ and D. RODRIK (2000) challenged this belief and showed that these results have been far from being robust: small changes of the specifications often lead to significant changes of the results. This paper actually opened a new debate. Is openness really good for growth? The new evidence available so far shows at least “that trade liberalization does not have a simple and straightforward relationship with growth using a large number of openness measures for a cross-section of countries over the last three decades.”²⁰⁾ R.E. BALDWIN (2003) accepts the critique of F. RODRIGUEZ and D. RODRIK (2000) on the earlier studies but nevertheless insists that “lower trade barriers in combination with a stable and non-discriminatory exchange-rate system, prudent monetary and fiscal policies and corruption-free administration of economic policies promote economic growth”. Thus, according to his opinion, it is no longer openness per se, but a whole package of policy measures that is necessary, and openness plays in this package a specific role.

[27] This does, however, not answer whether openness is – ceteris paribus – beneficial for economic growth. R. RIGOBON and D. RODRICK (2005) try to disentangle the different relationships. They find that “democracy and the rule of law are both good for economic performance, but the latter has a much stronger impact on incomes. Openness (trade/GDP) has a negative impact on income levels and democracy, but a positive impact on the rule of law. Higher income produces greater openness and better institutions, but these effects are not very strong” (p. 533).²¹⁾ Thus, there is a direct negative but an indirect positive impact of openness on growth, and the indirect might well be stronger than the direct one. Moreover, there is also an effect in the opposite direction. Thus, in empirical analyses we cannot expect a strong impact in any direction. This is in line with papers by H.Y. LEE, L.A. RICCI and R. RIGOBON (2004) who conclude that openness has a positive, but small effect on growth, but that there is also a robust effect into the opposite direction, and by B.P. BOSWORTH and S.M. COLLINS (2003), who found only little evidence for the impact of openness on growth.

18. To the Washington Consensus and the more recent concepts in development policy see, for example, D. RODRIK (2006).

19. See, for example, the survey by S. EDWARDS (1993, 1998), but also J.A. FRANKEL and D. ROMER (1999).

20. H. YANIKKAYA (2003, p. 57).

21. See also similar results by D. RODRIK, A. SUBRAMANIAN and F. TREBBI (2004).

[28] Moreover, H. YANIKKAYA (2003) finds that while trade intensity is positively related to growth, the same also holds for trade barriers. This seemingly contradictory result is – at a first glance – surprising. His solution of this puzzle is that “while trade barriers have adverse effects on growth through reducing trade, they positively affect growth through superior resource allocation and/or positive externalities” (p. 79). His results seem to imply that the latter dominates the former.

[29] A final point might be that in underdeveloped countries tariffs might be an ideal way to finance the government. The modern tax system of industrialised countries demands a highly developed structure of the political and economic system. Abolishing tariffs in order to increase trade might force the government to seek resources that might have much higher deadweight losses. Insofar, despite their partially negative effects on trade and, therefore, also on growth, in developing countries tariffs might have a positive effect on economic growth.

[30] Taking all results of this discussion together, the final word has definitely not been spoken yet. It is obvious that the old wisdom that opening the borders fosters economic growth does not longer hold in every case, but it is also not disputed that in the long-run opening of markets leads to increased economic performance. The policy problem is, however, highly complicated, and dependent on the concrete situation. As in many other cases, simple solutions are not always the best ones.

4 The Role of Political Institutions

[31] If there is a consensus among economists about the effect of political institutions, then it is that policy volatility is detrimental to economic growth. More recently, this has again been shown by A. FATÁS and I. MIHOV (2005) as well as by R. JONG-A-PIN (2006).²²⁾ The only divergence from the general consensus being that some authors believe that these negative effects are only transitory while others, probably the majority, believe that they are permanent.²³⁾ Following K. ANGELOPOULOS and G. ECONOMIDES (2008), even the uncertainty whether a government will stay in office after the next election can have a negative impact on growth.²⁴⁾ A steady policy can, however, be performed in an authoritarian as well as in a democratic system. Temptations for unexpected policy changes exist in both systems, be it, to secure the re-election, be it, to secure the power of the ruling elite. Thus, in this respect democracy does not necessarily seem to have an advantage.²⁵⁾

22. See already R.J. BARRO (1991), A. ALESINA et al. (1996), A. BRUNETTI (1998), as well as the survey of F. CARMIGNANI (2003). – The same holds for social conflicts. See for this, for example, D. RODRIK (1999a).

23. N.F. CAMPOS and J.B. Nugent (2002) argue that these effects are only transitory. This is in contrast to the observation by V. CERRA and S.C. SAXENA (2007) that economic crises, whatever their root might be, there is no full recovery but trend output is lost.

24. See for this also M. BUSSIÈRE and C. MULDER (2000).

25. The reverse relation, whether economic growth leads to political stability, is discussed in M. PALDAM (1998). According to his results, the evidence is also inconclusive, as there are example where high growth in authoritarian regimes lead to a democracy as in the case of South Korea but also examples where it lead to an even more authoritarian regime as in Iran.

[32] There are at least some economists who have an ambiguous relation to modern Western democracies. The most prominent one is F.A. v. HAYEK (1977, p. 8f.) who openly admitted that he would prefer to live under an authoritarian regime as long as it respected the rule of law, i.e. secured private property rights, than in one of our modern democracies because he saw these regimes as being ‘unrestricted’; according to his conviction there is too much redistribution and not enough respect for private property rights in our modern democracies. Moreover, it is observed that there are authoritarian regimes exhibiting high economic growth while many democracies do not develop well. This leads, for example, J. BHAGWATI (1966, p. 203f.) to the conclusion: “The political economy of development poses a cruel choice between rapid (self-sustained) expansion and democratic process.”

[33] While it can hardly be doubted, that there are authoritarian regimes with high economic growth, the question is whether it is really democracy that causes low growth or whether there are other reasons for this. Moreover, there is hardly any guarantee that an authoritarian regime will foster economic growth in the long-run. H. ALMEIDA and D. FERREIRA (2002) show that not only the best but also the worst performers in economic growth are autocracies. Finally, high economic growth might in an authoritarian regime be combined with rather low income for large parts of the population. Even if there is high growth, it is open whether this is really beneficial for ordinary citizens. As D. RODRIK (1999) shows democracies pay – *ceteris paribus* – higher manufacturing wages. Thus, it is a rather risky strategy to introduce an authoritarian regime in order to have higher growth.

[34] But does this trade-off between democracy and economic growth really exist? There is at least a positive (simple) correlation between both that causes some doubts about it, even if it might be the case, as D. ACEMOGLU, S. JOHNSON, J.A.S. ROBINSON and P. YARED (2008) propose, that this correlation is due to a common long-run development and does not indicate a causal relation. The more recent empirical literature that tried to answer this question started with the paper by R.J. BARRO (1996). According to his results, this trade-off exists: the effects of democracy on growth are weakly negative. However, he sees a nonlinear relation: At low levels of political freedom democracy enhances growth, but at high levels it depresses it. Thus, for achieving high economic growth, the citizens should not have too many political rights. On the other hand, he also sees a reverse relation: with higher GDP per capita the probability for political freedom will grow.

[35] These results are contradicted by several authors. X.X. SALA-I-MARTIN (1997) finds a robust positive effect not only of civil liberties but also of political rights on growth, while revolutions, military coups as well as wars have a negative impact. J.A. MINIER (1998) shows that countries that democratise grow faster than countries that are a priori similar, while countries that become less democratic grow more slowly. J.B. DURHAM (1999), on the other hand, in a series of regressions finds sometimes positive and sometimes negative effects of democracy, but the estimated coefficients are hardly ever significant. R. RODRIK (2000) as well as R. RIGOBON and D. RODRIK (2005) find again positive effects; the latter state that democracy is good for economic performance, even if the effect is relatively small. J. TAVARES and R. WACZIARG (2001) show that democracy has an indirect positive impact on growth by

improving the accumulation of human capital and also, to a lesser extent, by reducing income inequality.²⁶⁾ Finally, J.L. BUTKIEWITZ and H. YANIKKAYA (2006) also come to the conclusion that both, economic institutions safeguarding the rule of law as well as democracy are fostering economic growth.

[36] A somewhat different approach has been employed by J.-G. SHEN (2002). She compares the economic performance of forty countries before and after they became democracies within recent decades. On average, she finds an increase in economic growth after the transformation to democracy (or semi-democracy). Moreover, growth seems to be considerably more stable under democracies than under authoritarian regimes. However, she finds a remarkable difference between rich and poor countries: While poor countries often experienced growth accelerations, rich countries rather experienced a decline in growth after their democratisation. This is consistent with the observation of H. ALMEIDA and D. FERREIRA (2002) mentioned above that not only the best but also the worst performers in economic growth are autocracies. Democratic countries seem to lie rather in the middle ground. In addition, J.-G. SHEN (2002) finds that transformations to democracy are often followed a period of growth deterioration. Thus, economic crises can destabilise authoritarian regimes and initiate democratisations, something that could be observed in around 1990 when the Iron Wall in Eastern Europe broke down.

[37] The most recent contributions to the debate on the relationship between democracy and economic growth are by T. PERSSON and G. TABELLINI. Contrary to the previous literature, they go more into the details of the democracy-growth-relationship by considering different kinds of democratic regimes. Moreover, instead of using an indicator for the amount of democratic rights they ask, as before has been done by J.-G. Shen (2002), how a change of an authoritarian into a democratic regime (or the reverse change) would affect economic growth. In a first paper, T. PERSSON (2005) shows that the form of democracy has an important effect on long-run growth, rather than democracy by itself. According to his results, permanent democracies with a parliamentary system and proportional representation have a better growth record than authoritarian regimes, while presidential systems, which are temporary and have a majoritarian voting system are not. These results, are, however, not robust, and the different indicators are not commonly included into the regression equation, which makes the interpretation difficult. Thus, they should be considered very cautiously.

[38] Insofar it is no surprise that in the next paper T. PERSSON and G. TABELLINI (2006) present quite different results. Changing from an autocratic regime to a presidential democracy would increase average economic growth by about 1.5 percentage points, while a change to a

26. There is literature that shows that (too high) income inequality is bad for growth. See, for example, T. PERSSON and G. TABELLINI (1991) or P.H. MO (2000). W. EASTERLY, J. RITZEN and M. WOOLCOCK (2006) argue that a reduction of income inequality leads to higher institutional quality and, by this way, to higher economic growth. U. SUNDE, M. CERVELLATI and P. FORTUNATO (2007) observe an interaction effect: when inequality is lower, democracy is associated with institutions of higher quality and, by this way, leads to higher growth.

parliamentary system might slightly reduce growth.²⁷⁾ In their next paper T. PERSSON and G. TABELLINI (2006a) develop a new concept: democratic capital. It is measured by the historical experience of a country with democracy and by the incidence of democracy in its neighbouring countries. A higher stock of this capital reduces the probability that the democratic regime will be overthrown by an autocracy and stimulates growth in this indirect way. In their, for the present, last paper, T. PERSSON and G. TABELLINI (2007), by using different estimation methods, do not find a significant effect for a change from an autocratic to a democratic system, but a significant negative impact of about -2.0 percentage points for a change in the reverse direction.

[39] Taking all these results published in the last twelve years together, it is obvious that it is hardly possible to draw a clear conclusion in either direction. There is definitely no strong positive or negative effect, and the more important positive effects might be the indirect and not the direct ones, in particular by reducing income inequality.²⁸⁾ Thus, the ‘cruel choice’ mentioned above between democracy and development does not exist in the way stated by J. BHAGWATI (1966). On the other side, despite the (simple) cross-countries correlation between the extent of democracy and GDP per capita a change from an authoritarian to a democratic system will not necessarily improve the economic performance of a country. Moreover, the effects of different kinds of democracies on economic growth are also open. Thus, despite the relatively intense debate during the last decade there is still a wide field for further research in this area.

5 Direct Democracy and Economic Growth

[40] So far, even taking different kinds of democratic systems into account, the question of direct democratic rights did not play any role; it is totally neglected in the international discussion. On the other hand, for Switzerland, being the country with the most direct popular rights at all three governmental levels in the world, this question is of particular interest. Moreover and as mentioned in the introduction, in the recent debate on the Swiss growth weakness the system of direct democracy has (besides the rather extensive federal system) been accused of being one of the reasons for this weakness. The problem with such a proposition is, however, that it is hardly testable: with its extensive direct popular rights in particular at the national level Switzerland is such a unique country that we can hardly provide an international comparison on a sound statistical basis. A sample of one is just not enough to say anything reliable about the effects of an institution; it can at best be used as a case study to derive hypotheses.²⁹⁾

27. The respective estimated effect of about -0.6 percentage points is at no conventional significance level different from zero.

28. The indirect effects are also stressed by U. SUNDE (2006).

29. There is, up to now, just one paper that tries to evaluate the economic effects of direct democracy in a cross-country assessment: S. VOIGT and L. BLUME (2006). They come to the conclusion that direct democracy leads – *ceteris paribus* – to higher output per worker as well as higher total factor productivity. However, as the authors themselves concede, the small number of only 24 observations as well as the rather

[41] On the other hand, while there are direct popular rights at all three governmental levels, the extent of these rights is quite different at the cantonal and local levels. Thus, at these levels, Switzerland can be seen as an ideal laboratory to study the impact of direct democracy on policy outcomes. All cantons have, for example, some form of semi-direct democracy, with a parliamentary system with legislators elected according to a system of proportional representation. Nevertheless, the extent of direct rights varies between the cantons.³⁰⁾ Only two cantons, Appenzell-Innerrhoden and Glarus, still take political decisions in cantonal meetings, the *Landsgemeinde*, while in all other cantons popular decisions are made exclusively at the polls. In all cantons proposals can be initiated via a voter initiative, and new laws passed by the legislature are, to a different degree, subject to an optional or mandatory referendum. Moreover, in all but one canton people have the possibility to decide in mandatory and/or optional fiscal referenda on new spending projects of sub-national governments. Finally, the rarely used constitutional initiative and referendum complete the cantonal set of institutions of direct legislation.

[42] The fact that there are wide variations between the different cantons allows for constructing indices measuring the extent of direct popular rights. The first one, based on data gathered by W.W. POMMERHNE and H. WECK-HANNEMANN (1996), was used by L.P. FELD and M.R. SAVIOZ (1997) to examine the link between direct democracy and economic development of the Swiss cantons, measured in terms of their gross national product (GNP). Applying annual data from 1984 to 1993, they find that – *ceteris paribus* – cantons with direct democracy with respect to fiscal issues generated about 5 percent higher per capita GNP than other cantons. They also looked at whether causality might go in the opposite direction, i.e. that richer cantons could afford more direct democracy. However, the empirical results did not support this possibility.

[43] This result has been criticised by R.E. GERMAN (1999) who questioned the validity of the indicator for direct popular rights. However, re-estimating the model with a new indicator based on data provided in A. TREXEL and U. SERDÜLT (1999) led to similar results. Moreover, using again a different indicator and data from 1983 to 1997, M. FREITAG und A. VATTER (2000) also provide similar results.³¹⁾ Thus, the results seem to be quite robust with respect to the use of different indicators, and it is, therefore, difficult to claim that direct democracy hampers economic growth, at least at lower governmental levels. Of course, there remains the question whether these results hold for the national level as well. It cannot be excluded that the situation is totally different at this level. There are, however, hardly any good reasons for this proposition.³²⁾ Thus, the evidence available so far rather supports the claim that direct democracy fosters economic growth instead of hampering it.

crude indicator of the degree of direct popular rights in the different countries recommend reservations against giving too much weight to these results.

30. See for this, for example, A. TREXEL and U. SERDÜLT (1999).

31. See G. KIRCHGÄSSNER, L.P. FELD and M.R. SAVIOZ (1999, pp. 104f.).

32. For discussions of this problem see, for example, G. KIRCHGÄSSNER, L.P. FELD and M.R. SAVIOZ (1999, pp. 108f.) or G. KIRCHGÄSSNER (2005, pp. 188f.).

6 Federalism and Economic Growth

While there are only quite a few papers concerning the relation between direct democracy and economic growth, there are somewhat more papers about the relation between (fiscal) federalism and economic growth. There exists theoretical as well as empirical literature on this subject, and the latter one can again be divided into two groups, those undertaking cross-country studies and those looking at single federal countries like the United States, Germany, or Switzerland. The meta-analysis of L.P. FELD, T. BASKARAN and J. SCHNELLENBACH (2008) gives an overview about this literature but also shows that the results are rather mixed and inconclusive. It is not surprising that this holds for the theoretical results, but it holds for the results of the empirical studies as well.

[44] According to the traditional approach of C. TIEBOUT (1956), fiscal decentralisation should improve the welfare of the citizens of a country because it serves better their preferences. This should be valid as long as the decentralisation theorem of W.E. OATES (1972) at least approximately holds. Otherwise spillover effects might reduce the welfare of the citizens. However, even if this situation is given, this would not imply that indicators of economic development like GDP per capita take on higher values: a welfare improvement could even result in less consumption and more leisure time. Moreover, even if GDP per capita would improve, this would by no means also imply that growth rates are higher. Finally, the theory of tax competition following these seminal papers presented many possible reasons for federalism to raise or diminish economic welfare.³³⁾ Thus, even W.E. Oates (1993) who is rather optimistic, “decentralized finance appears, in principle, to have a potentially useful role to play in economic development”, concedes that the realisation of this potential “depends on a number of crucial conditions” (p. 242) that might not hold in real situations. Thus, the theoretical discussion is totally open; it denotes channels by which positive or negative effects might be transmitted, but does not allow for a clear judgement whether the overall effects will be positive or negative. Moreover, a too high degree of decentralisation might be as detrimental to economic growth as a too low one.

[45] In such a situation it would be very helpful to have clear empirical results but, as mentioned above, this is not the case: the empirical evidence is rather mixed. *Figures 2a and 2b* show the coefficients (excluding some extreme values that are obvious outliers) as well as the estimated t-statistics for the impact of fiscal decentralisation on economic growth, reported in the meta-analysis by L.P. FELD, T. BASKARAN and J. SCHNELLENBACH (2008). Excluding the outliers the mean of the estimated coefficients is -0.13, while the mean estimate of the t-statistics is 0.158. Performing several tests the author come to the conclusion that “based on the median estimate, decentralisation does not have a significant effect on economic growth” (p. 38).

33. For the accentuation of negative aspects, see, for example, G.R. ZODROW und P. MIESZKOWSKI (1986) or H.W. SINN (1997), for the accentuation of positive effects G. BRENNAN and J.M. BUCHANAN (1977, 1980). For overviews about the theoretical literature see, for example, W.E. OATES (1993, 1999, 2002, 2005), L.P. FELD (2000), or L.P. Feld, T. BASKARAN and J. SCHNELLENBACH (2008).

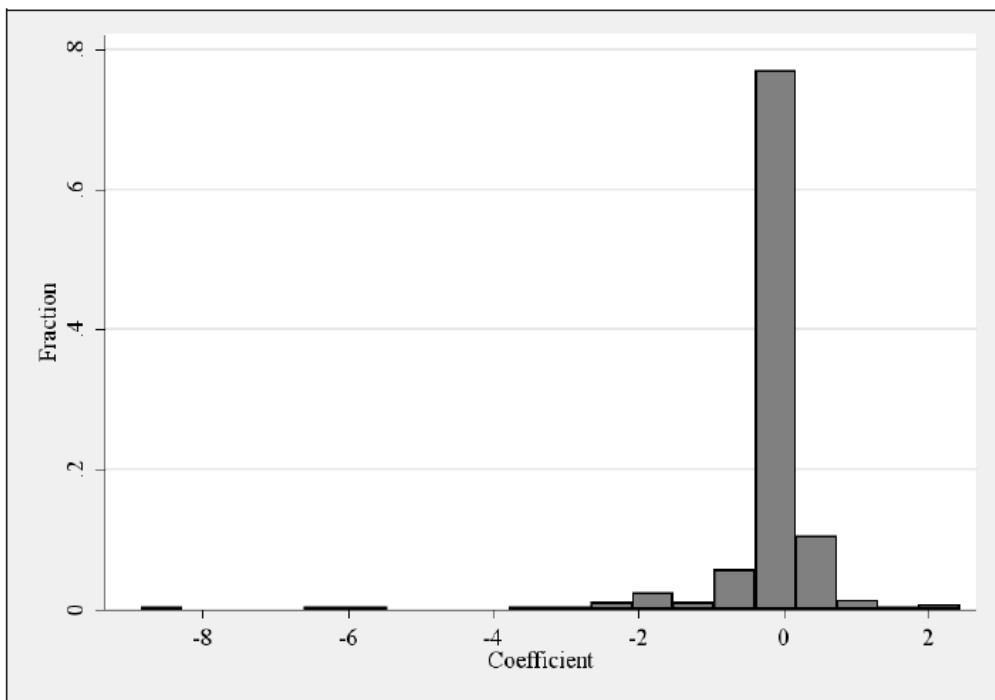


Figure 2a: Estimated coefficients for the effects of fiscal decentralisation on economic growth

(Source: L.P. FELD, T. BASKARAN and J. SCHNELLENBACH (2008, p. 31).)

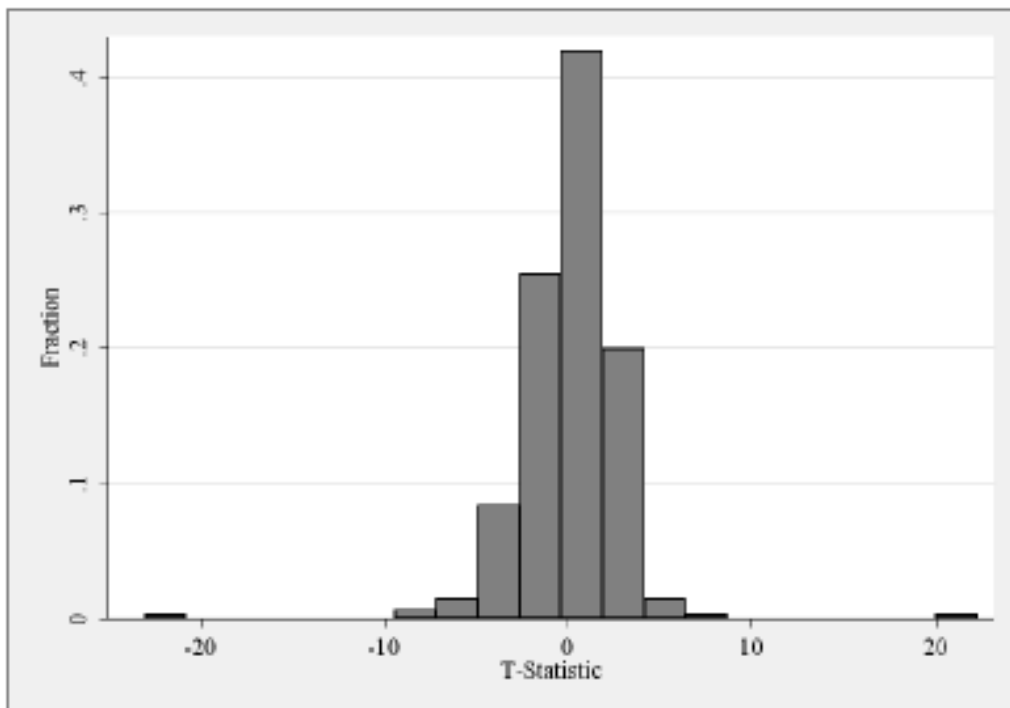


Figure 2b: Estimated t-statistics for the effects of fiscal decentralisation on economic growth

(Source: L.P. FELD, T. BASKARAN and J. SCHNELLENBACH (2008, p. 32).)

[46] Having a closer look at the empirical papers, this literature can be grouped into three different parts. The first one performs cross-country analyses, including either only developing countries and/or as many countries as possible. Thus, the main focus is at least implicitly on the question whether (fiscal) decentralisation fosters growth of developing countries. The second group restricts the sample of countries to developed ones, especially OECD countries. There the main question is whether decentralisation has an effect in industrialised, democratic countries. The third group is looking at single countries, be it developed ones like the United States or Switzerland, be it developing countries like China or Russia. There, using time series or panel analyses, one can either ask whether processes of (de-)centralisation had positive or negative effects on economic growth, or, in case there are different degrees of decentralisation in the sub-federal unities like states or cantons, whether the more decentralised one performed better or not.

[47] In all three groups, the results are again mixed. H. DAVOODI and H.-F. ZOU (1998), for example, performing a panel analysis for up to 46 countries, find a negative relationship between fiscal decentralisation and economic growth for developing countries, but no relation for developed countries.³⁴⁾ But even for the developing countries, the results are hardly ever statistically significant. The indicator they use is the sub-national share of government expenditure. Re-estimating this model with a different indicator of fiscal decentralisation, the sub-national share of revenue, R.D. Ebel and S. Yilmaz (2002) re-estimate this model and get significantly positive results. However, their data base is much smaller: they perform a cross-section analysis for only 31 countries. Using again an expenditure indicator positive results are reported by A. IIMI (2005) for a cross-section of 51 countries. On the other hand, using an unbalanced panel of 66 countries over the period from 1972 to 2003, J. MARTINEZ-VAZQUEZ and R.M. MCNAB (2006) provide evidence for a negative impact of fiscal decentralisation on economic growth, for developed as well as developing countries, and for expenditure as well as revenue decentralisation, but these results are far from being robust. Thus, the estimated results seem to be largely dependent on the countries included, the time period considered, the indicator used and the estimation method. Moreover, the meta-analysis by L.P. FELD, T. BASKARAN and J. SCHNELLENBACH (2008) shows that there is not a consistent picture how the results depend on these different factors, and this holds for the other groups of studies as well.

[48] Whether developing countries might benefit from fiscal decentralisation depends to a large amount on other factors. The main problem is whether the sub-national units are empowered to fulfil their tasks and to be responsible to local demands but independent from local pressure. The effect of decentralisation on economic growth also depends on the level of corruption in a country. Without corruption, decentralisation should foster growth, but with corruption, it might reduce growth.³⁵⁾ On the other hand, fiscal decentralisation might – in the long-run – reduce corruption.³⁶⁾

34. Similar results have been presented for the developing countries by G.M. WOLLER and K. PHILLIPS (1998).

35. See for this A. SHAH (2006) and, for empirical evidence, R. FISMAN and R. GATTI (2002).

36. See for this, for example, F. FREILLE, M.E. HAQUE and R. KNELLER (2007). For the relation between decentralisation and corruption see also I. KOLSTAD and O.-H. FJELDSTAD (2006).

[49] The (few) country studies for developing countries, mostly for China, provide a mixed picture as well. Studying the decentralisation process starting in the eighties J.Y. LIN and Z. LIU (2000) come to the conclusion that fiscal decentralisation made a significant contribution to economic growth. J. JIN and H.-F. ZOU (2005), on the other hand, by comparing the two periods from 1979 to 1993 and from 1994 to 1999 find mostly negative effects: in the first period mainly for expenditure and in the second period mainly for revenue decentralisation. Their conclusion is that – given a certain amount of expenditure decentralisation – revenue centralisation is beneficial for economic growth. A. FELTENSTEIN and S. IWATA (2005) find again positive effects of fiscal decentralisation on economic growth, but negative ones on inflation. Thus, decentralisation seems “to be good for economic growth but bad for price stability” (p. 481). Finally, J. MARTINEZ-VAZQUEZ and M. RIDER (2005) find that in China (as well as in India) the poor quality of sub-national service delivery as well as the lack of fiscal discipline threat to prevent the possible positive effects of fiscal decentralisation.

[50] Generally, developed countries are more decentralised than developing countries. Thus, even if developing countries might benefit from decentralisation, this does not necessarily imply that the same also holds for developed countries. The results of the most recent study for the OECD countries, J. THORNTON (2007), suggest “that when the measure of fiscal decentralization is limited to the revenues over which sub-national governments have full autonomy, its impact on economic growth is not statistically significant” (p. 64). However, this insignificance might be due to the fact that a linear relation is assumed. U. THIESSEN (2003) showed in an earlier study for the OECD countries that the relation might be non-linear: countries with a (too) low degree of decentralisation might benefit from further decentralisation, while countries with a (too) high degree might benefit from centralisation.³⁷⁾ If this is the case and a linear relationship is nevertheless supposed, a non-significant result is to be expected.

[51] D. XIE, H.-F. ZOU and H. DAVOODI (1999) come to the conclusion that the degree of fiscal decentralisation in the United States is just optimal, “further decentralization in public spending may be harmful for growth” (p. 228). This result is contradicted by N. AKAI and M. SAKATA (2002), who intend to show that fiscal decentralisation on the expenditure side is beneficial for economic growth. However, these results are far from being robust. Depending on the different specifications, not all estimated coefficients are significantly different from zero, and for revenue decentralisation non-significant negative coefficients are derived. Thus, given their evidence, the title of their paper “Fiscal Decentralization Contributes to Economic Growth” seems to be somewhat overstated.

[52] For Switzerland the only paper so far is by L.P. FELD, G. KIRCHGÄSSNER and CH.A. SCHALTEGGER (2005). They use data for the 26 cantons from 1980 to 1998. Neither the measure for expenditure nor the one for revenue decentralisation has a significant impact on growth. Moreover, fragmentation does also seem to have no relevant impact. Contrary to this,

37. This result is re-enforced by P. BODMAN and K. FORD (2006) who show “that a medium degree of fiscal decentralisation is positively related to growth in the capital stock and the level of human capital” (p. 1).

there is a significant negative correlation between the share of matching grants and economic growth. However, the causal direction is dubious: Do cantons with low growth get a large amount of matching grants or are these grants causing low growth? To answer these question instrumental variables estimates have been employed, but it is open whether the instruments used are really successful in disentangling the causal directions.

[53] Taking all results together, while the theoretical literature is (nearly always and necessarily so) ambiguous, the same also holds for the empirical one: it is impossible to draw clear conclusions. Federal as well as unitary states seem to function partly quite well and partly rather badly; the federal structure does not seem to be a crucial element for the well functioning of a national economy. This result might, however, cover an underlying relationship that might nevertheless be important, and this might be the case for two reasons. The first one has already been mentioned: the underlying relation is probably nonlinear, and the assumption of a linear relation as embodied in nearly all of the studies mentioned above is hardly able to produce significant results under those conditions.³⁸⁾ The second reason stems from the fact that, due to differences in culture, development, etc., different degrees of decentralisation might be optimal for different countries. In case that all countries had their optimal degree of decentralisation, it should be impossible to find any significant relation between the degree of (fiscal) federalism and economic growth.

7 Concluding Remarks

[54] Coming back to the two natural experiments of Germany and Korea after World War II, it can hardly be denied that institutions play an important role for economic development. On the other hand, the literature discussed in this paper is mostly inconclusive. Nearly every paper states, of course, that it provides significant results, but these results often point in rather different directions, and a critical inspection shows that their (statistical) significance is often rather weak. Thus, the whole discussion leaves us being somewhat displeased.

[55] Actually, there are only few conclusions for which there is today a large consensus in the literature. Even the question whether institutions matter is debated. On the other hand, not only the natural experiments make it clear that they matter, but governance as well as human capital also matter. There is a consensus, however, on two topics: first, that economic institutions, safeguarding economic freedom, are more important for economic growth than political ones, upholding political liberties, and second, that political instability has a negative impact. Both facts indicate that economic development needs an economically as well as a politically stable environment. Economic agents act according to their expectations about future chances, and a stable environment is a precondition for forming successful expectations. Whether democracy has an effect, it still open; if it has an effect, it is rather an indirect than a direct

38. This does, of course, not explain why some of the studies nevertheless get highly significant positive and especially negative results. To analyse the reasons for this, a more thorough analysis would be necessary.

one.³⁹⁾ The other questions are also still open, whether the effect of economic freedom (and also of policy variability) has a permanent or only a transitory effect on economic growth, i.e. that an increase in economic freedom leads to an increase in income but no to a permanent acceleration of growth, whether federalism is beneficial for economic growth, and, finally, against the conventional wisdom of economists, even the role of openness, i.e. of integration into the world economy, is questioned.

[56] Aside from the nonlinearity problem mentioned above, which might not only hold for fiscal decentralisation but also, for example, for openness, there are also several other possible reasons for this. First of all, and as (nearly) always, different specifications (and/or different estimation procedures) lead to different results. But which of these results should we believe in? Every author claims that his/her specification is correct and that the results are, therefore, credible. Quite often it is also stated why the specifications of other authors are assumed to be not correct. But there is strong disagreement between the different authors, and it is not at all obvious who is right.

[57] There are two main reasons for this. The first is the simultaneity problem: There might not only be a causal relation from the explanatory variables considered to economic growth, but there might also be reverse causality. Thus, one of the crucial questions is what variables can credibly be used as instruments. A more conventional problem is the fact the results strongly depend on which variables are included. A seemingly obvious way to tackle this problem is to use extreme bound analysis as, for example, J.-E. STURM and J. DE HAAN (2005) did. This is, however, highly problematic from the point of view of the philosophy of science because it implies an invalid inductive conclusion.⁴⁰⁾ Thus, we have to live with the different results, and it is at least partially a subjective evaluation in which of them we believe more and in which of them less.⁴¹⁾

[58] Secondly, there is a big measurement problem. Indicators are used, for example, for economic freedom, for political rights, or for the openness of an economy, and the quality of these indicators, that are only proxies for the ‘true’ variables we would like to use, can be questioned. However, the dependent variables are also at stake. As A. CICCONE and M. JAROCINSKI (2007) show, the results depend to a large degree on the international data set that is used, be it the World Bank data set or the Penn World Table data, and, because these data are often revised, which version is used. The solution the two authors propose for this problem is to employ a Bayesian framework and to use informative priors. This produces much more robust estimates. However, such an approach only inserts our prejudices into the data and does not leave us open for what the data might tell us. Thus, it is a partial immunisation strategy that contradicts the demand that we should be open for testing our theories. Insofar, this is also not a convincing solution.

39. See for this also the meta-analysis of H. DOUCOULIAGOS and M. ULUBASOGLU (2008). A similarly ambiguous conclusion is reached in the survey of the earlier literature on this topic by A. BRUNETTI (1997).

40. For a critique of this approach see G. KIRCHGÄSSNER (2001).

41. For a discussion of other econometric problems see J. DE HAAN (2007).

[59] The ambiguousness of the results should, however, not lead to the conclusion that it does not make sense to study the effects of institutions on economic development and, as far as this is possible, to improve the institutions in order to foster growth. However, while the results show that simple rules might not work, they clearly point to the interactions between different institutions and/or policy measures. Thus, if policy measures are to be successful, they have to take account these interactions. We have to undertake “careful examination of the contingent relation between the economic environment and policy implications. Rule-of-thumb economics, which has long dominated thinking on growth policies, can be safely discarded.”⁴²⁾

[60] The politically most relevant question is, however, whether democracy has an impact on economic growth, in particular, whether there is a negative impact. This cannot totally be excluded, even if the effect will in any case be rather small. This does, however, by no means imply that we should give up democratic rights in order to increase growth, as democracy has value in itself. The possibility to co-decide in political matters raises the general life satisfaction.⁴³⁾ Because a rise in income has only a transitory, a rise in democratic quality, however, a permanent impact on life satisfaction, it would be worthwhile to have a better democracy even at the expense somewhat lower growth. As the empirical results do not at all indicate that democracy leads to considerable lower growth, there is no reason to restrict democratic rights. This also holds for direct democratic rights.⁴⁴⁾

42. D. RODRIK (2005, p. 1010).

43. See for this D. DORN et al. (2007).

44. The situation is somewhat different with respect to fiscal federalism. On the one hand, this also citizens – *ceteris paribus* – more possibilities to co-decide in the political process and can – by this way – improve their well-being. This does, however, not imply that the kind of decentralisation that historically evolved is necessary the optimal one. Problems can arise, for example, due to asymmetries, and to limit them a fiscal equalisation system might be necessary that, on the other hand, provides other disincentives. Thus, as for example in Switzerland, a system with less difference in the size of the cantons might have some advantages. Such a proposal has been made, for example, by A. THIERSTEIN, M. SCHULER and D. WACHTER (2000). However, as long as the citizens reject these ideas one should consider other possibilities if the objective is to increase the growth performance of Switzerland.

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