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Intereconomics

Suggested Citation: Rees, Andreas; Sonnenholzner, Michael (2000) : Competition among the regions in Euroland, Intereconomics, ISSN 0020-5346, Springer, Heidelberg, Vol. 35, Iss. 2, pp. 55-63

This Version is available at:

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Andreas Rees and Michael Sonnenholzner*

Competition among the Regions in Euroland

Following the introduction of the euro, competition among individual EMU countries for jobs and capital investment is likely to be increasingly replaced by competition among regions. Will this enhance convergence of per capita incomes or will it, rather, contribute to widening the gap between the rich and the poor regions of Euroland?

Until recently, the economic success of a region was largely a reflection of the success of its country's economic policy. For example, the existence of favourable underlying conditions in a region was only partly able to offset a failure occurring at national level. This situation has changed fundamentally in the wake of the introduction of the euro. The regions have shed the national currency corset and acquired new scope for their own activities in economic policy terms. Competition among regions is likely to increasingly replace competition among individual countries. In future, good regional economic policy will be rewarded with capital spending to a larger extent than ever before, while bad policy will be punished by an exodus of capital. There is a broad consensus among economists up to this point. However, the economic consequences which the competition for jobs and capital spending will entail for the regions are highly controversial. The optimists forecast a gradual harmonisation of per capita incomes from Helsinki through to Palermo. They argue that cross-border competition without currency fluctuations means more equality of opportunities and therefore results in an economic catching-up process by the poorer regions. Other economists, however, have a gloomy outlook for the future: they believe that the existing divide in incomes within Euroland – for example between the rich Centre (Hesse, Bavaria, Ile-de-France etc.) and the poor South (Sicily, Andalusia) – will continue to grow (cf. Figure 1). According to them, the ruinous competition among regions for jobs and capital investment will result in an enduring divide between regions with a high per capita income on the one hand ("rich here"), and poor regions ("poor there") on the other. For this reason they consider redistribution measures in the form of intra-European revenue sharing – for example, by

means of an expansion of the EU's structural and cohesion funds – to be indispensable.

Both opinions are equally speculative – but only one of them can be right! In the following we shall therefore take a close look at the issue of economic convergence within Euroland. First of all, two theoretical models will be used to present briefly the arguments in favour of, and against, a harmonisation of per capita incomes. This will be followed by an outline of the measuring concepts and empirical estimates by means of which the contentious question of convergence or divergence can be answered. Finally, the results will be interpreted from the point of view of economic policy, followed by an outlook on the future of the European regions.

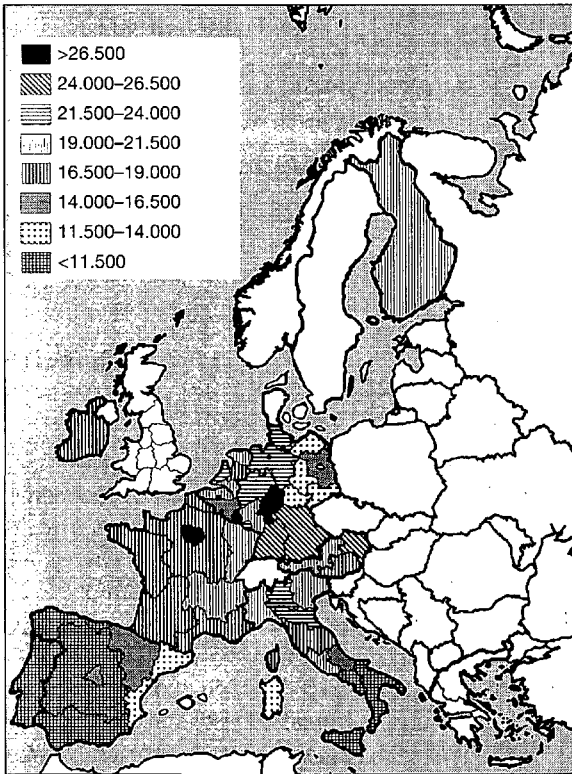
Theoretical Foundations of Convergence

The question of whether differentials in per capita incomes – and thus in living standards – among various regions and countries are narrowing has been the subject of controversy for some time. In the fifties, two economists, Robert M. Solow and Gunnar Myrdal, put forward different theories on the course of economic convergence. Later they were awarded the Nobel Prize for their pioneer work in the area of growth theory and economic development. Whereas Solow comes to the conclusion that per capita income gaps are closing, Myrdal foresees a sustained division between rich and poor regions.

In Solow's neo-classical growth model, the free interplay of market forces – the "invisible hand" – leads to the elimination of regional imbalances (convergence thesis). Workers move to where the highest wages are paid, thus exerting pressure on the comparatively high per capita incomes in the centres of growth. Companies invest in the regions in which they can earn the highest returns. As Solow assumes declining marginal returns on the input of factors of

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Figure 1
GDP per Capita for NUTS I Regions, 1996
 (at 1998 prices, in Euros)



production, productivity in the underdeveloped areas is high, resulting in capital inflows from the growth centres into the poor periphery. Also playing a role are absolute and comparative cost advantages, which make investments in regions with low per capita incomes attractive. Stimulated by the capital inflows, an economic "catch-up" process takes place in the poor periphery.

From this point of the view, EMU is the logical response to efforts to achieve greater convergence and equal opportunities for the regions of Euroland. Through the introduction of the euro and the ensuing integration of the markets for goods and labour, competition for investments becomes keener. This gives regions that have lagged behind the opportunity to utilise better locational advantages, and so gain ground in economic terms.

Myrdal emphasises the negative effects of the competition among regions for jobs and investments (divergence thesis). In contrast to Solow, movements in the factors of production do not lead to a levelling

out of wages and returns in regions. Workers do also move from the poor periphery to the rich centre. However, as these are mostly well qualified persons, such as engineers, companies are willing to pay them high wages. In turn, the regions with low per capita incomes lose human capital, which they urgently need if they are to catch up with the wealthier areas. Moreover, as there are buoyant markets in the centres of growth, companies are not prepared to invest in the periphery. On the contrary: capital is withdrawn from the marginal areas and transferred to the rich, high growth centres. Myrdal describes these developments as "backwash effects", which radiate out from the growth centres and impair the economic progress of regions with low per capita incomes. The consequence is a division of regions into those that are prospering islands of growth and innovation and those that are poor.

If one applies Myrdal's notions to EMU, the introduction of the euro will open up a deep chasm between the regions. Areas with high per capita incomes will benefit, while the periphery will be caught in a poverty trap. Fiscal equalisation mechanisms – such as the stocking up of the existing structural and cohesion funds of the EU – would be necessary to prevent a drifting apart of regions in economic terms.

Estimation Methods

The issue of contention between Solow and Myrdal remained unresolved for many years due to the lack of precise yardsticks by means of which the theories could be examined. In the early nineties, two reputable US economists, Barro and Sala-i-Martin, popularised two estimation methods which enabled light finally to be cast on the empirical darkness.¹ The first yardstick is the so-called β -convergence. This assesses the relationship between the level of real per capita income in period t (Y_t) and the average growth rate of real per capita income in the ensuing periods $t+1$ to n (here abbreviated to $\Delta Y_{t+1...n}$). If there is a negative correlation between the two variables ($\beta < 0$), this is taken as evidence of convergence. It would mean that regions that originally had low per capita incomes showed above-average growth rates in the ensuing period. In the case of wealthy regions, the signs would be exactly the opposite: as they had already attained a high standard of living, they would have had to post lower growth. A β coefficient estimate greater than zero would, on the other hand, support Myrdal's notion of a lasting gap between rich and poor.

¹ R. J. Barro, X. Sala-i-Martin: Convergence across States and Regions, *Brooking Papers on Economic Activity*, No. 1 (1991), pp. 107-182.

Mathematically, the proviso of the β -convergence can be expressed as follows:

$$(1) \Delta Y_{t+1...n} = c + \beta \log(Y_t) \text{ with } \begin{aligned} c &= \text{constant term} \\ \beta &< 0 \text{ convergence} \\ \beta &> 0 \text{ divergence} \end{aligned}$$

As a second empirical variable, Barro and Sala-i-Martin proposed a dispersion measure, which they termed the σ -convergence. According to this, if the differences in regional per capita incomes narrow over time ($\sigma_{t+1...n} < \sigma_t$), living standards have become more uniform. If, on the other hand, the σ measure becomes larger, this corroborates the divergence thesis.

$$(2) \begin{aligned} \sigma_{t+1...n} &< \sigma_t \text{ convergence} \\ \sigma_{t+1...n} &> \sigma_t \text{ divergence} \end{aligned}$$

As a dispersion measure of per capita income, the variation coefficient, i.e. a standard deviation standardised to the mean, or the Gini coefficient are normally used (see box). If the Gini coefficient shows readings close to one, income earned is concentrated in a few wealthy regions, and the differences between the growth constellations and the periphery are pronounced. If, on the other hand, the reading is close to zero, the individual regions enjoy a similarly high per capita income, and no clear division of regions into rich and poor is in evidence. A Gini coefficient that declines over time would therefore suggest economic convergence.

Empirical Evidence

With the aid of the yardsticks applied by Barro and Sala-i-Martin, we examine in the following the question of the convergence or divergence of real per capita income in Euroland. As data material, so-called NUTS I regions (Nomenclature des Unités Territoriales Statistiques) according to the EU's definition are used. These figures are suitable because NUTS I regions have a relatively high degree of responsibility for their own economic policies and can thus influence per capita income. In Germany, for example, the NUTS I definition corresponds to the federal states (NUTS II administrative regions, NUTS III districts). Figures for Euroland have been collected since 1977; from 1980 on, data is available for the majority of the EMU countries.

At first glance, the results obtained appear disappointing, as they show neither a convergence nor a divergence of per capita income. The β -regression does give a negative reading, which on the face of it supports the Solow thesis, but the speed at which the regions are converging is extremely slow. A poorer region with a per capita income some 10%

below the average of all regions in Euroland would grow only about 0.1% p.a. more quickly than the average. One cannot therefore speak of an economic "catch-up" process taking place. Purely theoretically, it would take no less than 102(!) years for living standards in Euroland to be harmonised – and this only if the poor region maintains its "convergence" tempo throughout the period. In reality, however, the catch-up process would tend to falter over time as the forces of convergence weaken progressively as per capita incomes rise.

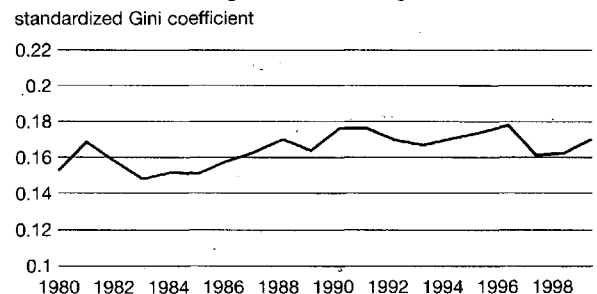
One arrives at a similar result with the aid of the σ -convergence. This shows neither a narrowing of the income gap nor a systematic widening: since 1980, the Gini coefficient has moved in a narrow range of about 0.15 to 0.18 (cf. Figure 2).

To obtain a comparative benchmark, we computed additional convergence measures for regions within the various EMU countries. The federal states in western Germany are especially suitable for this purpose. As appropriate statistical material is available for the years since 1950, a better assessment of the convergence process over time can be made. Here, also, no clear trend is in evidence. Although incomes converged in the fifties, levels then remained largely unchanged until 1985. Since then, a divergent trend has been in evidence again, although at a very low level. The differences in per capita income last year were in fact as high as they were in 1953 (cf. Figure 3). And this despite the equalisation payments made by the wealthier to the poorer federal states, the object of which is to level out living out standards in Germany.

Location of Growth Matters

The yardsticks used by Barro and Sala-i-Martin in the form of the β - and σ -convergence provide average results over all regions. Therefore they do not represent an adequate basis for excluding the existence of individual economic clusters. It is conceivable that islands of growth and innovation

Figure 2
Regions within Euroland: No Evidence of either Convergence or Divergence



Methods, Figures and Facts

In contrast to the β -regression postulated by Barro and Sala-i-Martin, a linear estimator was used. In view of the low convergence speed this seems to be tenable.

Problems of Data Availability

For some regions in Euroland data is available going back to the fifties. The best known set of data was compiled by the Dutchman Willem Molle, who in the early eighties broke down most national GDP figures into regional data so as to obtain an historical record.¹ As these are only unofficial data and as their comparability with EUROSTAT figures is not perfect (due to the use of different regional definitions in some cases, inadequate conversion of various currencies, etc.), they were not used.

Superior to this is the data base for per capita income of the US states, which is available from 1929 on. However, deflators for the computation of real incomes are lacking, which is why nominal figures – as in other empirical analyses as well – are used to compute convergence measures. This assumes that the so-called “law of one price” applies within the United States, i.e. that an equivalent product is sold at the same price everywhere. Seen in the medium term, this is not too restrictive an assumption, given that the arbitrage of goods – at least in the case of “tradables” – should even out any price differences. Nevertheless, the Gini coefficient may somewhat understate actual differences in per capita incomes.

Ensuring Comparability

To enable regional and national data in Euroland to be compared (exchange-rate difficulties), they were converted into a single currency (here Deutschmark) with the aid of purchasing power parities.

Can different countries, regions and periods be compared to one another at all?

Up till now, results have been compared irrespective of whether they apply to short or long periods. Likewise, regions and countries in EMU have been compared with US states. In growth theory, one also speaks of absolute convergence when this kind of approach is taken. Every region and every country strives to attain the same level of convergence, regardless of whether there are differences in population growth, savings or investment rates, etc. This simplification has been repeatedly criticized by economists in recent times.² However, there has been no real alternative to this up to now. The computation of differing steady state conditions – independent of specific circumstances in the region observed (conditional convergence) – is still in its infancy. Moreover, the results obtained are not free of subjective influence as they depend greatly on the additional variables chosen, such as the investment rate and the rate of population growth.

Overview of results:

β -regression Period

Statistics

Euroland regions	1977-1996	$\beta = -0.010$ ($t = -1.11$) $R^2 = 0.03$
countries (EMU5)	1900-1998	$\beta = -0.016$ ($t = -7.65$) $R^2 = 0.95$
countries (EMU5)	1950-1998	$\beta = -0.033$ ($t = -4.31$) $R^2 = 0.86$
Germany federal states	1950-1998	$\beta = -0.011$ ($t = -1.31$) $R^2 = 0.26$
USA states	1929-1998	$\beta = -0.011$ ($t = -13.42$) $R^2 = 0.79$

Gini Coefficient Versus Variation Coefficient

In computing the σ -convergence, the Gini coefficient was used as a measure. Since it is standardized – the reading zero corresponds to uniform distribution, the reading one to a full concentration – it is easily interpreted. However, as the Gini coefficient can theoretically show the same reading on a changed concentration due to its formal definition, the variation coefficients (standardized standard deviation) were computed in each case for verification purposes. The correlations between the two figures were sufficiently close to confirm the significance of the Gini coefficients.

List of Data Sources Used

Time series	Source of data
USA per capita incomes	Bureau of Economic Analysis
Euroland GDP per capita (countries)	Mitchell, International Historical Statistics; FERI
GDP per capita (regions)	EUROSTAT
Exchange rates used to derive PPPs	Datastream; Deutsche Bundesbank
Germany GDP per capita	Federal Statistical Office

¹ W. Molle: Regional Disparity and Economic Development in the European Community, 1980.

² X. Sala-i-Martin: The Classical Approach to Convergence Analysis, in: The Economic Journal, Vol. 106 (1996), p. 1019-1036.

have arisen in some areas of Euroland, characterised by an excellent economic policy framework and ready markets for goods, and where technological spillover effects from neighbouring regions may be having a mutually beneficial influence, reinforcing trends and leading to above-average growth. However, the opposite kind of situation is also conceivable, i.e. regions with low per capita incomes and poor neighbours that are unable to make economic progress. Too strong is the negative pull from adjoining areas, such as the shallowness of markets, which may well be hindering the development of entire segments of industry. The ensuing division of regions into two groups, those that are experiencing dynamic growth and those that are unattractive for investors, is also termed the "convergence club".²

Drawing up a ranking list of euro regions seems to support the notion of cluster formation. Whereas, for instance, three Dutch regions are among the top seven in regard to growth of per capita income, the wooden spoon unquestionably goes to the provinces in southern Italy. This is also confirmed by a recent study by the European Commission, which concludes that these regions have been unable to narrow the wealth gap to any significant extent.³ The clear winners in the economic stakes are Luxembourg and Ireland, which are classified by the EU as NUTS I regions due to their small size. The best of the German federal states are Hesse and Bavaria in positions six and seven (cf. Table 1).

Does geographical position indeed play a role in the growth of individual regions ("location of growth matters")? Two economists from the Federal Reserve Bank of San Francisco, Moreno and Trehan, have proposed a method by means of which this thesis can be verified empirically.⁴ They assume that in region *i* the future growth rate ($\Delta Y_{i,t,...,n}$) will be the higher, the greater the initial growth gap between region *i* and the adjoining regions *j* to *z* ($Y_{jzt} - Y_{it}$).

Figure 3
Germany: Slightly Increased Divergence
Despite Fiscal Equalization

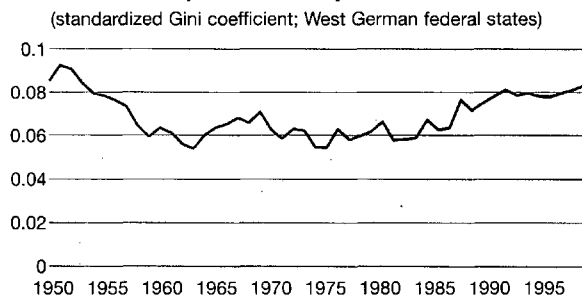


Table 1
Per Capita Income Growth:
the "Top Seven" Euro Regions

	GDP per capita ¹	Region	Country
1	+71%	Luxembourg	Luxembourg
2	+61%	south Netherlands	Netherlands
3	+57%	Ireland	Ireland
4	+46%	east Netherlands	Netherlands
5	+41%	west Netherlands	Netherlands
6	+35%	Hesse	Germany
7	+26%	Bavaria	Germany

¹ Period 1982-96 (1982 = 100); computed with the aid of purchasing power parities.

$$(3) \Delta Y_{i,t,...,n} = c + \alpha [\log(Y_{jzt}) - \log(Y_{it})]$$

$$\alpha > 0 \text{ (cluster formation)}$$

As complicated as equation (3) and the notions of Moreno and Trehan seem to be at first glance, the basic idea is simple. If geographical location is a factor in growth, then there is a positive connection between the growth of per capita income of a region and the prosperity of its neighbours ($\alpha > 0$). In a nutshell, this means that regions with relatively prosperous neighbours grow more quickly than those with poor neighbours, and vice versa.

The estimation of equation (3) confirms the assumption of cluster formation in selected regions. When the per capita income of neighbours in the eighties and nineties was 10% higher (lower), the region concerned grew by an average of 0.5% p.a. more quickly (slowly) than the rest of Euroland. Clusters – groups of two to three regions – are in evidence both within the various EMU countries as well as across borders. Examples of national clusters are Hesse, Bavaria and Baden-Württemberg, northern Italy (likewise a centre of growth) and southern Italy (poor periphery). At the cross-border level, North-Rhine Westphalia, parts of Belgium (the Walloon region) and the Netherlands (Zuid Nederland) as well

² Cf. D. T. Quah: Empirics for economic growth and convergence, in: *European Economic Review*, Vol. 40 (1996), pp. 1353-1375; and T. Straubhaar: *Wirtschaftliche Konvergenz: Was, Wie, Wozu?*, in: B. Fischer, T. Straubhaar: *Ökonomische Konvergenz in Theorie und Praxis*, Baden-Baden 1998, pp. 9-31.

³ The European Commission: *Sixth Periodic Report on the social and economic situation and development of the regions of the European Union*, Brussels 1999.

⁴ In their study Moreno and Trehan examine cluster formation at the country level. However, their approach can also be used without difficulty for regional questions. Cf. R. Moreno, B. Trehan: *Location and the Growth of Nations*, Working Paper, Federal Reserve Bank of San Francisco, June 1997.

as the frontier regions of France (Sud Ouest) and Spain (Noreste, Este) can be cited (cf. Figure 4).

Nation States in Present-day EMU

The results obtained so far – no convergence, indications in fact of cluster formation in Euroland – are of little surprise on closer examination. Before the introduction of the euro, competition for jobs and investments was primarily among the states, and took place only to a lesser extent at the regional (cross-border) level. Economic policy was predominantly national in thrust and not concerned much with the regions. In a second step, we therefore repeated

calculations for the nation states as they exist in EMU today.⁵ For the “big five” – Germany, France, Italy, Spain and the Netherlands – data are available stretching back to 1900, thus enabling a “long term view” to be taken.

The results are dichotomous. Between the two world wars in particular, differences between per capita incomes increased markedly. Alongside very high inflation rates (negative allocation and distribution effects), this was due primarily to the world economic crisis and an increase in protectionism among the nation states. After the Second World War, levels then moved down. In the reconstruction phase, the countries started from scratch again, which explains why differences in living standards were only minimal. With the gradual liberalisation of capital movements and the introduction of flexible exchange rates (end of the Bretton Woods system in the early seventies), convergence took a great leap forward. From this point on, real and financial capital could flow unimpeded into the most productive channels, enabling poorer countries (Italy and Spain) to catch up with the wealthier countries (cf. Figure 5).

Figure 4
Cluster Formation in Selected Regions
(period 1982-96)

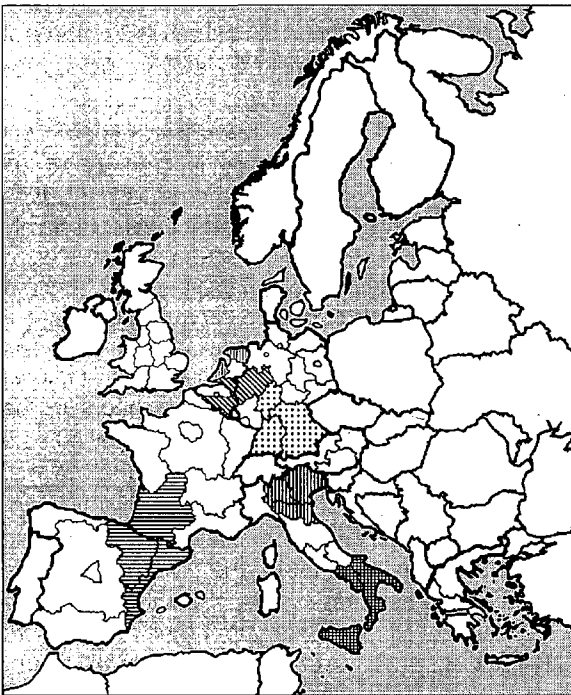
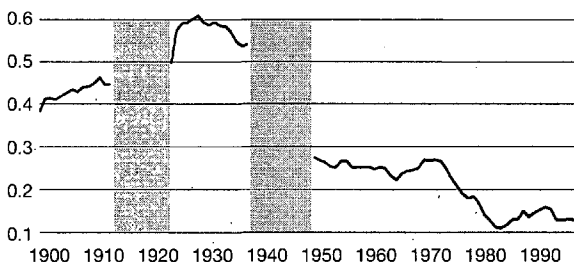


Figure 5
The Very Long Run: Convergence between EMU-5 States
(standardized Gini coefficient)

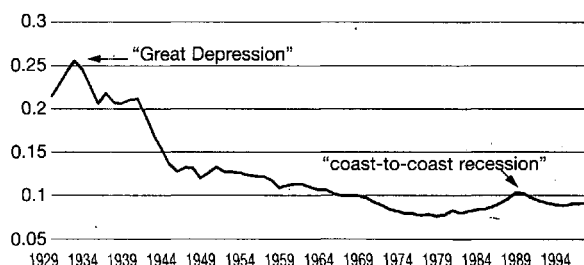


The Trend in the United States

In a final step, we examined per capita income trends over time in the US states. This provides an interesting insight into whether convergence occurs in a single currency area – and this in the most comparable country to present-day Euroland. Here, too, a similar picture emerged to that at the level of EMU countries. Since 1929 (when data first became available), the Gini coefficient has been on a declining trend; living standards have become much more uniform. However, during the “great depression” in the early thirties and in 1989/90 there were phases of greater divergence. The widening of per capita differentials ten years ago was the consequence of what American economists called a “coast-to-coast-recession”. The last slump in the US economy was preceded by a type of domino effect extending from the east to the west coast. More and more states suffered a slowdown in growth, before sliding one after the other into recession. However, the divergence was only short-lived – thanks to the sustained period of unbroken growth enjoyed in the United States since then (cf. Figure 6).

⁵ To simplify matters, only the results obtained for the σ -concept (Gini coefficients) are provided in the following. We refrain from making an interpretation of the β -coefficients, as this method gives an average view and does not adequately reflect the dynamics of convergence trends. For a survey of all estimated β figures see box.

Figure 6
A Steady State has been Reached
in the US States
 (standardized Gini coefficient)



Despite the repeated narrowing of the gap in per capita income in the nineties, the pace of convergence has slowed markedly of late. If one compares trends in the last 30 years, the Gini coefficient produced readings of 0.08 to 0.1. The economic differences between US states seem now to have reached a kind of "steady state", which is difficult to undershoot.

A Glance Behind the Figures

The results are clear: there is convergence between the EMU countries and within the United States, but not on a regional level in Euroland. The reasons for these results and the conclusions from them are, on the other hand, less apparent: what are the factors that determine convergence in per capita incomes? Solow proffered the "invisible hand" of the market as the basis for the validity of his convergence theory. Labour migrates into those countries and regions where the highest wages are paid and businesses invest in areas where their capital generates the highest return.

Doubt is in order as far as the mobility of labour is concerned, however. On the one hand, it is not enough to explain the convergence in per capita incomes among the European national states. This is because labour migration, given the language barriers and bureaucratic obstacles, has so far played a comparatively small role. On the other hand, empirical studies show that labour mobility due to different pay levels is negligible even inside an economic area such as the United States. Barro and Sala-i-Martin, for instance, estimate that a 10% increase in per capita income in one particular US state will cause immigration to rise by just 0.26 percentage points annually.⁶ Consequently, the convergence in living standards must primarily have been the result of movements of capital at both the regional and national levels.

But why did more investment flow into peripheral areas than into the prospering core – both in Euroland (national states) and in the United States? In his model, Solow points to marginal income when employing production factors. Locations with lower per capita income thus promise higher productivity and better returns. In fact, this explanation probably provides a partial answer at best, given that economies of scale are highly significantly in mass production. Productivity rises(!) here as the output of goods increases because businesses can exploit the benefits of bundling their production. If decreasing marginal income and labour mobility play, if anything, a minimal role with respect to convergence, what is it then? In essence, there are four different, conceivable answers:

□ Convergence is primarily an expression of fiscal redistribution in favour of the poorer regions. Empirical studies with respect to individual US states underscore the impact of fiscal equalisation measures by the federal government. What impact such factors actually have, however, is hotly disputed. While the economists Bayoumi and Masson, for instance, state that 30 per cent of a recession-induced income loss on the state level is compensated by the federal government's net transfers (direct stabilisation), von Hagen comes to just 10 per cent.⁷ According to Sala-i-Martin and Sachs, fiscal transfers also play a rather subordinate role. Instead, they claim that indirect stabilisation with the help of the tax system is more significant. If a particular region falls behind economically, its tax payments to the federal government automatically drop. The figure that Sala-i-Martin and Sachs put on this stabilising factor is 34 cents per dollar of lost income in the wake of a regional economic shock.⁸

□ The historical convergence among the member states of today's EMU is attributable only to the use of exchange-rate policy. In the past, nations could devalue their currency if per capita income dropped in their particular country. Especially Italy and Spain offset their disadvantage in terms of cost at the expense of hard-currency countries (e.g. Germany) in

⁶ R. J. Barro, X. Sala-i-Martin, op. cit., p. 132 f.

⁷ T. Bayoumi, P. R. Masson: Fiscal Flows in the United States and Canada: Lessons for Monetary Union in Europe, in: *European Economic Review*, Vol. 39 (1995), pp. 253-274; J. von Hagen: Fiscal Arrangements in a Monetary Union: Evidence from the US, in: D. Fair, C. de Bossieu: Fiscal Policy, Taxation, and the Financial System in an Increasingly Integrated Europe, 1992.

⁸ X. Sala-i-Martin, J. Sachs: Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States, NBER Working Paper, October 1991.

this way. In economic terms, this therefore represented a more subtle form of redistribution from the richer to the poorer countries.

□ Convergence is the result of economic policies competing to offer the best conditions in terms of location. Studies on the United States, for instance, came to the conclusion that there is a negative correlation between the size of the tax burden and the speed of convergence in a region. Tax levels that fell below the national average led to greater economic growth compared with the other states of the union.⁹ Something of this nature is also likely to apply to the Euroland countries. Economic policy sets the parameters for fiscal policy and infrastructure expansion (education, modes of transport etc.) If these parameters are favourable, investors will reward such efforts with inflows of capital. As competition acts as both an incentive and a sanctioning mechanism, countries with low per capita income are especially highly motivated. For it is only when their underlying conditions are more favourable than those in the centres of growth, that they will stand a chance of more inward investment and a boost to their standard of living. The lack of standardisation in the per capita incomes of the European regions would, according to this analysis, be attributable not to the lack of fiscal equalisation but to the lack of competition.

□ Convergence at the country level is the result of a well-balanced economic structure within a particular country. As most EMU countries are hosts to a large number of different industries, fluctuations in the performance of individual sectors will on balance offset each other. The concentration of particular industry segments in certain national regions that we are witnessing thus no longer prevents convergence in national per capita incomes. If this line of argument were accurate, the chances for convergence in a Europe of the regions would, if anything, be limited. This is because regional economic shocks could repeatedly drive a wedge into the process of economic convergence.

To what extent these four determinants – redistribution, exchange-rate policy, competition and a well-balanced economic structure – played a role in the past is difficult to assess. There are either arguments or empirical evidence to underpin each one of them. The historical trend in the United States, for instance, where the division of labour between the regions has diminished, could be held up as an argument against placing too much emphasis on regional economic setbacks within a single-currency area.¹⁰ Emphasising exchange-rate policy is not without its problems

either: currency devaluations in real terms are likely to stabilise per capita income in the short term only. They do not resolve encrusted labour and commodity-market structures. Currency devaluations alone are therefore not enough to explain several decades of sustained convergence among the EMU countries. The trend in German per capita incomes points in the same direction: convergence has not progressed any further despite fiscal equalisation between the poor and rich German states. As in the United States, this could be attributed to reaching a steady state. Possibly, however, the point at which economic costs (negative incentive factors) exceed the return (standardised incomes) has also been surpassed in Germany. This could also be evidence that “healthy competition” produces more convergence in its wake than either redistribution or revenue sharing.

No Alternative to Competition between Regions

As clearly as economic convergence within the United States and among the EMU countries can be proved, as different the conclusions drawn from it turn out to be. Accordingly, it is also difficult to project how Euroland's regions will develop, especially given that launching the euro has added another “uncertainty factor.” No one knows exactly what impact launching a new currency will have on EMU member countries. Should Euroland therefore not, to be on the safe side, be pursuing a middle way in terms of its economic policy? One conceivable option would be a balance between competition among the regions and fiscal equalisation. On the one hand, the “invisible hand” of the market could take hold and, on the other, excessive economic divergence could be corrected by applying economic-policy measures. That would require increasing existing structural and cohesion funds significantly. So far, at the EU level, these funds have accounted for only 0.4% of the gross amount of value added generated by the EU countries.

We can only warn against the “golden mean”. There is no such thing as a menu from which economic policy can choose at will between a little more fiscal equalisation while keeping competitive intensity constant (i.e. no “free lunches”). Financial transfers are “sweet poison”: attempts at levelling out per capita income hamstringing a region's own initiative and

⁹ Z. Becsi: Do State and Local Taxes Affect Relative State Growth?, in: *The Economic Review*, Federal Reserve Bank of Atlanta, March/April 1996, pp. 18-35.

¹⁰ Cf. S. Kim: Changing structure of U.S. regions: a historical perspective, Working Paper, Federal Reserve Bank of Chicago, February 1996.

could cripple the forces driving the convergence process. If the EU were, for instance, to provide support to a region depending on the level of its unemployment, that would create the classic moral hazard in terms of wage policy. As the parties negotiating on wages would bank on fiscal equalisation measures – and thus on the EU assuming the employment risk – excessive wage demands would virtually be encouraged. Increased unemployment and another bailout from Brussels would be the unwanted consequences. Fiscal equalisation can thus not achieve convergence that is geared to sustainability either way: the negative incentive factors and the resultant subsidy mentality in the poorer regions would be just too great.

Instead of pursuing what is – at first glance – the easier path of redistribution, it would be much better to improve the conditions underlying competition among Euroland's regions. The regions should be enabled to take their fate into their own hands. There are three approaches in particular that can be offered in this regard:

☐ Boosting subsidiarity. Regional economic policy needs more room to act. Problems that can be resolved at the regional level should also be tackled there. What is needed is a Europe of short (decision-making) routes. At least part of economic policy-making authority should therefore be delegated from the country to the regional level.

☐ Abolition of nation-wide wage settlements. Maintaining nation-wide wage settlements put regions with below-average per capita incomes at a disadvantage. Advantages in the shape of lower wage costs cannot be put to use, resulting in a lack of capital inflows. A key equalisation mechanism that leads to convergence is thus disabled.

☐ Increased efforts by the EU Commission in terms of monitoring regional subsidisation practice. Subsidy payments to boost investment could be the "ugly side" of competition among the regions. It is not economic policy efforts to achieve the best underlying conditions that determine capital inflows, but the wallet. Wealthy regions would inevitably have an advantage in this respect. Artificial distortion of competition and the undermining of the driving forces behind convergence would be the consequences. A complete ban on subsidies to avoid any precedent being set, thus creating disputes between the regions and the EU Commission, would also be conceivable. As the US example shows, it is this point in particular that should not be underestimated. All too lavish

subsidies for companies from individual states even prompted the Fed to take action in 1996. At a conference held by the Fed, numerous economists expressed concern with respect to the competition among regions to offer subsidies.¹¹

Paving the way towards "competition between the regions" is the method most likely to provide for sound economic performance and gradual convergence in per capita incomes in Euroland. There is one thing, however, that this should not conceal: competition is not just the consequence of disparity but also its cause. In the short term, the struggle to offer the best conditions in terms of location will, if anything, broaden the gap between per capita incomes rather than close it. Thanks to their favourable economic policy, some regions will generate a greater lead in living standards for themselves. Possible consequences could be a spread to neighbouring regions and amalgamation into islands of growth and innovation. The early signs of cluster forming that we have seen in Euroland in the past 20 years already provide the first taste of this. A permanent split of Euroland into poor and rich, as some sceptics fear, does not necessarily have to be the result of this. This is because the incentives provided to economic policy by dynamic competition among the regions are likely to be the best guarantor for economies to catch up and against a persistent situation of "rich here – poor there." Over the medium term, the signs therefore point to convergence rather than divergence in Euroland.

Drawing conclusions for economic policy from a Europe of the regions is one thing. What are the practical consequences as far as businesses are concerned? Should they position themselves in areas with below-average per capita incomes and hope for the economy in those regions to catch up? Possibly better underlying conditions for investors would argue in favour of such a strategy. Poor regions could subject themselves to a get-fit programme consisting of low tax rates and infrastructure measures to attract foreign capital. But being present in select areas that already enjoy a strong economy is also a promising approach. On the one hand, such areas involve highly receptive markets that make it easier for a business to sell its products. On the other, they can benefit from the clusters that are forming. Neighbouring regions form a centre of growth and thus expand their economic advantage even further.

¹¹ Conference "The Economic War Among the States", various articles, printed in: *The Region*, Federal Reserve Bank of Minneapolis, June 1996.