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**THE KONSTANZ SEMINAR
ON MONETARY THEORY
AND POLICY AT THIRTY**

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The Konstanz Seminar on Monetary Theory and Policy at Thirty

by

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Abstract

Founded by the late Karl Brunner in 1970, the Konstanz Seminar celebrated its thirtieth anniversary in 1999. Brunner started the Seminar with two objectives, to close the gap in the quality of research and teaching of economics between the United States and Europe, Germany and Switzerland in particular, and to provide an alternative to the dominant Keynesian paradigm to European monetary policy makers. Thirty years ago the Konstanz Seminar was at the fringe of the economics profession; today it is part of the mainstream. This paper reviews the academic and policy accomplishments of the Konstanz Seminar.

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Keywords: Monetary theory; Monetary policy; History of economic thought

1. Introduction

The Strandhotel Löchnerhaus on the Reichenau island near Konstanz, Germany, attracts tourists for sun, beauty, and South German hospitality. Once a year, the island's tranquillity is disrupted by a group of monetary economists and policy makers who gather there for the Konstanz Seminar on Monetary Theory and Policy. The 1999 (3-6 June) meeting marked the 30th anniversary of this conference, now a venerable institution in European monetary economics.

The Konstanz Seminar was started by the late Karl Brunner (1916-1989), an eminent scholar and accomplished academic entrepreneur who, in addition to this conference, founded the *Journal of Money, Credit, and Banking*, the *Journal of Monetary Economics*, the *Carnegie-Rochester Conference Series*, the Shadow Open Market Committee, the European Shadow Open Market Committee, and the Interlaken Conference on Analysis and Ideology. With the exception of the latter two, these enterprises continue to thrive.

The first Konstanz Seminar took place in 1970 (June 24-26) at the University of Konstanz, where Brunner held a chair in economics. The conference was moved to the island of Reichenau in 1971 and has remained there. Manfred J. M. Neumann, an economist at the Bundesbank before starting to work with Brunner, and today professor of economics at the University of Bonn, soon became the Seminar's co-director, and its sole organizer after Brunner's death in May of 1989. The Seminar's format has hardly changed through the years: it is as close to a steady-state equilibrium as economists ever see.

A typical Konstanz Seminar program consists of eight papers and a policy session. A distinctive feature is the unusual amount of time devoted to discussion: Authors get 15 minutes, discussants 20 minutes; and general discussion the remaining 40 minutes. The Seminar's discussions are extremely lively. Participants are expected to contribute to the debate; only those who perform are invited again. It is no secret that Brunner and Neumann kept lists of inactive individuals. Competition to be heard is fierce and the sessions chairs often resort to strong tactics to cut off long-winded questions and answers.

From 1970 to 1999, 262 papers were presented and discussed at Konstanz. Apart from the first conference volume (Brunner, 1972), the Seminar never made an effort to publish its own proceedings, leaving it up to the authors to find their publication outlets. Nevertheless, a flavor of the highlights of the Konstanz Seminar can be gleaned from a reading of the collected papers in Brunner and Neumann (1979) and Neumann (1986) as well as the review article for the 25th anniversary of

the conference written by Laidler (1995).¹ As of September, 1999, 211 of the 262 papers presented at the Seminar had been published: 56 in top-tier journals,² 46 in second-tier journals³, and 109 in other journals and books. A total of 514 individuals from 31 different countries attended the Konstanz Seminar over the span of 30 years. An important characteristic of the Konstanz Seminar is the regular participation of policy makers from Europe and the United States. Over the years, central banks and treasuries from many countries have sent representatives to the conference, often contributing to the program.

2. Objectives and Achievements of the Konstanz Seminar

2.1. Objectives

Brunner started the Konstanz Seminar to bring sound monetary theory and monetary policy analysis to Europe, in particular to Germany and Switzerland. In the introduction to the published proceedings of the first conference Brunner outlined the Konstanz scientific manifesto (1972, p. 7):

"The Conference was designed to encourage empirical and analytic work in Europe and particularly in Germany in the field of monetary policy and monetary analysis.. ..The division of 'monetary theory' and 'monetary policy' into separate unrelated realms of discourse still persists in Europe to a large extent. But theory without application to our environment is useless and policy discussion or judgments not based on analysis are dangerous."

Allan Meltzer - Brunner's long-time friend, collaborator and co-founder of many activities - recalls that Brunner was struck by the large quality gap in economic research and teaching between the US and Germany.⁴ Manfred Neumann remembers that at the time, "in Germany as in most other European countries, analytical and empirical research in monetary economics were poorly

¹ Laidler's (1995) review focuses on the development of monetarism as a school of thought in macroeconomics and, largely, in North America. In contrast, this paper focuses on the influence of the Konstanz Seminar on modern European macroeconomics and on European monetary policy making.

² We count among top-tier journals the American Economic Review, the Carnegie-Rochester Conference Series, *Econometrica*, the Economic Journal, the International Economic Review, the Journal of Economic Literature, the Journal of Finance, the Journal of Political Economy, the Journal of Monetary Economics, the Journal of Money, Credit, and Banking, the Journal of International Economics, and the Quarterly Journal of Economics.

³ Our list of second-tier journals includes Applied Economics, Economic Inquiry, *Economica*, the European Economic Review, the European Journal of Political Economy, the Journal of Banking and Finance, the Journal of Business and Economic Statistics, the Journal of Economic Dynamics and Control, the Journal of International Money and Finance, the Journal of Institutional and Theoretical Economics, the Journal of Policy Modelling, *Kyklos*, the Manchester School of Economics and Social Studies, and *Weltwirtschaftliches Archiv*.

⁴ Private communication to the authors dated 30 March 1999.

developed...Monetary theory and monetary policy were taught in the universities as separate topics. Courses on monetary policy were typically void of theoretical analysis; the focus was instead on describing institutions. As a reflection of this, the staff of central banks was barely in touch with academic research.”⁵ According to David Laidler, the Konstanz Seminar was from the beginning a “place where young Europeans were brought into contact with the best among the young North Americans, to the enormous benefit of both groups. This emphasis on bridge-building among the young has made the Konstanz Seminar unique.”⁶

A second, perhaps implicit, but no less important objective was to provide an alternative to the mainstream Keynesian paradigm, whose political appeal, as Brunner (1983, p. 58) saw it, rested in the “rationalization of activist pursuits of redistributive schemes under one guise or another”. The Konstanz Seminar was to be the European counterweight to the orthodoxy of policy activism. At the 1970 seminar, Leonall Andersen of the FRB of St. Louis, an active soldier of the monetarist revolution, sketched the “properties of a monetarist model for economic stabilization” (Brunner 1972, pp. 89-125). Andersen, the first to speak at the conference, was followed by Brunner and Meltzer who presented their “Monetarist Hypothesis of Economic Fluctuations” (Brunner, 1972). The significance and symbology of the first seminar in this regard was not lost to William Wolman, who wrote in the New York Times (November 1, 1970) that:

“the First Konstanz Conference ...provided insight into not only the current state of monetarist thinking but also what new fields the monetarists – who, like all members of new scientific movements, have a streak of evangelism - would like to conquer.”

The Konstanz Seminar acquired almost immediately the reputation of an intense monetarist challenge to the Keynesian orthodoxy of the time; some regarded it as a stronghold of monetarism. Brunner himself had coined that term in an article published in the Federal Reserve Bank of St. Louis Review (Brunner 1968), describing it as a school of thought that believes in the self-stabilizing properties of the private economy, that money affects the real economy primarily through changes in relative asset prices, and that monetary fluctuations are primarily due to the erratic behavior of monetary authorities inspired by the “wrong” model of how money works in the economy. As Laidler (1991, p. 639) aptly put it: “Much (not all) of this is nowadays utterly respectable doctrine, and some of it conventional wisdom. It is hard to conceive of just how outlandish and old-fashioned a body of ideas monetarism

⁵ Private communication to the authors dated 9 April 1999.

seemed when Friedman, Brunner, and a few others began to propound it in the 1950s and the 1960s.” Allan Meltzer (1998, p. 10) goes further: “... by the late 1970s the monetarist response had restored a version of the main propositions of classical monetary theory. The Keynesian challenge had been met. Keynesianism had been reduced mainly to the claim that labor markets (and perhaps anticipations) do not adjust without a lag and to a preference for discretionary policy actions—fiscal and, more importantly for this discussion, monetary actions. No classical economist from David Hume to Alfred Marshall would have quarreled with the statement about lags in the adjustment of labor markets or anticipations.”⁷

The objective of advancing monetarism was pursued not only by educating the young and bright European academic minds, but also by networking with the policy world. Almost every year, the Konstanz Seminar gave policy makers –primarily central bankers — or influential policy advisors the opportunity to present and discuss their views of monetary policy. This interaction between the world of academia and the world of policy making began in 1970, with a presentation of the concept of monetary theory and policy by Heinrich Irmeler of the Deutsche Bundesbank (see Brunner 1972, pp. 137-164). In the same year, Dimitrije Dimitrijević of the National Bank of Yugoslavia gave a paper on the determinants of the money supply in his country (see Brunner, 1972, pp. 273-315) in a session chaired by future Bundesbank President Helmut Schlesinger.

Charles Goodhart, then an economist at the Bank of England and part of the Keynesian orthodoxy, came to Konstanz in 1971 to deliver a paper on the transmission mechanism of monetary policy and in 1972 for a study on money stock determination. Goodhart recalls that:

“I certainly received the distinct impression that I was invited from time to time, in the hopes of persuading me, in my role as a reasonably influential central bank economist, of the merits of monetarism in general, and of the version that Karl and Allan adopted in particular.”⁸

Goodhart’s association with Konstanz had the profession puzzled as to whether he belonged to the Monetarist or Keynesian (Goodhart 1997, p. 400)⁹:

“Anyhow I had already found a niche in the Bank [of England], which was to try to explain internally to the Bank what the outside (monetarist) economists were arguing, while at the same time trying to explain to those same outside economists what the Bank’s viewpoint was. This meant that within the Bank (and perhaps the Treasury) I was perceived as almost the resident

⁶ Private communication to the authors dated 8 April, 1999.

⁷ Franco Modigliani (1977) in his Presidential address to the American Economic Association acknowledged that Monetarism was correct on all points, except on the rule-based policies.

⁸ Private communication to the authors dated 8 April, 1999.

⁹ We thank George von Fürstenberg for bringing this passage to our attention.

'Monetarist', while to the Monetarists outside, notably at the Konstanz conferences organized by Karl Brunner and Allan Meltzer, I was seen as an 'unreconstructed Keynesian'."

Over time, a healthy environment of interaction developed, with heated debates to be sure, but ultimately with a relationship of mutual trust. Policy makers and policy advisers came to Konstanz to convince academics that what they were doing was right, but were also willing to listen to the alternatives and perhaps put them into practice.

In sum, Konstanz had two objectives, one explicit and one implicit. The explicit objective was to raise the quality of macroeconomic and monetary analysis of young European economists to the level achieved in North America. The implicit objective, of equal importance, was to influence the practice of central banking in favor of a less activist, forward looking monetary policy geared primarily at price stability.

2.2. Impact on monetary policy making in Europe

The Konstanz Seminar started as part of the Monetarist counter-revolution. Outside of a few academic institutions in the United States --such as the University of Chicago, UCLA, Carnegie-Mellon University, the Ohio State University, and the University of Rochester-- teaching, research, and policy advice by academic economists built on the traditional Keynesian paradigm (Laidler 1991, p. 639).¹⁰ The seminar also started in an environment where inflation was regarded as a lasting policy problem. Worries of persistent inflation had replaced earlier post-World War II fears of chronic deflation (Brunner 1969). In 1970, the Bretton Woods System was crumbling under the pressure of a rising US inflation rate and the unwillingness of some European countries, most notably Germany, to adopt the same inflationary policy via the fixed exchange rate regime. In this crisis environment, the Konstanz Seminar offered an alternative approach to macroeconomic modeling and alternative policy recommendations. As Wolman (1970) put it: "...the entire thrust of the conference was to get the Europeans to think of their problems in terms of stable growth rates of the monetary aggregates and to point out that such stabilization is an

¹⁰ There were some notable exceptions to Keynesianism in Europe as well, such as the University of Paris –Dauphine (where Emil Maria Claassen and Pascal Salin taught), the London School of Economics (Harry Johnson), the University of Manchester (David Laidler and Michael Parkin), the Graduate Institute of International Studies in Geneva (Alexander Swoboda), and the Catholic University of Louvain (Paul de Grauwe, Michele Fratianni, and Theo Peeters). We thank David Laidler for this observation.

achievable goal provided that central bankers use the right technique and focus on the right questions.”

Money mattered at the Konstanz Seminar. According to the models presented at the first conferences, changes in the monetary base were the dominant impulses underlying the growth of the monetary aggregates. The monetary authorities had the ability to control these aggregates, not on a daily or weekly basis, but on a quarterly or a yearly basis. Monetary policy makers were advised to think less about the short run and more about the medium and long run. Inflation was basically interpreted as a monetary phenomenon; consequently, central bankers were ultimately responsible for it. While relative price and wage rigidity of the real sector gave the monetary authorities an opportunity to alter the path of output and unemployment, their actions would be anticipated by the public and affect price and wage expectations. Underestimating these reactions, activist policy makers were seen as raising the risk of creating an inflation bias. The implication was that discretionary monetary policy did not systematically raise the rate of output, but created an inflationary environment. The main tenet of the message offered by the Konstanz Seminar was that central banks ought to look at the long run and build reputation by being firmly committed to price stability. Furthermore, central bankers had to receive correct incentives for pursuing such policies: The Konstanz Seminar was an early advocate of central bank independence.

Today’s landscape is radically different from the seventies. Much of the message that seemed revolutionary at a time, when old-style Keynesianism was still rampant, has long been accepted into the dominant paradigm used by economists. Inflation in the industrial world has been squelched, economic policy activism seems out-dated, and central banks in many countries have been granted independence - in fact, central bank independence became an entry condition to the European Monetary Union - or have been given explicit incentives to achieve low rates of inflation. The organizers of the Konstanz Seminar ought to be happy with these developments. But the question is: How much credit can they claim? This is a difficult question to answer with any degree of precision. Surely, the Konstanz Seminar has contributed to the dramatic change in the intellectual climate since the seventies. In what follows we try to identify some linkages between the Konstanz Seminar and monetary policy making.

A first indication of success is that a fair number of participants of the Konstanz Seminar were or became influential policy makers (see Table A in the Appendix). In this group many were already working in central banks or government when they first came to Konstanz; others were in academia and moved into the

policy world later. Among the first are Antonio Fazio, Charles Goodhart, Jerry Jordan, H. Robert Heller, Norbert Kloten, Markus Lusser, Tommaso Padoa-Schioppa, Paolo Savona, Kurt Schiltknecht, and Helmut Schlesinger. Typical of the second group are Stanley Fischer, Jacob Frenkel, Otmar Issing, Pieter Korteweg, Mario Monti, and Michael Mussa. André Fourçans and Paul de Grauwe represent a third and rare group of individuals who are both academics and policy makers.

The Konstanz Seminar probably had its largest impact on Germany's Bundesbank and the Swiss National Bank and a smaller impact on the Bank of England and the Banca d'Italia. Most Seminar participants we contacted agree on this point. Allan Meltzer speaks for all of them when he says:

"The Bundesbank and the Swiss National Bank changed the way they conducted policy. Is it an accident that they are the two most monetarist central banks? Did they contribute to and support our efforts because they agreed about objectives and were interested in improving techniques? It is hard for me to identify structural parameters of influence. We learned a lot about the problems from them as they saw them. I believe they continued their support and attendance because they found the interaction and the conference useful."¹¹

The connection between the Deutsche Bundesbank and the Konstanz Seminar existed from the very beginning. Heinrich Irmeler, a member of the Bundesbank's Council kicked off the first Konstanz Seminar. Horst Bockelmann, head of the monetary division in Schlesinger's department of economics and statistics, was a regular participant of the seventies. The late Hermann Dudler replaced him at the Bundesbank and also at the Seminar in the early eighties. An important link was through Helmut Schlesinger. He first came to Konstanz in 1970 when he was heading the Research and Statistics Department, he returned in 1976 to discuss his paper "Recent Experiences with Monetary Policy in the Federal Republic of Germany," again in 1984 as deputy president of the Bundesbank to discuss his "Some Reflections on the Experience with Monetary Targeting over the Past Ten Years," and again in 1989 as a panelist on "International Monetary Cooperation: Do we Need It and in Which Way?" (together with Markus Lusser, President of the Swiss National Bank and Yoshio Suzuki, Executive Director of the Bank of Japan). In their book on the world's best central bankers, von Fürstenberg and Ulan (1998, p. 109) report that Schlesinger was "responsible for all articles of a 'principal' nature as he [Schlesinger] put it, in the official publications of the Bundesbank (Monthly Report, Annual Report) from 1964 to 1991. This gave him a

¹¹ Private communication to the authors dated March 30, 1999.

strong, and often decisive, behind-the-scenes influence on the policies of the Bundesbank for almost thirty years.”

Until the mid-seventies the Bundesbank's operating procedure focused on the control of bank liquidity, which also acted as an indicator of monetary policy. This is clearly spelled out in Imler (Brunner 1972, pp. 140-152). The problem with this approach is that bank liquidity is the result of optimizing choices by banks and, hence, not an appropriate indicator of monetary policy, a criticism that resonates the arguments against the use of free bank reserves as a monetary policy indicator in the United States. Schlesinger's 1976 paper is significant because it dismissed the bank liquidity approach in favor of controlling the monetary base and, ultimately, the money stock. In 1975, the Bundesbank was the world's first central bank to practice explicit monetary targeting.¹² When Schlesinger returned to Konstanz almost 10 years later to assess a decade of experience with monetary targeting, the Bundesbank had acquired a reputation as a monetarist central bank (Bernanke et al., 1999, p. 50), which later became the role model for the new European Central Bank.

Equally close was the link between Konstanz and the Swiss National Bank. Brunner and Mark Lusser had great respect for each other. Von Fürstenberg and Ulan (p. 138) acknowledge this relationship: “When head of the Swiss National Bank (SNB), he returned regularly to the University of Berne to confer with Professors Karl Brunner ... and Jürg Niehans ... on the ins and outs of monetary economics. Brunner and his followers reinforced in him a pragmatic form of monetarism.” Equally importantly, the Konstanz Seminar cultivated the research department of the Bank. The key figures were Kurt Schiltknecht, a Director of the Swiss National Bank, who was an assiduous Seminar participant in the seventies and had an important role in the adoption of monetary targeting in the mid-seventies (Schiltknecht, 1983). Like the Germans, the Swiss adopted a practice of deriving money growth targets from explicit targets for inflation, potential output, and growth of velocity (Bernanke and Mishkin 1992). Georg Rich replaced Schiltknecht at the Swiss National Bank and at the Konstanz Seminar.

More difficult is an assessment of the influence of the Konstanz Seminar on U.K. monetary policy. It is generally accepted that Brunner and Meltzer had significant influence on Alan Walters, Lord Brian Griffiths—a regular Konstanz participant in the seventies—and Patrick Minford—an audible and important “voice” in Konstanz—who, in turn, had significant influence in the UK government, especially in the Thatcher period. Regarding a possible impact on the U.K. Treasury and the

Bank of England, the assessment must be more guarded. Charles Goodhart believes that "Monetarism certainly had an influence on the practice of monetary policy in the 1970s and the early 1980s, but it would be very difficult to isolate the role of Karl and the Konstanz Seminar in particular, as compared and contrasted, for example, with Milton Friedman and Chicago."¹³

The influence of the Konstanz Seminar on the Italian central bank is more limited but more documentable. Fazio came to the Konstanz Seminar in 1971 to argue the case for an interest rate pegging policy (in a paper co-authored with Paolo Savona), a policy pursued by the Banca d'Italia from 1966 to 1969. Not surprisingly, the paper met considerable criticism. Nonetheless, Brunner and Meltzer were invited to the Banca d'Italia to present their "monetarist" views, which had already made some converts there. This was significant in light of the fact that the leading intellectual advisor of the Banca d'Italia at the time was Franco Modigliani of MIT, who, it is fair to say, was not sympathetic to Brunner and Meltzer. Paolo Savona, Fazio's colleague at the Bank's research department, summarizes the 1971 Konstanz experience as follows:

"The discussion in Konstanz left a profound mark on Fazio and me; it was also brought to the attention of Carli [then Governor of the Banca d'Italia] who had some doubts on the sustainability of the interest rate stabilization policy. We understood that such a policy could have continued only in the presence of money illusion or only for a limited period of time... Subsequently, the scientific production of the Konstanz Seminar was followed with keen interest at the Banca d'Italia."¹⁴

In 1984, the Banca d'Italia adopted monetary targeting and began a long and gradual process of disinflation. Under Governor Fazio, the disinflation policy became more determined; to no small measure of Italy's success in qualifying for EMU is due to Fazio's policies.

In sum, while it is difficult to trace the exact impact of the Konstanz Seminar on policy making, it is clear that this institution was closely connected with the world of policy making in several European countries. The repeated exposure of policy makers to the Konstanz Seminar suggests that both parties learnt from each other. In this sense at least, we conclude that the policy objective of the Konstanz seminar was met with success.

¹² For a review of the debate within the Bundesbank leading to that decision and the academic influence like that of the Konstanz Seminar on this process see von Hagen (1999).

¹³ Private communication dated April 8, 1999. David Laidler believes that monetarism in the UK was emerging as a force even before Friedman and Brunner exercised any personal sway on Mrs. Thatcher.

2.3. *Impact on academia*

To analyze the impact of the Konstanz Seminar on European academia, we first consider the number and geographical origin of the conference participants over the years. The first Seminar had 68 participants, more than any other subsequently. Among these were 49 Germans and Swiss, 9 North Americans (US and Canada), and 10 participants from other European countries. The available data indicates that attendance reached a low point in 1977, with 45 persons, and peaked in 1983 and for the 25th anniversary conference in 1994, with 64 and 61 persons, respectively.¹⁵ In most years, the number of participants hovered around 56, a number dictated by the availability of hotel space on the Reichenau island.

The average Konstanz Seminar participant attended the conference three times. Only 28 individuals (5.4 percent of the total) were invited more than 10 times, and nine of these were not present in the 1990s. A very restricted group of eight individuals (1.6 percent of the total and 16 percent of the average number of participants) attended more than half of the conferences.¹⁶ 57 percent of the participants attended the conference only once; that ratio is slightly lower among U.S. participants, half of whom came to Konstanz only once. Overall, there is no indication of conference attrition over the past 30 years.

Table 1 reports the geographical distribution of Konstanz participants grouped according to the location of their institutions, for selected years. The share of German and Swiss participants has remained relatively stable at approximately 60 percent since the early 1980s, while North American representation has declined in favor of representation from other European countries. Altogether, this evidence indicates that, consistent with its educational objective, the Konstanz Seminar provided a forum for academic exchange between North Americans and Europeans, particularly Germans and Swiss, and made an effort to involve a large number of individuals in this dialogue.

Table 1
Geographical Distribution of Participants (percent)

Year	North Americans	Germans and Swiss	Other Europeans	Non Europeans
1970	19	72	8	0
1977	29	44	27	0
1982	10	63	23	4

¹⁴ Private communication dated April 19, 1999.

¹⁵ Lists of participants are unavailable for the years 1971-76 and 1978-79.

¹⁶ Apart from Manfred Neumann, who has attended all conferences, the most frequent participants are Allan Meltzer (Carnegie Mellon) and Michele Fratianni (Indiana University), both 28 times.

1989	18	66	14	2
1990	18	64	16	2
1997	11	53	32	4
1998	13	60	25	2
1999	17	58	23	2
1970-99	22	52	23	3

The intended, positive educational role of the Konstanz Seminar should be reflected in a growing contribution of European economists to the conference program. Appendix Table B has some relevant information.¹⁷ The early conferences were clearly dominated by North American authors. This pattern changed significantly as time went on. In the late 1970s already, the distribution of papers between North Americans and Germans and Swiss was much more even, while contributions by other Europeans dropped to 20 percent. In the late 1980s and early 1990s, German and Swiss authors dominated the Konstanz Seminars. In recent years, the distribution has become more even again. Today, Konstanz is a conference whose contributions are shared roughly evenly between North Americans and Europeans, and the European share is distributed roughly evenly among Germans and Swiss and other Europeans.

Define “active participation rates” as the proportion of participants from a certain region presenting papers among all participants from that region relative to the ratio of participants from that region to all participants. These odds-rates of being a contributor from a given region differ substantially among the three groups. Over the 30 years, North Americans lead with a rate of 1.77 against 1.16 for other Europeans and 0.56 for German and Swiss participants. Nevertheless, the active participation rate of German and Swiss participants has increased over time.

In addition to authors, discussants contribute importantly to the quality of the session and of the general discussion. Appendix Table B reports the distribution of author-discussant matches according to geographical affiliations. In the early years, the most frequent match was North Americans discussing papers authored by North Americans. European participants often watched North Americans doing their thing. Matches resulting in Germans and Swiss discussing other European authors and vice versa were relatively rare; the organizers must have felt that such matches would have resulted in low learning experiences. The most frequently observed matches, apart from North Americans with North Americans, involved North Americans discussing European papers and vice versa. The table indicates a decline of the frequency of two-sided North American pairings over time, with a low reached

¹⁷ To emphasize trends, the table splits the entire period into six-year intervals.

in the late 1980s. In the second half of the 1990s, the most frequent match was Germans and Swiss discussing other European authors. North Americans commenting on German and Swiss authors became relatively rare; other Europeans commenting on papers by other European authors remained consistently infrequent. Just as it was true for the distribution of authors, the distribution of matches has become more even in time.

One potential criticism is that these observations are “internal” evidence, heavily influenced by the organizers’ selection of participants. A second test, therefore, is to check the publication record of the papers presented at the Konstanz Seminars. Such a test is difficult for two reasons. One is the long publication lag due to the refereeing process. This makes the comparison of relatively short periods quite meaningless. The other is that it creates a bias against continental European economists, because of their relative unfamiliarity with the English language.

We selected two rather long periods for comparison, one in the early days of Konstanz and the other in the late days to check for significant changes in publication records (see Table 6). The early sub-period goes from 1971 to 1981 and the late sub-period from 1987 to 1997. The 1970 Seminar was omitted because the papers presented in that program were published in a proceedings volume in 1972; the 1998 and 1999 conferences were omitted because of publication lags.

Table 2
Publication Record by Geographical Areas

	Top-tier journals	2 nd -tier journals	Other journals and books	Total papers presented
1971-81				
North Americans	16	4	12	50
German-Swiss	3	3	7	28
Other Europeans	4	5	7	32
Total papers	23	12	26	110
1987-97				
North Americans	7	4	8	28
German-Swiss	2	5	12	28
Other Europeans	0	4	14	24
Total papers	9	13	34	80

Define the overall “hit rate” as the ratio of all publications to total papers in each group. The hit rate of North Americans was 0.64 in the early period and 0.68 in the later period; the German-Swiss hit rate rose from 0.46 in the early days to 0.68 in the later days. According to this indicator, German and Swiss publication records converged to those of North Americans. The difference between the two groups lies in the quality of publications, as measured by journal rankings. In the early period

North Americans published an exceptional 50 per cent of their papers in top-tier journals, a reflection that the organizers were selecting extremely well from that regional pool. The top-tier share of Germans and Swiss was 23 per cent, still quite respectable. Again, the organizers were selecting well from the general pool of monetary economists. In the later period the share of top-tier articles dropped drastically: from 50 to 37 per cent for North Americans, from 23 to 11 per cent for Germans and Swiss, and from 25 to 0 per cent for other Europeans. North Americans thus remain much more likely to hit a top-tier journal than a German or a Swiss. The latter have moved in second place in the top quality and in first place in the second-tier category.¹⁸

The data of Table 2 suggest three conclusions. First, Europeans were exposed to the very best work of their North American counterparts in the early days of the Konstanz Seminar, in line with the objectives of the conference. Second, papers presented at the Konstanz Seminar have enjoyed an increased likelihood of being published over time, a process driven mainly by the improved success rate of European participants in publishing their work in second-tier journals and other journals and books. This outcome, again, is consistent with the educational objective of the Konstanz Seminar. Finally, there remains a quality gap between North Americans and Europeans, as measured by the hit rate in top-tier journals, which reflects the more competitive nature of the academic market in North America.

These “objective” conclusions square with qualitative assessments we have received from some of the participants of the conference. For Eduard Bomhoff, the real impact of the Konstanz Seminar has been to motivate “people to pursue serious research [rather] than to lead to common points of view.”¹⁹ For Clemens Kool, who first came to Konstanz as a Ph.D. student in the early 1980s, “Konstanz was a nursery for a generation of well-trained European-based monetary economists, who in turn spread the word within their home institutions to train subsequent generations.”²⁰ For Manfred J.M. Neumann, the Konstanz Seminar was a leading factor in the general opening up of European academia to the international arena and had a large impact particularly in Germany.²¹ Finally, for Patrick Minford, the Konstanz Seminar underscored inclusiveness:

"Infidels were ripe for conversion, technical modellers who did not understand the philosophical basis of free markets and monetary controls were also

¹⁸ The German and Swiss share of second-tier publications is 26 per cent against the 21 per cent of North Americans and the 22 per cent of other Europeans.

¹⁹ Private communication to the authors dated March 13, 1999.

²⁰ Private communication to the authors dated March 31, 1999..

²¹ Private communication to the authors dated April 9, 1999.

welcome and taken in hand ... This was a unique project which arguably none but Karl could have done. He undoubtedly caused the rapid transmission of ideas to a mainly German group of economists. The fruits are plainly visible today in Germany."²²

It is also interesting to trace the career of some of those Seminar participants who first came to Konstanz as Ph.D. students. Those of the seventies were Peter van Loo, Eduard Bomhoff (both writing under Pieter Korteweg at Erasmus University), André Fourçans, Herwig Langohr, and Roland Vaubel. Van Loo is now president of a regional branch of the Dutch Central Bank, Bomhoff was a professor at Erasmus before moving to Nijenrode University. Fourçans and Langohr were Fratianni's students at Indiana University; Fourçans is professor of economics at E.S.S.E.C (and a member of the European Parliament) and Langohr is a professor of finance at INSEAD. Vaubel was a student of Herbert Giersch's at Kiel and is now professor of economics at the University of Mannheim. The eighties' generation includes Clemens Kool, Kees Koedijk, Walter Wasserfallen, Jürgen von Hagen, Suzanne Lohmann, Axel Weber, and Martin Klein. Kool and Koedijk were Bomhoff's students at Erasmus and became professors of economics at the University of Maastricht after working for the Dutch central bank. The late Walter Wasserfallen was Brunner's student at Berne and Rochester and became the director of the Swiss National Bank's Study Centre Gerzensee in Switzerland. Von Hagen, Lohmann and Klein were Neumann's students at Bonn; von Hagen became a professor at Indiana University before moving to the University of Mannheim and later to the University of Bonn; Lohmann taught at Stanford University before moving to UCLA; Klein worked for the IMF before becoming a professor of economics at the University of Halle Wittenberg. Weber, a student of Loef's in Siegen, was a professor in Bonn and is now at the University of Frankfurt.

In sum, the academic objectives of the Konstanz Seminar seem to have been amply satisfied.

3. Topics and Contributions

3.1. Topics

Konstanz papers can be classified into three broad categories: papers that have general interest, papers that relate to a specific country, and papers that study political economy. Country papers either address a policy problem or test empirical hypotheses using data from a specific country. Political economy papers in Konstanz tend to investigate monetary policy institutions such as central bank independence.

²² Private communication to the authors dated April 11, 1999.

Table 3 reports the distribution of papers according to these classifications and the geographical affiliation of the authors; institutional papers are not shown but are obtained as the remainder.

Table 3
Distribution of Papers by Type and Geographical Affiliation (percent)

Years	Paper Type	North Americans	German Swiss	Other Europeans	Total
1970-75	General	31	5	17	56
	Country	16	16	13	44
1976-81	General	22	15	8	47
	Country	17	22	13	53
1982-87	General	35	20	14	74
	Country	6	12	10	26
1988-93	General	20	22	9	52
	Country	9	20	9	41
1994-99	General	33.5	16	10.5	60
	Country	9	5	2	16
1970-99	General	27	15	13	56
	Country	12	16	10	39

Note: institutional papers (not shown) can be obtained as a residual.

Apart from the second six-year period, general-interest papers have been more prominent than either country or institutional papers in Konstanz. Political economy papers became relevant only in the late 1980s, reflecting the growing interest of the economics profession in central bank independence; 25 per cent of all papers dealt with political economy analysis in the period from 1994 to 1999. The relatively small share of papers studying political economy reflects the division of tasks Brunner intended between the Konstanz Seminar and the Interlaken Conference, which was devoted to political economy and philosophy.²³ As the table indicates, North American authors have had a stronger preference for general interest papers than other participants; this was particularly true in the early years. Interests have converged over time, and today the likelihood of a general-interest paper presented by a German or Swiss author is much higher than in the early days of Konstanz.

Although Konstanz has dealt with a wide range of issues, these can be arranged into the following four groups: (1) money supply and money demand, (2) monetary policy, (3) monetary macroeconomics, and (4) international macroeconomics and economic policy. A paper is included in group (1) rather than

²³ Buchanan (1996) recalls that Brunner was acutely interested in political economy and recognized the impact of political processes and ideologies on policy outcomes.

(3) if the focus is specifically on the demand for money function or the money supply process; it is included in (2) rather than (3) if it deals with a specific policy issue. Only very few papers escape these classifications. Table 4 reports the distribution of paper topics against the geographical affiliation of the authors; we leave out papers that do not fall under any of these categories, which explains why the sums in the table do not add up to 100 for each period.

Table 4
Distribution of Papers by Topics and Authors' Geographical Affiliation (percent)

	Topic 1	Topic 2	Topic 3	Topic 4
1970-75				
NA	12	8	11	11
D-CH	5	11	3	2
OE	8	8	5	11
Total	25	27	19	24
1976-81				
NA	2	9	17	10
D-CH	12	7	7	7
OE	5	4	4	10
Total	22	22	27	27
1982-87				
NA	2	6	23	10
D-CH	2	4	4	10
OE	0	8	6	10
Total	4	18	33	30
1988-93				
NA	0	9	0	16
D-CH	4	7	7	20
OE	0	2	2	14
Total	4	18	9	50
1994-99				
NA	12	17	9	2
D-CH	0	12	2	16
OE	0	5	5	9
Total	12	34	16	27
1970-99				
NA	6	10	12	11
D-CH	5	8	4	10
OE	3	6	4	12
Total	14	24	20	32

Notes: 1: money supply and money demand, 2: monetary policy, 3: monetary macroeconomics, 4: international macroeconomics and economic policy, NA = North American authors, D-CH = German and Swiss authors, OE = other European authors.

The early Konstanz Seminars displayed a heavy dose of money-supply papers, reflecting the focus of Brunner's (and Meltzer's) own work at the time. This

topic, however, vanished completely from the programs after 1982; the more recent papers under the first category dealt exclusively with the demand for money. Monetary policy papers - which in the early years included mainly papers on monetary strategy, targets, and indicators - accounted for 27 percent of all papers in the first period, but lost importance subsequently. There was a resurgence of this topic in recent years because of the noted interest in central bank institutions. The share of papers on monetary macroeconomics rose from 19 to 30 percent over the first three periods. In this group, there were many papers on rational expectations, but only few that dealt with the new research program of real business cycles. The share of monetary macroeconomics dropped dramatically to be replaced by a rising share of papers on exchange rate policies. Studies in international macro economics had an initial share of around 25 percent, which rose to 50 percent in the late 1980s and early 1990s.

It should be stressed that the organizers of the conference put more emphasis and effort on selecting authors than on selecting specific topics, the choice of which was generally left to the authors. In this sense, topic selection was endogenous at the Konstanz Seminar and reflected the preferences of the authors and the profession at large. With this in mind, the data of Table 5 can be interpreted as being determined by two factors, one common to macroeconomics and the other specific to the Konstanz Seminar. The first is the loss of interest by the economics profession in money supply issues and the rising interest in general macro analysis in the 1980s. The second is the high and growing importance of topics of genuine relevance to Europeans, namely international macro economics and exchange rate policies. From the very beginning Konstanz emphasized the study of the open economy, much more so than a typical conference in North America. Starting in the late 1980s, the push for monetary union in Europe became another important and genuinely European topic reflected in the Konstanz program. Goodhart's (1998) contribution shows how the quest for monetary union stimulated research even in general monetary economics.

The table also reveals an interesting pattern in the selection of topics by different groups of authors. In the first period, North American papers were almost evenly distributed across the four topics, with a slight preference for money supply and demand-related papers. This preference was matched by German and Swiss contributions in the second period, with more than one third of their contributions falling under this topic. North American authors, meanwhile, had shifted mainly to the third (45 percent of their contributions) and the fourth topic (26 percent). Swiss and German authors followed suit in the third period, when half of their contributions

related to international macroeconomics. North Americans confirmed their specialization in the period 1982-87 (56 percent of their contributions in monetary macro economics, 24 percent in international macro), as did the German and Swiss group in 1988-93 with 53 percent of their papers dealing with international macroeconomics. In the late 1980s, however, North Americans' preferences shifted from monetary macroeconomics to monetary policy issues (36 percent of their contributions in 1988-93). Again, German and Swiss authors followed the North American lead in the mid-1990s, when 35 percent of their contributions dealt with the same topic. Although it is hard to establish causality and even harder to identify the causal mechanism, the table is suggestive about the responsiveness of European research interests to North American leads.

3.2 "Classical" Contributions

One may wonder whether the process of endogenous topic selection worked well not only to attract good authors, but also to attract high-quality papers. With the benefit of hindsight, one way to answer this question is to note that a number of papers presented at Konstanz Seminars later became classical pieces in the macro economics literature. While this is harder to argue for more recent conferences, we can point to a number of papers from the first 15 conferences that have stood the test of time.

The 1973 Konstanz Seminar had three such contributions. Rudiger Dornbusch's (1975) paper on the portfolio balance model of macro economic policies in open economies and Pentti Kouri's (1975) study of the hypothesis of offsetting capital flows in Germany were both published subsequently in the inaugural issue of the *Journal of Monetary Economics*. The third classic from this conference was Michael Mussa's (1974) study on tariffs and the distribution of income. The 1974 Konstanz Seminar featured Benjamin Friedman's (1975) paper on targets, instruments and indicators of monetary policy, also published in the *Journal of Monetary Economics*. Friedman came back in 1980 to present his study of the relative stability of money and credit velocities, published in Friedman (1982).

In 1976, Robert Barro presented his study of unanticipated money growth and unemployment in the United States, published in the *American Economic Review* the following year. At the 1977 Konstanz Seminar, Jacob Frenkel contributed his paper on the forward exchange rate and the demand for money in the German hyperinflation, to be published later in the *American Economic Review* (1977). The 1978 conference saw Dale Henderson's and Stephen Salant's (1978) article on market expectations and government policies in the gold market, which laid the

groundwork to Paul Krugman's (1979) seminal paper on speculative attacks on fixed exchange rates. Also in 1978, Ernst Baltensperger gave his study on alternative approaches to the banking firm, published in the *Journal of Monetary Economics* in 1980.

At the 1979 conference, Brunner, Meltzer and Cukierman presented a paper showing the different macro dynamics of permanent and transitory shocks, which later appeared in the *Journal of Monetary Economics* (1980). In 1981, Robert King and Charles Plosser presented "Money, credit, and prices in a real business cycle," one of the first attempts to wed the new approach to macro economics with monetary economics. The paper was published in the *American Economic Review* in 1984. Finally, Robert Barro's and David Gordon's positive theory of monetary policy in a natural rate model, published in the *Journal of Political Economy* in 1983, was presented at the Konstanz Seminar in 1982. This paper became the basis for much of the work on the political economy of central banking and central bank credibility, and had an important influence on the design of the European Central Bank in the 1990s.

In sum, the Konstanz Seminar attracted a good number of papers that turned out to be influential in the macroeconomics literature. As our review indicates, most of these papers were in the two fields of open economy macroeconomics and monetary policy.

4. Conclusions

The Konstanz Seminar had an academic or educational goal and a policy goal. The academic goal was explicit and aimed at closing the gap between the quality of research and teaching of economics in the United States and Europe, Germany and Switzerland in particular. The second goal, implicit perhaps, was no less important than the first: the conference was to provide an alternative to the orthodoxy of the time, the Keynesian paradigm, with its deep roots in policy activism and inattention to money. The state of the art of monetary economics at the end of the twentieth century is substantially different from what it was thirty years ago. The research and educational gap between North America and Europe has narrowed. The Keynesian paradigm has lost its orthodoxy *imprimatur*.

The evidence we have reviewed in the paper suggests that Konstanz contributed to these developments. Thirty years ago, the Konstanz Seminar was at the fringe of the economics profession in Europe; today it is part of the mainstream. The question of "how large a contribution" it has made is difficult, if not impossible, to

answer exactly. The Konstanz Seminar was part of a large movement in macroeconomics that was searching for a new paradigm. Our cautious conclusion is that it played a role in this transformation process and influenced the minds of many academics and policy makers.

Having achieved, at least in part, the initial objectives, should the Konstanz Seminar continue? Our suggestion to the organizers is to be bold and take on the new challenge of educating monetary economists and policy makers from the transforming economies of Eastern and Central Europe. The Konstanz Seminar can use its reputation to attract good and bright economists from these countries to ensure the enhancement and consolidation of the liberalization process. The dialogue between academics and policy makers is particularly important in Central and East Europe because institutions there are much more fragile than institutions in Western Europe thirty years ago. Our hope is that the next thirty years of Konstanz might be as productive as the last.

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Appendix

Table A: Active Konstanz Seminar Participants with Careers in Policy Making Institutions

Name	Institutional affiliation of first presence at Konstanz	Highest Position Achieved
Alphandery, Edmond	ESSEC	Minister of Economics, France
Buiter, Willem	London School of Economics and Political Science	Member of Monetary Policy Council, Bank of England
Crockett, Andrew	General Manager, BIS	General Manager, BIS
De Grauwe, Paul	Catholic University of Leuven	Senator and MP, Belgium
Fase, Martin	De Netherlandse Bank	Deputy Director, De Netherlandse Bank
Fazio, Antonio	Banca d'Italia	Governor, Banca d'Italia
Fourcans, Andre	ESSEC	Member of European Parliament
Frenkel, Jacob	University of Chicago	Governor, Bank of Israel
Fischer, Stanley	M.I.T.	Deputy Director, IMF
Frisch, Helmut	University of Vienna	Director of Austrian Public Debt Board
Giavazzi, Francesco	Director General, Treasury, Italy	Director General, Treasury, Italy
Goodhart, Charles	Bank of England	Member of the Monetary Policy Council, Bank of England
Heller, H. Robert	IMF	Board Member, FRS
Irmeler, Heinrich	Member of the Central Bank Council, Deutsche Bundesbank	Member of the Central Bank Council, Deutsche Bundesbank
Issing, Otmar	University of Würzburg	Member of the Executive Board, ECB
Jordan, Jerry	Federal Reserve Bank of St. Louis	President, FRB Cleveland
Kloten, Norbert	University of Stuttgart	President, LZB Baden Württemberg
Kokoszczynski, Ryszard	Board Member, National Bank of Poland	Board Member, National Bank of Poland
Korteweg, Pieter	Erasmus University	Treasury General, Netherlands
Kotz, Helmut	Deutsche Girozentrale	President, LZB Niedersachsen
Lusser, Markus	President, Swiss National Bank	President, Swiss National Bank
Monti, Mario	Università Bocconi	Commissioner, European Union
Mussa, Michael	University of Rochester	Economic Counsellor, IMF
Nabli, Mustapha	University of Tunis	Minister of Economic Development
Padoa-Schioppa, Tommaso	Banca d'Italia	Member of the Executive Board, ECB
Pierce, James	Board of Governors, FRS	Advisor, Board of Governors
Poole, William	Board of Governors, FRS	President, FR Bank of St. Louis
Rasche, Robert	Michigan State University	Head of Research, FR Bank of St. Louis
Rich, Georg	Swiss National Bank	Director, Swiss National Bank
Savona, Paolo	Banca d'Italia	Minister of Industry, Italy
Schiltknecht, Kurt	Swiss National Bank	Director, Swiss National Bank
Schlesinger Helmut	Chief Economist, Deutsche Bundesbank	President, Deutsche Bundesbank
Strauss-Kahn Marc-Olivier	Banque de France	Director of International Relations, Banque de France, Paris
Suzuki, Yoshio	Executive Director, Bank of Japan	Executive Director, Bank of Japan
Tosovsky, Josef	President. Czech National Bank	President. Czech National Bank
Wallich, Henry	Board Member, FRS	Board Member, FRS

Note: Participants are counted as active if they presented at least one paper or led at least one policy discussion at the Konstanz Seminar.

Table B: Author-Discussant Matches (percent)

Discussant	Author			
	North American	German-Swiss	Other European	Total
1970-75				
North American	24	13	13	50
German-Swiss	10	3	5	18
Other European	16	5	10	31
Total	49	21	30	100
1976-81				
North American	20	11	8	39
German-Swiss	11	11	7	29
Other European	8	8	7	23
Total	39	30	22	100*
1982-87				
North American	15	15	4	34
German-Swiss	13	13	10	36
Other European	7	13	11	31
Total	35	41	25	100
1988-93				
North American	8	17	11	36
German-Swiss	11	12	13	36
Other European	13	13	5	31
Total	32	42	29	100*
1994-99				
North American	15	7	9	31
German-Swiss	16	10	19	45
Other European	15	8	3	26
Total	46	25	21	100

Note: differences to 100 due to rounding errors or (*) because of authors and participants from other regions.

ZEI Papers

ZEI Policy Paper B97-01	A Stability Pact for Europe (a Forum organized by ZEI)
ZEI Policy Paper B97-02	Employment and EMU (Deutsch-Französisches Wirtschaftspolitisches Forum/ Forum Economique Franco-Allemand)
ZEI Policy Paper B97-03	Liberalising European Markets for Energy and Telecommunications: Some Lessons from the US Electric Utility Industry (Tom Lyon and John Mayo)
ZEI Policy Paper B97-04	Macroeconomic Stabilization with a Common Currency: Does European Monetary Unification Create a Need for Fiscal Insurance or Federalism? (Kenneth Kletzer)
ZEI Policy Paper B98-01	Budgeting Institutions for Aggregate Fiscal Discipline (Jürgen von Hagen)
ZEI Policy Paper B98-02	Trade with Low-Wage Countries and Wage Inequality (Jaleel Ahmad)
ZEI Policy Paper B98-03	Central Bank Policy in a More Perfect Financial System (Jürgen von Hagen and Ingo Fender)
ZEI Policy Paper B98-04	The EMU`s Exchange Rate Policy (Deutsch-Französisches Wirtschaftspolitisches Forum/ Forum Economique Franco-Allemand)
ZEI Policy Paper B98-05	Estimating a European Demand for Money (Bernd Hayo)
ZEI Policy Paper B98-06	Monetary Union, Asymmetric Productivity Shocks and Fiscal Insurance: an Analytical Discussion of Welfare Issues (Kenneth M. Kletzer)
ZEI Policy Paper B98-07	Designing Voluntary Environmental Agreements in Europe: Some Lessons from the U.S. EPA`s 33/50 Program (John W. Maxwell)
ZEI Working Paper B98-08	Money-Output Granger Causality Revisited: An Empirical Analysis of EU Countries (Bernd Hayo)
ZEI Working Paper B98-09	US Monetary Policy AND Monetary Policy and the ESCB (Robert L. Hetzel)
ZEI Policy Paper B98-10	Der Wettbewerb der Rechts- und politischen Systeme in der Europäischen Union (Martin Seidel)

ZEI Working Paper B98-11	Exchange Rate Regimes in the Transition Economies: Case Study of the Czech Republic: 1990-1997 (Julius Horvath)
ZEI Policy Paper B98-11A	Die Bewertung der „dauerhaft tragbaren öffentlichen Finanzlage“ der EU Mitgliedstaaten beim Übergang zur dritten Stufe der EWWU (Rolf Strauch)
ZEI Working Paper B98-12	Price Stability and Monetary Policy Effectiveness when Nominal Interest Rates are Bounded at Zero (Athanasios Orphanides and Volker Wieland)
ZEI Working Paper B98-13	Fiscal Policy and Intranational Risk-Sharing (Jürgen von Hagen)
ZEI Working Paper B98-14	Free Trade and Arms Races: Some Thoughts Regarding EU-Russian Trade (Rafael Reuveny and John Maxwell)
ZEI Working Paper B98-15	Can Taxing Foreign Competition Harm the Domestic Industry? (Stefan Lutz)
ZEI Policy Paper B98-16	Labour Market & Tax Policy in the EMU (Deutsch-Französisches Wirtschaftspolitisches Forum/ Forum Economique Franco-Allemand)
ZEI Working Paper B99-01	The Excess Volatility of Foreign Exchange Rates: Statistical Puzzle or Theoretical Artifact? (Robert B.H. Hauswald)
ZEI Working Paper B99-02	The Consequences of Labour Market Flexibility: Panel Evidence Based on Survey Data (Rafael Di Tella and Robert MacCulloch)
ZEI Working Paper B99-03	The Macroeconomics of Happiness (Rafael Di Tella, Robert MacCulloch and Andrew J. Oswald)
ZEI Working Paper B99-04	The Finance-Investment Link in a Transition Economy: Evidence for Poland from Panel Data (Christian Weller)
ZEI Working Paper B99-05	Tumbling Giant: Germany's Experience with the Maastricht Fiscal Criteria (Jürgen von Hagen and Rolf Strauch)
ZEI Working Paper B99-06	Productivity Convergence and Economic Growth: A Frontier Production Function Approach (Christopher M. Cornwell and Jens-Uwe Wächter)

ZEI Working Paper B99-07	Comovement and Catch-up in Productivity Across Sectors: Evidence from the OECD (Christopher M. Cornwell and Jens-Uwe Wächter)
ZEI Working Paper B99-08	The Connection Between More Multinational Banks and Less Real Credit in Transition Economies (Christian Weller)
ZEI Working Paper B99-09	Monetary Policy, Parameter Uncertainty and Optimal Learning (Volker Wieland)
ZEI Working Paper B99-10	Financial Liberalization, Multinational Banks and Credit Supply: the Case of Poland (Christian Weller)
ZEI Policy Paper B99-11	Financial Supervision and Policy Coordination in the EMU (Deutsch-Französisches Wirtschaftspolitisches Forum / Forum Economique Franco-Allemand)
ZEI Working Paper B99-12	Size Distortions of Tests of the Null Hypothesis of Stationarity: Evidence and Implications for Applied Work (Mehmet Caner and Lutz Kilian)
ZEI Working Paper B99-13	Financial Fragility or What Went Right and What Could Go Wrong in Central European Banking? (Christian E. Weller and Jürgen von Hagen)
ZEI Working Paper B99-14	Industry Effects of Monetary Policy in Germany (Bernd Hayo and Birgit Uhlenbrock)
ZEI Working Paper B99-15	Financial Crises after Financial Liberalization: Exceptional Circumstances or Structural Weakness? (Christian E. Weller)
ZEI Working Paper B99-16	Multinational Banks and Development Finance (Christian E. Weller and Mark J. Scher)
ZEI Working Paper B99-17	Stability of Monetary Unions: Lessons from the Break-up of Czechoslovakia (Jan Fidrmuc, Julius Horvath and Jarko Fidrmuc)
ZEI Working Paper B99-18	Why are Eastern Europe`s Banks not failing when everybody else`s are? (Christian E. Weller and Bernard Morzuch)
ZEI Working Paper B99-19	The Evolution of Monetary Policy in Transition Economies (Ali M. Kutan and Josef C. Brada)
ZEI Working Paper B99-20	Subnational Government Bailouts in Germany (Helmut Seitz)

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