

Kletzer, Kenneth M.; von Hagen, Jürgen

Working Paper

Monetary union and fiscal federalism

ZEI Working Paper, No. B 01-2000

Provided in Cooperation with:

ZEI - Center for European Integration Studies, University of Bonn

Suggested Citation: Kletzer, Kenneth M.; von Hagen, Jürgen (2000) : Monetary union and fiscal federalism, ZEI Working Paper, No. B 01-2000, Rheinische Friedrich-Wilhelms-Universität Bonn, Zentrum für Europäische Integrationsforschung (ZEI), Bonn

This Version is available at:

<https://hdl.handle.net/10419/39529>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn



Kenneth Kletzer and Jürgen von Hagen

**Monetary Union and Fiscal
Federalism**

Working Paper

**B 01
2000**

Monetary Union and Fiscal Federalism

by

Kenneth Kletzer
University of California Santa Cruz and
Center for European Integration Studies, Bonn

and

Jürgen von Hagen
Center for European Integration Studies, Bonn, Indiana University, and CEPR

January 2000

Abstract

Does a monetary union need fiscal shock absorbers helping the participating countries to cope with asymmetric shocks? The consensus in the debate over EMU argues that the answer is yes. In this paper, we revisit the issue, building on a dynamic, general equilibrium framework of regions in a monetary union exposed to asymmetric shocks. We show that inter-regional taxes and transfers can stabilize regional employment or consumption, but not both. The welfare effects of such stabilization are, however, ambiguous. In contrast to a popular argument in the EMU debate, inter-regional taxes and transfers do not reduce the incentives for goods and labor market deregulation in the regions, provided that the degree of trade integration among the regions is large. There is, however, reason to coordinate regional reform policies to avoid adverse effects on the aggregate performance of the union.

JEL codes: E42, E63, F33, F42

Key words: regional employment stabilization, monetary union, regional insurance

Correspondence:
Jürgen von Hagen
ZEI
Walter Flex Strasse 3
53113 Bonn
tel +49-228-739199
fax +49-228-731809
vonhagen@united.econ.uni-bonn.de

I. Introduction

Monetary union implies the loss of the exchange rate as an instrument of adjustment to asymmetric shocks affecting the participating countries. Beginning with Robert Mundell's seminal contribution (1961), the literature on monetary union has argued that countries forming a monetary union need adequate fiscal policy tools to provide the proper adjustment to asymmetric shocks. This argument also runs through the debate over European Monetary Union (EMU). The MacDougall Report (Commission 1977), a study on the feasibility of EMU in the 1970s, suggested that adjustment to asymmetric shocks affecting regions sharing a common currency typically works through the budget of a central or federal government collecting taxes from and paying transfers to these regions. The Report concluded that a monetary union in Europe would need a significant budget at the union level to fulfill this role. Specifically, it recommended a Community budget of seven percent of Community GDP, much larger than the current 1.3 percent.¹ Similarly, the Delors Report (1989) argued that EMU needed powerful fiscal shock-absorbers to deal with asymmetric shocks to the member states. Delors was later joined by eminent macro economists in the US such as Feldstein, who predicted that EMU would soon collapse in the absence of a fiscal mechanism absorbing asymmetric shocks. More recent contributions to the debate over EMU in the 1990s have cast the argument into a framework of regional insurance against asymmetric shocks and proposed that the EMU should be vested with a system providing automatic transfers from regions enjoying relative prosperity to regions in relative distress. Recognizing that any significant increase in the European Commission's budget is politically infeasible, this approach proposes the creation of a European-wide unemployment insurance or of a system of fiscal equalization

¹Note that the Report was considering a monetary union among a smaller and less heterogeneous group of countries than the current members of EMU; that is, it would likely have recommended an even larger budget knowing who the current members are.

patterned after Germany's *Länderfinanzausgleich*² instead. The automatic and non-discretionary nature of such a system would also raise the credibility of the promise to make transfers to regions in distress, an important aspect of any arrangement among sovereign nations.

Mundell's original argument can be summarized follows. Consider two economies with fixed wages and prices producing two output goods which are not perfect substitutes. Assume that output demand exogenously falls in one country and rises in the other, leaving aggregate output the same. In Mundell's Keynesian scenario, output and employment falls in the first and rises in the second country. With two currencies and a flexible exchange rate, the currency of the first country depreciates, and the implied decline in the relative price of its output helps smooth the recession in the first and the boom in the second country. With a fixed exchange rate, however, this relative price effect disappears, and the divergence in economic stance between the two countries becomes larger. This could be avoided by channeling demand from the second to the first country through the public sector, e.g., by increasing taxes in the second and spending the proceeds in the first. In terms of the Keynesian model, this would amount to an inward shift of the IS curve in the prospering country and an outward shift in the country facing a recession. With a proper choice of taxes and expenditures in the two countries, the adjustment mechanism of the flexible exchange rate could be emulated.

Much of the debate over this issue in the context of EMU has focused on the empirical question, how important fiscal mechanisms absorbing asymmetric shocks are in existing monetary unions. This literature, reviewed in section 2 of this paper, has now converged on an apparently puzzling result. Fiscal flows in existing monetary unions react much less to asymmetric shocks affecting regional output than Mundell's argument seems to suggest. In contrast, the debate of the last 40 years has accepted Mundell's basic framework of analysis.

²*Länderfinanzausgleich* is a system of horizontal transfers among the states of the Federal Republic designed to reduce differences in the annual per-capita revenues from the main taxes of the states.

This is significant, as the macro economic model underlying his reasoning, a Keynesian world of fixed wages and prices in which output is determined by demand and supply has no role to play, has long been rejected. Von Hagen (1998) analyzes the properties of regional insurance against asymmetric shocks in a static, neo-Keynesian rational-expectations framework. In that framework, regional insurance may exacerbate fluctuations of output and employment over time and interfere with macro economic stabilization at the union level. Obviously, this casts some doubts on the desirability of regional insurance against asymmetric shocks.

Surprisingly, the analysis of the economics of EMU in the 1990s has paid little attention to the question how Mundell's proposition stands up in a modern macro economics framework. Exceptions are Kletzer and Buiter (1997) and Kletzer (1999), who use dynamic general equilibrium models based on optimizing decisions with capital accumulation and perfect competition to analyze the role of fiscal transfer schemes as a replacement for nominal exchange rate flexibility. In this paper, we consider how transfer schemes affect welfare under monetary union in a dynamic general equilibrium with optimizing households and firms and nominal wage rigidities. Specifically, section three of the paper presents a model of a monetary union whose regions are affected by asymmetric shocks. Section four uses this model to analyze the properties of an interregional transfer system channeling demand from regions enjoying a positive to regions suffering from a negative shock. An important aspect of this model is that we allow for asymmetries not only in the shocks but also in the economic propagation mechanisms of the regions pertaining to the monetary union. This has consequences for the macro economic performance of the union as a whole in the presence of asymmetric shocks.

The debate over regional insurance has raised the objection that automatic transfers among regions reduce the incentives of the regional governments to undertake policies of economic reform increasing the ability of their regions to cope with asymmetric shocks (e.g., Migué, 1993; Persson and Tabellini, 1996). Persson and Tabellini argue that the

implementation of regional insurance in a monetary union might call for a program of union-financed conditional grants to overcome such disincentives. In section five of this paper, we address this issue by asking what is the relation between structural reform policies at the regional level and a system of interregional transfers. Section six concludes.

II. Regional Insurance Against Asymmetric Shocks: International Evidence

Much of the recent literature on regional insurance against asymmetric shocks has focused on the US and asked how much regional insurance the federal tax and transfer system provides in that context. Table 1 summarizes the main results of that research. The numbers indicate the estimated increase, measured in cents, in the net transfers received by a state or region in response to a one-dollar decline of the state's or region's income relative to US average.

The MacDougall Report looked at the issue of fiscal insurance by asking to what extent does the federal fiscal system reduce income differences between US states. The same question is asked in Sachs and Sala-i-Martin (1991). Both find that the federal fiscal system provides a large offset against regional income disparities, with estimates ranging between 28 and 40 percent.

Von Hagen (1992) first pointed out that the empirical analysis of regional insurance must distinguish between permanent redistribution reducing lasting income differences between regions, and temporary transfers providing insurance against asymmetric shocks. This is because the context of replacing the exchange rate mechanism for adjustment suggests that the focus should be on insurance against temporary shocks. Adjustment to permanent asymmetric shocks, in contrast, remains possible through other adjustment channels even in the presence of a fixed exchange rate, albeit that the speed of adjustment might be slower. Table 1 shows that the *insurance* effect of the federal tax and transfer system is, indeed, substantially lower than suggested by the MacDougall Report or by Sachs and Sala-

i-Martin, while the redistributive effect is large.

Subsequent papers have generally accepted the distinction between redistribution and insurance or regional stabilization and come out with estimates that are closer to von Hagen's (1992) results. Mélitz and Zumer (1997) compare estimates based on state income and estimates based on gross state products as the measure of regional economic activity. They find that the insurance effect associated with gross-

Table 1: Estimates of Federal Intranational Redistribution and Insurance in the US

Author	Type of Transfer	
	Redistribution	Insurance
MacDougall Report	28	
Sachs, Sala-i-Martin	33-40	
von Hagen	47	10
Atkeson, Bayoumi		7
Goodhart, Smith	15	13
Gros, Jones		4-14
Bayoumi, Masson	7-22	7-30
Mélitz, Zumer	16	12-20
Asdrubali et al.		13
Sorensen, Yosha		15
Fatas		11
Obstfeld, Peri	19	10
Athanasoulis, van Wincorp	20	10

Note: Entries indicate the estimated (range of) net federal transfers received by a region in response to a 1-dollar difference in the level or change in state income or product compared to US average income or product.

state-product estimates tends to be lower than the effect associated with state-income estimates. Conceptually this raises the difficulty that state incomes include incomes earned from economic activities outside the state. Athanasoulis and van Wincoop (1998) estimate the stabilizing role of the federal fiscal system at time horizons of different lengths. They find that the federal fiscal system reduces the standard deviation of changes in state incomes by about ten percent at an horizon of 1-2 years, and by 15 percent on average over all horizons.

In sum, the empirical studies of the 1990s confirm that there is a significant fiscal insurance against asymmetric shocks provided by the federal fiscal system in the US. While there is still some disagreement about the size of the insurance, the empirical evidence clearly

suggests that such insurance is of much smaller magnitude than the redistributive effect of the federal fiscal system, and that the insurance does not offset much more than 10 cents on a dollar change in state income caused by an asymmetric shock.

Several studies have presented similar estimates for countries other than the US. Table 2 summarizes these results. Canada is an obvious study object in the context of EMU; it was included also in the MacDougall Report. It is of particular interest, because Canada has an explicit, constitutionally grounded mechanism for horizontal transfers among the provinces, the Canadian Equalization System. Equalization aims at reducing differences in the standards of living between Canadian provinces by compensating the poorer

Table 2: Estimates of Central Government Intranational Redistribution and Insurance in Other Countries

Country/Author	Redistribution	Insurance
Canada		
MacDougall	32	
Bayoumi/Masson	39	14
Goodhart, Smith		12 - 19
Mélitz/Zumer	18	14
Obstfeld, Peri	53	13
France		
MacDougall	54	
Mélitz/Zumer	38	40
Germany		
MacDougall	29	
von Hagen et al.	0	0.03
Italy		
MacDougall	47	
Obstfeld, Peri	8	3
UK		
Goodhart, Smith		21
Mélitz/Zumer	29	21

Note: Entries indicate the estimated (range of) net federal a region in response to a 1-dollar difference in the level or change in state income or product compared to US average income or product.

provinces for their less prosperous tax bases. According to Canadian legal tradition, equalization is an outflow of the principle of equality of all citizens before the law.

The MacDougall Report estimated that the Canadian federal system reduces income differences between provinces by 32 cents per dollar. Bayoumi and Masson, in contrast, estimate an insurance of 14 cents to the dollar, and put the redistributive effect of the Canadian system at 39 cents to the dollar. Other studies agree with the magnitude of the intranational insurance in Canada, but provide more different estimates of the redistributive effect.³

Recent literature has also evaluated intranational insurance in France, Germany, Italy, and the UK. The results show a surprising degree of variation across countries. Mélitz and Zumer (1997) and Goodhart and Smith (1993) obtain similar estimates for the UK, where fiscal insurance seems somewhat larger than in Canada and the US. Mélitz and Zumer and Pisani-Ferry et al (1993) find that fiscal insurance is much larger in France than in North America. While this might suggest that fiscal insurance is generally larger in unitary than in federal states, Obstfeld and Peri (1998) show that fiscal insurance is tiny in Italy. Thus, the existing evidence allows no clear-cut conclusions about the importance of federal insurance in federal compared to unitary states. Von Hagen et al. (1999) find no insurance against asymmetric shocks provided by the German Länderfinanzausgleich, and a significant albeit small redistributive effect.

In sum, the empirical evidence shows that fiscal insurance against asymmetric shocks is a significant part of existing monetary systems. But the size of the insurance can be very different in different countries, and there is no empirical evidence to answer the question how important it is in practice for the stabilization of the regional economies.

³One difficulty with the Canadian equalization system is that it is designed to bring relatively poor provinces up to a standard defined by the average per capita revenues of Ontario, British Columbia, Saskatchewan, Manitoba, and Quebec (Courchene, 1999). Under the rules of the system, Alberta, British Columbia, and Ontario do not receive equalization payments at all, the remaining provinces that are included in the standard receive a partial offset for a revenue short fall, and those not included in the standard receive full offset for a decline in revenues. At the same time, a poor province receives a transfer when revenues in the provinces included in the standard increase, even if the economy of that province performs like the Canadian average. This shows the emphasis on redistribution rather than intranational insurance.

III. A Macro Model of Regional Shocks in a Monetary Union

In this section, we set up a macro economic model of two regions forming a currency area. Each region produces an output good for consumption using a set of intermediate input goods produced with labor supplied by the residents of that region. Output goods are traded between the two regions in perfectly competitive markets; they are imperfect substitutes in consumption. In contrast, intermediate goods are not traded between the regions; they are supplied by monopolistically competitive producers. One may think of these intermediate goods as production-related services. Wages in each region are sticky in the sense of being determined at the beginning of a period and remaining constant throughout. In this setting output is demand determined in the short run, and the adoption of a common currency impacts real economic performance. The regions are populated by consumers characterized by their intertemporal consumption and labor supply choices. Governments in each region collect lump sum taxes used to finance the production of a regional public good. The two regions share the same currency and an integrated money market as well as an integrated bond market.

Call the two regions “home” and “foreign,” respectively. Subsequently, we mark variables pertaining to the foreign region with a “*” and suppress time indexes where possible without creating ambiguities. The home region uses an infinite number of intermediate goods, q_j indexed $j \in [0,1]$, and a technology of the CES type, to produce its output good, y ,

$$y = a \left[\int_0^1 q_j^\epsilon dj \right]^{\frac{1}{\epsilon}} . \quad (1)$$

In equation (1), “ a ” denote regional productivity, which will be subject to stochastic shocks later on. Each intermediate good is produced using labor and a linear technology,

$$q_j = l_j . \quad (2)$$

From equation (1) and profit maximization, the derived demand for each intermediate good is

$$q_j = \left(\frac{y}{a}\right) \left(\frac{p_j}{p_1}\right)^{\frac{1}{\epsilon-1}}, \quad (3)$$

where p_j and p_1 are the domestic prices for intermediate goods of type j and of the domestic output good, respectively. The zero-profit condition for the output good yields the price of this good as a function of output prices,

$$p_1 = \frac{1}{a} \left(\int_0^1 p_j^{\frac{\epsilon}{\epsilon-1}} dj \right)^{\frac{\epsilon-1}{\epsilon}}. \quad (4)$$

Intermediate goods producers operate under conditions of monopolistic competition and set prices with a fixed mark-up over wages, $p_j = \epsilon w$. Similar equations hold for the foreign economy.

Household preferences are given by the intertemporal utility functions

$$u_t = \sum_{s=t}^{\infty} \beta^{s-t} [\ln c + \delta \ln G + \eta \ln \frac{M}{p} - \frac{\kappa}{\alpha} l^\alpha]. \quad (5)$$

In equation (5), c is the composite consumption index determined from a CES-type instantaneous utility function

$$c = \left[\gamma \frac{1}{\theta} c_1^{\frac{\theta-1}{\theta}} + (1-\gamma) \frac{1}{\theta} c_2^{\frac{\theta-1}{\theta}} \right]^{\frac{\theta}{\theta-1}}, \quad (6)$$

where γ is the share of home goods in expenditures, θ is the elasticity of substitution between home and foreign goods in consumption, and c_i is the quantity of good i consumed by the household. We assume symmetry in the preferences in the sense that the expenditure share of good $i=1$ in the home region equals the share of good $i=2$ in the foreign region. Equation (6) yields the consumption price index in the home region,

$$p = [\gamma p_1^{1-\theta} + (1-\gamma)p_2^{1-\theta}]^{\frac{1}{1-\theta}}. \quad (7)$$

Furthermore, in equation (5), G is real government spending in the home region, M denotes the cash balances held by the household, and L is the household's labor supply. Government expenditure is divided between home and foreign goods in the same way as private consumption. Households buy and sell nominally indexed bonds denominated in the common currency, and pay nominal lump sum taxes $p_t T_t$. Their budget constraint is

$$B_{t+1} = (1+i_t)B_t + (\pi_t + w_t L_t) - (p_{1t}c_{1t} + p_{2t}c_{2t}) - p_t T_t - (M_t - M_{t-1}). \quad (8)$$

Here, i_t is the one-period nominal interest rate, and π_t are profits earned by the firms. All profits are distributed to households. Utility maximization yields the following demand conditions,

$$\begin{aligned} \frac{p_{t+1}c_{t+1}}{p_t c_t} &= \beta(1+i_{t+1}), \\ c_1 &= \gamma \left(\frac{p_1}{p}\right)^{-\theta} c, \quad c_2 = (1-\gamma) \left(\frac{p_2}{p}\right)^{-\theta} c, \\ \frac{M_t}{\kappa p_t c_t} &= \frac{1+i_{t+1}}{i_{t+1}}. \end{aligned} \quad (9)$$

The first line determines household savings as a function of the interest rate. The second line determines the choice between the two output goods depending on their relative prices. The third line gives money demand as a function of the nominal rate of interest and current consumption spending. The home region's government faces the budget constraint $pG = pT$. With flexible prices, we also have the labor supply function

$$L = \left(\frac{w}{p\kappa c}\right)^{\alpha-1}. \quad (10)$$

The marginal utility of leisure is decreasing, $\alpha > 1$. Labor demand by intermediate-goods producers is given by

$$\frac{P_1}{w} = \frac{1}{a\epsilon} \left(\frac{al}{y} \right)^{1-\epsilon}. \quad (11)$$

Similar conditions hold for the foreign economy.

In equilibrium, we have the market clearing conditions for the two final goods,

$$y = c_1 + c_1^* + G_1 + G_1^*, \quad y^* = c_2 + c_2^* + G_2 + G_2^*, \quad (12)$$

where c_i denotes home consumption of region- i goods and c_i^* denotes foreign consumption of region- i goods. Furthermore, we have the clearing conditions for the money market and the bond market,

$$M + M^* = \bar{M}, \quad B + B^* = 0. \quad (13)$$

We can now analyze the effect of asymmetric productivity shocks on the equilibrium for the two regions. Subsequently, we assume that wages are sticky in the sense of being set at the beginning of a period, while employment is demand-determined. We linearize the model around its steady state equilibrium and obtain the reactions to the asymmetric shocks. The linearized output market equilibrium condition, assuming that government spending does not change, is

$$\hat{y}_t = \hat{c}_t - (1-\gamma)(\hat{c}_t - \hat{c}_t^*) - \gamma\theta(\hat{p}_{1t} - \hat{p}_t) - (1-\gamma)\theta^*(\hat{p}_{1t} - \hat{p}_t^*) \quad (14)$$

Next, domestic money demand becomes

$$\hat{M}_t = \hat{p}_t + \hat{y}_t - \beta \hat{r}_{t+1} - \frac{\beta}{1-\beta} (\hat{p}_{t+1} - \hat{p}_t), \quad (15)$$

where r is the real interest rate. Corresponding equations hold for the foreign region, together with the condition that the deviations of money demand from steady state must sum to zero. Next, we have domestic savings,

$$S_t = \hat{p}_{1t} + \hat{y}_{1t} - (\hat{p}_t + \hat{c}_t) = \hat{B}_{t+1} + \frac{\kappa}{1-\beta} \hat{M}_t. \quad (16)$$

Note that the deviation of savings and of net claims on the foreign region, B_{t+1} , from their steady states are evaluated as percentages of current expenditures, as their steady state values might be zero. In this model, the change in B_{t+1} from its steady state value is the home region's current account balance with regard to the foreign regions, which together with its foreign-region counterpart sums to zero,

$$\hat{B}_{t+1} = \hat{p}_{1t} + \hat{y}_{1t} - (\hat{p}_t + \hat{c}_t) - \frac{\kappa}{1-\beta} \hat{M}_t \quad (17)$$

An asymmetric shock in this model is a pair (\hat{a}, \hat{a}^*) of productivity shocks at time t such that $\hat{a} = -\hat{a}^*$. Wage stickiness implies a short run adjustment in prices proportional to this shock,

$$\hat{p}_{1t} = -\hat{p}_{2t} = -\hat{a}; \quad \hat{p}_t = -(2\gamma - 1)\hat{a}. \quad (18)$$

In this economy, the new steady state is achieved in one period after a single period productivity shock, so that the economy is in a new steady state in period $t+1$. We analyze the deviations of variables in both periods t and $t+1$ from the original steady state.

To analyze the effects of this shock on the two economies, it is convenient to first derive its impact on current savings in the home region,

$$S_t = \frac{2(1-\gamma)(\gamma(\theta+\theta^*)-1)}{1+2(1-\gamma)A(\frac{1-\beta}{\beta})}\hat{a}, \quad A = \frac{\gamma(\alpha-1)(\theta+\theta^*)+(1-\gamma)(\frac{\alpha}{\alpha^*}-1)+\gamma}{\alpha(1+\gamma(\theta+\theta^*))} \quad (19)$$

For now, we let $\alpha = \alpha^*$, so that $A > 0$. If $\gamma(\theta+\theta^*) \geq 1$, a positive productivity shock in the home economy increases home savings. The money market equilibrium condition, money demand equations and Euler equations together imply that the real rate of interest is constant and consumption in each country changes by the same percentage in period t and period $t+1$.

Home consumption in the short run and new steady state increases by

$$\hat{c} = A\rho S, \quad (20)$$

where $\rho = (1-\beta)/\beta$ equals the equilibrium real interest rate. Finally, the home region's short-run output and employment change by

$$\begin{aligned} \hat{y} &= (2\gamma-1)\hat{c} + 2(1-\gamma)\gamma(\theta+\theta^*)\hat{a}, \\ \hat{l} = \hat{y} - \hat{a} &= (2\gamma-1)\hat{c} + (2(1-\gamma)\gamma(\theta+\theta^*)-1)\hat{a}. \end{aligned} \quad (21)$$

A first result from these equations is that asymmetric shocks affect consumption and saving only if the demand side is asymmetric. Consider a symmetric monetary union in which the expenditure shares of both goods are the same in both regions, $\gamma = 0.5$, and the elasticity of substitution between the two goods is the same, $\theta = \theta^*$. Further, assume unitary elasticities of substitution; that is, consumer preferences are Cobb-Douglas. We observe from (19) and (20) that aggregate consumption and saving in the home region are unaffected by the shock. Output increases in the home region and decreases in the foreign, but employment remains the same in each. Thus, consumers in each of the two regions simply substitute home goods for foreign goods in the same quantities.

With enough asymmetry on the demand side, asymmetric shocks affect consumption,

savings, and employment. Let $\gamma > (\theta + \theta^*)^{-1}$ and $\theta, \theta^* > 1$. This assures that the average elasticity of substitution exceeds unity and that the home goods bias in consumption is sufficiently large. In this case, home consumption and savings increase, while foreign savings and consumption decrease as a result of a positive asymmetric shock to the home region. Output in the home region increases by more than in the symmetric case, and increases more in relative terms than the productivity gain caused by the shock. In the foreign region, output falls correspondingly.

In equilibrium, the relative price of the home good falls due to the positive productivity shock. This causes consumers in both regions to substitute the foreign good for the home good. To realize this, foreign consumers must dissave, causing a current account deficit vis-a-vis the home region. Thus, domestic wealth increases and foreign wealth declines. The consumption effect in the home region reflects this increase in wealth. Steady state consumption goes up by the same amount.

The short-run response of home employment is more ambiguous. For sufficiently large elasticities of substitution and a sufficiently large home goods bias, $2(1-\gamma)\gamma(\theta + \theta^*) > 1$, the increase in demand for the home good is large enough to make firms demand additional labor. For a range of substitution elasticities given by $[2\gamma(1-\gamma)]^{-1} > 2(\theta + \theta^*) > \gamma^{-1}$, consumption responds positively to a positive asymmetric shock and partially offsets the negative response of home employment to this shock. In this case, the increase in labor productivity exceeds the increase in the demand for home goods, with the result that firms reduce their demand for labor in equilibrium. Finally, if $2(1-\gamma)\gamma(\theta + \theta^*) < 1$, both consumption and employment decline in response to an asymmetric shock.

Note, finally, that asymmetric shocks have permanent effects on output and employment, although the shocks themselves are purely transitory. To see this, assume again that $\gamma(\theta + \theta^*) > 1$, i.e., the foreign demand for home goods goes up in response to an asymmetric shock, and the foreign region runs a current account deficit. To pay for its

increased liabilities in the new steady state, the foreign region must permanently produce more, while the home region produces less in the new steady state. While total output is the same in the new and in the old steady state, foreign goods are a larger share of total output. Consequently, steady-state employment falls in the home region and rises in the foreign region.

IV. Government Taxes and Transfers to Offset Asymmetric Shocks

We can now use the model to evaluate the macroeconomic effects of fiscal policies aiming to offset the effects of asymmetric shocks on the two economies. In our framework, such policies might target the stabilization of either regional employment, regional output, or regional consumption. Since the basic distortion in both economies, wage rigidity, is of a Keynesian flavor, we consider the cases of employment stabilization and consumption-risk sharing in this paper. We also consider two methods for regional governments to achieve stabilization: a scheme of lump-sum collected and transfers paid directly from and to the households in the two regions, and intergovernmental transfers that serve to redistribute government expenditures between the two regions.

IV.1. Transfers Between Households

First, we consider a tax and transfer scheme that is chosen to keep employment in each region unaffected by the asymmetric shock. Transfers are paid out directly to individual consumers, entering their budget constraint. Since, in both regions, the relative change in employment equals the relative change in output less the asymmetric shock, the transfers must be chosen so that short-run outputs are

$$\hat{y} = \hat{a}; \hat{y}^* = -\hat{a} . \quad (22)$$

From the previous section we know that this holds automatically when the elasticities of substitution are unitary and the expenditure shares for home and foreign goods are equal in both regions. With asymmetries on the demand side, however, the transfer scheme must be designed so that any additional effect on output is eliminated. Because output is demand determined in the short run, such additional output effects work through final goods demand.

From (21), the direct effect of a positive asymmetric shock on employment is positive and stabilizing employment calls for a decline in home consumption, when $2\gamma(1-\gamma)(\theta+\theta^*) > 1$. Since taxes and transfers only affect employment by changing the distribution of aggregate consumption spending across home and foreign goods, they must be chosen so that the consumption effects offset the direct effect of the asymmetric shock on employment,

$$\hat{c} = \frac{-1}{\rho A} \left[\frac{2\gamma(1-\gamma)(\theta+\theta^*)-1}{2\gamma-1} \right] \hat{a} . \quad (23)$$

We also have that savings in period t is given by

$$S_t = (\hat{p}_1 + \hat{y}) - (\hat{p} + \hat{c}) - \hat{T} = (2\gamma-1)\hat{a} - \hat{c} - \hat{T} . \quad (24)$$

An increase in taxes reduces net wealth in the home region, which reduces both saving and consumption. Combining (20), (23), and (24) yields

$$S_t = \frac{(2\gamma-1)\hat{a} - \hat{T}}{1+\rho A} . \quad (25)$$

Solving for the change in lump-sum transfers from the home region to the foreign region, we obtain the transfer scheme that holds employment constant in both regions:

$$\hat{T} = [(2\gamma-1) + (1+\frac{1}{\rho A}) \frac{2\gamma(1-\gamma)(\theta+\theta^*)-1}{2\gamma-1}] \hat{a} = -\hat{T}^* . \quad (26)$$

Equation (26) relates the transfer paid by the home region to the asymmetric shock realized in period t . Depending on the parameters of consumption demand, this transfer can be positive or negative in response to a positive shock hitting the home economy. Define the value $2\theta_m \in [\gamma^{-1}, (2\gamma(1-\gamma))^{-1}]$ by

$$\frac{\rho A_m 4\gamma(1-\gamma) [\theta_m - 1]}{1 - 4\gamma(1-\gamma)\theta_m} = 1, \quad A_m \equiv \frac{\gamma((\alpha-1)2\theta_m + 1)}{\alpha(1 + \gamma 2\theta_m)}, \quad (27)$$

For values of $\theta + \theta^* > 2\theta_m$, the home region pays a transfer to the foreign region in response to a positive, asymmetric; otherwise it receives a transfer. Unless the demand parameters satisfy the condition $\gamma^{-1} < (\theta + \theta^*) < (2\gamma(1-\gamma))^{-1}$, this transfer is large enough to reverse the sign of the response of savings and consumption to a positive asymmetric shock negative. Because steady-state consumption changes one-for-one with short-run consumption, the implication is that, under the same condition, the scheme also reverses the long-run distributions effect of temporary asymmetric shocks between the two regions.

Finally, if the elasticities of substitution are either small, $\theta + \theta^* \leq 2\theta_m$, or sufficiently large, the tax-transfer scheme increases the absolute value of the change in consumption in response to the asymmetric shock in each region. Only for an intermediate interval in which the average elasticity of substitution exceeds unity but is not too large, the tax-transfer scheme stabilizing regional employment reduces the impact of the shock on consumption.

The important implication is that the welfare effects of the fiscal arrangement between the two regions are ambiguous. An increase in the absolute value of the change in home consumption in response to an asymmetric shock implies that the difference between consumption in the two regions increases. For values of the demand parameters, γ , θ and θ^* , for which this happens, the transfer scheme reduces an equally-weighted sum of the consumption portions of the utilities of the two regions for a given shock. This means that the expected utility (ex ante) from consumption for either region is lower under the transfer scheme

if the shock, \hat{a} , is a random variable with zero mean. Equivalently, if the utility parameters weighting leisure consumption, κ and κ^* , are small, the transfer scheme that stabilizes employment will lower expected utility for each region for values of $(\theta + \theta^*)$ sufficiently large or less than $2\theta_m$.

IV.2. Intergovernmental Transfers

Instead of taxing and paying transfers to individuals, schemes of horizontal fiscal equalization often provide revenue sharing among regional governments: governments in one region pay for expenditures of governments in other regions. In our framework, we can analyze this alternative by assuming that taxes remain constant in the two regions, but government spending adjusts in response to asymmetric shocks. Changes in regional public expenditures are made possible through interjurisdictional grants such that the aggregate public sector budget is balanced in every period,

$$T + T^* = G + G^*, \quad (28)$$

so that $\hat{G} + \hat{G}^* = 0$. The equilibrium condition for home goods implies

$$\hat{y} = (2\gamma - 1)(\hat{c} + \hat{G}) + 2\gamma(1 - \gamma)(\theta + \theta^*)\hat{a}. \quad (29)$$

This leads to the policy rule for stabilizing employment in the two regions through aggregate demand management using public expenditures given by

$$\hat{G} = -\hat{G}^* = -\left[\frac{\rho A}{1 + \rho A}(2\gamma - 1) + \frac{2\gamma(1 - \gamma)(\theta + \theta^*) - 1}{2\gamma - 1}\right]\hat{a}. \quad (30)$$

Note that the changes in government spending in the two regions are related to the transfers between households analyzed above by the factor $-\rho A/(1 + \rho A)$. In response to a positive

asymmetric shock that raises domestic consumption, the government of the home region reduces spending and uses its revenue surplus to pay a transfer to the foreign region's government which is used to raise foreign public spending by the same amount. In contrast to the pure tax-transfer rule considered in the previous section, consumption and saving do increase in the home region under this rule. Government expenditures enter household utility as public goods spending. Therefore, a reduction in government spending reduces welfare in the home region. The welfare effects of intergovernmental transfers depend critically on the relative weight of public goods spending compared to private consumption expenditures in the utility function.

A second difference between the two schemes is that the intergovernmental transfers do not affect the response of savings to asymmetric shocks in equilibrium. This holds because short-run output is demand determined in the presence of temporary wage rigidities and monopolistic competition so that an increase in government demand directly raises short-run output. There are no wealth effects, hence no savings impacts, of government spending when the taxes imposed on households are unchanged. By contrast, the scheme of transfers between households changes household permanent income, hence savings and future consumption. Under government to government transfers, the net effect of a positive asymmetric shock is to raise levels of consumption, leisure, and welfare in the new steady state for the home region.

Finally, comparing equation (30) with equation (26) reveals that the absolute value of intergovernmental transfers is smaller than the absolute value of transfers paid to households to achieve the same degree of employment stabilization in the two regions. The reason is that transfers to individuals have wealth effects, implying that households use these transfers partly to consume more, partly to save more. Thus, the impact on current aggregate demand is greater if given size transfers are used to finance government spending than if they are paid as transfers to households. The policy implication is that intergovernmental transfers dominate

transfers to individuals if it is desirable that the transfer scheme only affect employment in each region temporarily and that smaller magnitude transfers are preferable. In our model, all taxes are lump-sum so that the size of the transfer to achieve the same ends does not matter, but in a more general environment with distortionary taxation, it can be welfare-improving to choose a policy that involves lower magnitude transfers.

IV. 3. Consumption Risk Sharing

An alternative objective of the design of a tax transfer system between the two regions would be to stabilize consumption in the regions rather than employment. This requires setting taxes and transfers so that consumption is left unaffected by the asymmetric shock. This can be accomplished by choosing taxes and transfers so that any impact of the asymmetric shock on saving in the two regions is exactly offset by the tax-transfer scheme. This requires

$$\hat{T} = [2\gamma(1-\gamma)(\theta+\theta^*)-1+2\gamma]\hat{a} . \quad (31)$$

Compared to employment stabilization, a policy rule seeking to pool consumption risk implies that taxes and transfers respond less to asymmetric shocks than under a rule aiming at employment stabilization in the case that $2\gamma(1-\gamma)(\theta+\theta^*)>1$. A suggestive interpretation is that the relatively weak response of interregional taxes and transfers to asymmetric shocks observed in existing federations reflects a desire to stabilize consumption rather than employment in practice.

Any welfare ranking of the two approaches depends on the relative weights of consumption and leisure in utility for the two regions. If the weights on leisure, κ and κ^* , are small, and the asymmetric shocks are mean zero, consumption-risk pooling is preferable in an expected-utility sense. Furthermore, by eliminating any effect of asymmetric shocks on savings, this rule also eliminates all long-run distributional consequences of transitory asymmetric shocks between the two regions. That is, steady-state consumption for each region

is unaffected by the transitory shock under this tax-transfer scheme.

IV.4. Aggregate Implications of Regional Stabilization

An important paradigm underlying the current debate over monetary and fiscal policies in the EMU, and one implicitly accepted in the discussion about fiscal federalism and monetary union, is that aggregate macroeconomic stabilization of the monetary union can be separated from economic stabilization in the regions. This paradigm is reflected in the widespread proposition that the central bank of a monetary union should focus on stabilizing inflation (and, perhaps, employment) for the monetary union as a whole, while the regional governments should use their policy tools to combat any asymmetric shocks affecting output and employment. Furthermore, the popular proposition holds, there is no need for policy coordination among the central bank and the regional governments.

This proposition clearly assumes that asymmetric shocks have no bearing on the aggregate performance of the monetary union; they have purely distributional effects. In our model, this will be the case, if

$$\hat{y} + \hat{y}^* = \frac{\alpha^* - \alpha}{\alpha^*} \hat{y} = 0. \quad (32)$$

This condition requires the elasticities of labor supply, α and α^* , to be equal across regions. Otherwise, aggregate output in the two regions will change, with the result that the aggregate demand for money will change. This in turn will cause the aggregate price level and the interest rate to change. Thus, the separability between aggregate stabilization and regional stabilization depends critically on symmetry of the two regions on the supply side.

To explore the consequences of asymmetric labor supply elasticities, consider the aggregate equilibrium inflation rate for the two regions. For simplicity, we assume that the two regions are equal in size, so that they receive equal weights in computing aggregate price

indices. Let P be the price index for the combined regions. We then have

$$\hat{P}_{t+1} - \hat{P}_t = [2 + \frac{\gamma(2\gamma-1)}{(1-\gamma)(1+2\gamma(\theta+\theta^*))}] (\frac{1}{\alpha} - \frac{1}{\alpha^*}) \rho S_t. \quad (33)$$

The effect of asymmetric shocks between the regions on the aggregate rate of inflation for the monetary union depends on how savings in each region respond to these shocks. We have shown that savings respond to the asymmetric shocks except in the special case that demands are symmetric and the elasticities of substitution are one. Combining asymmetries on the demand and on the supply side implies that aggregate and regional fluctuations are correlated, and that aggregate and regional stabilization cannot be separated. If domestic saving increases in response to a positive asymmetric shock, the correlation between domestic saving and aggregate inflation depends on the difference between the labor supply elasticities. The correlation is positive if the foreign labor supply elasticity exceeds the domestic elasticity.

Equation (33) shows that, under these circumstances, any tax and transfer scheme between the regions that affects savings will interfere with the central bank's policy to achieve price stability at the aggregate level. One implication of our analysis is that regional stabilization using intergovernmental transfers is neutral with regard to aggregate stabilization, since intergovernmental transfers do not affect the response of regional rates of saving to asymmetric shocks. A second implication is that using taxes and transfers for the purpose of consumption-risk sharing helps aggregate stabilization, since consumption-risk sharing requires the use of taxes and transfers to offset any response of domestic savings to asymmetric shocks.

When the goal of regional stabilization is to stabilize regional employment, the tax-transfer scheme may increase or reduce the response of household savings to asymmetric shocks, depending on the parameters of demand. If it increases the absolute value of the savings response to an asymmetric shock, then it raises the variance of overall inflation for a

given distribution of asymmetric shocks, $\hat{\alpha}$. Specifically, regional employment stabilization increases the variability of savings in response to asymmetric productivity shocks and, hence, the variability of inflation for the monetary union as a whole if either $\gamma(\theta+\theta^*) < 1$ or

$$\gamma(\theta+\theta^*) > \frac{(2(1-\gamma))^{-1} + 2(1-\gamma)\rho A}{1 + (3-4\gamma)\rho A} > 1 . \quad (34)$$

These relationships are derived from equations (19) and (24). The second term in inequality (34) exceeds unity when the expenditure share of home goods, γ , is greater than one-half. Thus, while the increase in the variance of aggregate inflation due to asymmetric productivity shocks depends on the degree to which labor supply elasticities differ, the sign of the correlation between aggregate inflation and home productivity shocks depends on the demand elasticities, expenditure shares, and the relative labor supply elasticities.

V. Regional Stabilization Policies and Incentives for Structural Reforms

An important objection against the creation of a system of taxes and transfers responding to asymmetric shocks in a monetary union is that this might reduce the incentives of the regional governments to undertake structural reform policies making their economies fit for coping with such shocks. Persson and Tabellini (1996), for example, argue that the availability of fiscal insurance against asymmetric shocks would induce regional governments to invest less in projects improving their economies' shock absorbing capacity. These authors conclude that, in the presence of such adverse incentive effects, the implementation of fiscal insurance against asymmetric shocks would call for the creation of federal grants subsidizing such projects in the regions to assure a sufficiently high level of investment in shock absorbing capacity. In a similar vein, one might argue that structural reform improving the flexibility of regional markets are politically costly for the governments, and that the availability of transfers in times of bad asymmetric shocks reduces the political incentives to engage in reforms.

While the analysis of the incentives for reform is beyond the scope of this paper, our model can shed some light on these issues. A first way to think about reforms making regional markets more flexible is to consider the properties of the intermediate goods market. Recall that producers in these markets act under conditions of imperfect competition. The elasticity of substitution between any two intermediate goods can be regarded as a measure of market rigidities: the larger the elasticity of substitution, the more intense competition is among producers in this market. Thus, structural reforms to overcome market rigidities may aim at increasing the substitutability between intermediate inputs. Intuitively, reducing product regulation and the protection of producers against market entry, now often called for in the EU would fall under this type of structural reform.

Do structural policies of this kind increase the shock-absorbing capacities of the regional economies? In our model economy, the elasticity of substitution between intermediate inputs does not affect the parameters determining the transmission of asymmetric shocks to output, employment, savings and consumption. This implies these types of reform policies and fiscal insurance against asymmetric shocks are unrelated to the policy issues in this paper.

A second way to think about structural reforms using this model concerns the elasticity of labor supply. Intuitively, labor market regulations may reduce the elasticity of labor supply, as they increase reservation wages as well as search costs. Alternatively, the equilibrium labor supply elasticity may be raised by imperfect competition in the labor market, due, for example, to unionization. While the details of such effects are clearly beyond the scope of our model, we can ask how policies aiming at increasing the elasticity of labor supply, α , affect the transmission of asymmetric shocks.

To derive an answer, we note that the labor supply elasticity enters the transmission of asymmetric shocks to regional employment through the composite parameter A in equation (20) above. Taking derivatives, we find that A always increases with the home labor supply elasticity. Furthermore, increasing α raises the responsiveness of savings to a given

asymmetric shock. This means that the size of the response of consumption to the asymmetric shock rises as α increases in the absence of fiscal policy interventions using a tax-transfer scheme.

With transfers collected and paid directly from and to households, however, the responsiveness of consumption to the asymmetric shock is unaffected by changes in the labor supply elasticity. The increase in A is exactly offset by a proportionate decrease in the absolute value of savings using the relationship, $\hat{c} = \rho AS$. Thus, the tax-transfer scheme eliminates any impact of labor market reforms on the variability of consumption. In contrast, with intergovernmental transfers, the response of consumption to asymmetric shocks rises as α increases. Thus, the variability of consumption rises under the alternative employment-stabilizing intergovernmental transfer scheme.

Furthermore, equation (31) implies that the size of intergovernmental transfers for the purpose of employment stabilization decreases as A increases. The effect of an increase in the labor supply elasticity on the size of transfers between households depends on whether post-transfer savings are positive or negative. If post-transfer savings are negative in response to a positive asymmetric shock ($\theta + \theta^* > (4\gamma(1 - \gamma))^{-1}$), the size of the transfers paid to households decreases as the elasticity of labor supply rises. This is also true when the transfers made by the home region are negative, which is the case if ($\theta + \theta^* < \theta_m$). However, for the intermediate case, $\theta_m < \theta + \theta^* < (4\gamma(1 - \gamma))^{-1}$, an increase in the labor supply elasticity, α , raises the absolute value of transfers. This means the volume of transfers, whether made between households or between governments, is sensitive to labor market reforms.

We summarize these effects in the following table:

	Effect of an increase in labor supply elasticity on transfer size	
Case	Transfers between households	Intergovernmental transfers
I: $2(1-\gamma)\gamma > (\theta+\theta^*)^{-1}$	fall	rise
II: $(2\theta_m)^{-1} > (\theta+\theta^*)^{-1} > 2(1-\gamma)\gamma$	rise	rise
III: $(\theta+\theta^*)^{-1} > (2\theta_m)^{-1}$	fall	fall

It is reasonable to think that governments considering structural reform policies will be concerned with two issues in our context: the impact on the variability of consumption and the effects on the size of transfers that each government expects to pay or receive in response to asymmetric shocks. The table implies that the incentives to undertake structural reforms from this point of view depend on the share of home goods in consumption expenditures, the elasticity of substitution between home and foreign goods, and on the type of fiscal tax-transfer mechanism implemented to absorb the effect of asymmetric shocks on regional employment.

When a structural reform is defined as an increase in the elasticity of labor supply, reforms always increase the variability of consumption absent any fiscal insurance scheme or under the government expenditure redistribution scheme in response to asymmetric productivity shocks. On the other hand, such reforms reduce the magnitude of transfers made under the government expenditure scheme in the case that net positive payments are made by regions realizing positive shocks. Therefore, regional governments may choose labor market policies that reduce the cost of an employment stabilizing transfer scheme but also lead to higher consumption variability.

For the tax and transfer scheme between households, consumption variability is unaffected by increases in the labor supply elasticity. Such reforms reduce the size of employment-stabilizing transfers except in case II, which applies when the elasticities of substitution in consumption exceed unity but are not too large. In cases I and III, increasing the elasticity of labor supply is consistent with reducing inter-household transfers across

regions. In case II, these two goals would be in conflict.

We can interpret these policy conflicts and complementarities by observing that the degree of substitutability between the two region's final goods may increase as economies become more specialized in production as a consequence of economic integration. Furthermore, integration and specialization should reduce the expenditure share of home goods in home consumptions. Trade integration can change the incentives for structural reforms in this model economy. Our results suggest that the incentives to undertake structural reforms are more likely to be negatively affected by a fiscal transfer scheme when the monetary union consists of relatively similar regions with a low degree of trade integration (this makes case II more robust). In contrast, the incentive effects may turn positive, if the monetary union consists of sufficiently dissimilar regions with a sufficiently high degree of trade integration.

Finally, we recall from equation (30) that large differences in the regional labor supply elasticities turn purely asymmetric shocks into aggregate shocks to the common inflation rate. In the current context, this means that regional reform policies have consequences for the aggregate performance of the monetary union. The suggestive implication is that regional reform policies in a monetary union should be coordinated among the governments to avoid adverse consequences for the aggregate performance of the union.

VI. Conclusions

Almost 40 years ago, Mundell argued that a monetary union requires fiscal shock absorber mechanisms to deal with asymmetric shocks. Empirical evidence, however, indicates that fiscal shock absorbers in existing monetary unions are quite small. In this paper, we have developed a macro economic model of a monetary union to revisit Mundell's argument. In contrast to Mundell's Keynesian framework, we propose a dynamic general equilibrium framework where imperfect competition in goods markets and sticky wages are the basis for

aggregate demand policies having effects on real output and employment.

In this model, purely transitory, asymmetric shocks affect regional output and employment provided that there is sufficient asymmetry in the economic structures describing the demand side. Furthermore, if there is structural asymmetry also in the labor markets of the regional economies, asymmetric shocks between the regions have aggregate effects on the performance of the monetary union as a whole. In the presence of demand asymmetries, transitory shocks have wealth effects with lasting distributional consequences among the regions.

To cope with these shocks, we have considered taxes and transfers paid to households and intergovernmental transfers. Both can be designed to stabilize regional employment, yet with different distributional and welfare consequences. Taxes and transfers paid to households can also be used to provide full consumption risk insurance between the regions. However, fiscal insurance restricted to one instrument (implied by budget balance) cannot aim at stabilizing consumption and employment at the same time. Our model implies that fiscal policies aiming at stabilizing regional employment may well have negative welfare effects in expected value. Overall, the welfare effects of fiscal insurance are quite ambiguous. This may be the main reason why, in contrast to Mundell's claim and popular arguments in the policy debate, we do not more substantial fiscal insurance against asymmetric shocks in existing monetary union.

Finally, we have analyzed the interaction between regional reform policies aiming at increased goods and labor market flexibility, and fiscal insurance against asymmetric shocks. While a detailed analysis of this interaction would require a model of political economy and reform, which is beyond the scope of this paper, our model allows us to derive some suggestions. One is that the type of reform matters. Deregulation of intermediate goods markets is an issue orthogonal to fiscal insurance in this framework, labor market reform is not. Another one is that the interaction between labor market policies and fiscal insurance depends

critically on the degree of trade integration among the regions; it is positive with high and negative with low degrees of integration. Finally, regional reform policies have consequences for the aggregate performance of the union. This suggests that such policies should be coordinated among the governments pertaining in a monetary union.

The last three results have clear implications for fiscal federalism in the broad sense of the term, that is, the assignment problem of different functions of government to different levels of government (see von Hagen, 1993). Specifically, the adoption of a common currency among a set of highly integrated regions implies that governments of these regions should no longer regard policies aiming at structural reforms of their local goods and labor markets as matters of purely regional concern.

References

- Asdrubali, Pierfederica, Bent Sørensen, and Oved Yosha (1996), "Channels of Interstate Risk Sharing: United States 1963-1990." Quarterly Journal of Economics 111, 1081-1110
- Athanasoulis, Stefano, and Eric van Wincorp (1998), "Risksharing Within the United States: What Have Financial Markets and Fiscal Federalism Accomplished?", Research Paper 9808, Federal Reserve Bank of New York
- Atkeson, Andrew, and Tamim Bayoumi (1993), "Do Private Capital Markets Insure Regional Risk? Evidence for the US and Europe." Open Economies Review 4, 303-24
- Backus, David K., Patrick J Kehoe, and Finn E. Kydland (1992), "International Real Business Cycles." Journal of Political Economy 100, 745-75
- Bayoumi, Tamim, and Paul R. Masson (1998), "Liability-creating Versus Non-liability-creating Fiscal Stabilization Policies: Ricardian Equivalence, Fiscal Stabilization, and EMU." Economic Journal 108, 1026-45
- Bayoumi, Tamim, and Paul R. Masson (1997), "The Efficiency of National and Regional Stabilization Policies." in: Jean-Olivier Hairault, Pierre-Yves Hénin, and Franck Portier (eds.), Business Cycles and Macroeconomic Stability. Boston: Kluwer Academic Publishers
- Bayoumi, Tamim, and Paul Masson (1995), "Fiscal Flows in the United States and Canada: Lessons for Monetary Union in Europe." European Economic Review 39, 253-74
- Bayoumi, Tamim, and Eswar Prasad (1997), "Currency Union, Economic Fluctuations, and Adjustment: Some New Empirical Evidence." IMF Staff Papers 44, 36-58
- Courchene, Tom (1993), "Reflections on Canadian Federalism: Are There Implications for European Economic and Monetary Union?" in: European Commission, The Economics of Community Public Finance, European Economy Reports and Studies 5
- Courchene, Tom (1999), "Subnational Budgetary and Stabilization Policies in Canada and Australia." in: James Poterba and Jürgen von Hagen (eds.), Fiscal Institutions and Fiscal Performance. Chicago: University of Chicago Press
- Delors, Jacques (1989), "Regional Implications of Economic and Monetary Integration." in: committee for the Study of Economic and Monetary Union (ed.), Report on Economic and Monetary Union in the European Community. Luxembourg: Office for Official Publications of the EC.
- Eichengreen, Barry (1993), "Labor Markets and European Monetary Unification." in: Paul R. Masson and Mark P. Taylor (eds.), Policy Issues in the Operation of Currency Unions. Cambridge: Cambridge University Press
- European Commission (1977a), Report of the Study Group on the Role of Public finance in European Integration Vol. I, Studies: Economic and Financial Series A13, Brussels
- European Commission (1977b), Report of the Study Group on the Role of Public finance in European Integration Vol. II, Studies: Economic and Financial Series B13, Brussels
- Fatas, Antonio (1998), "Does EMU need a Fiscal Federation?" Economic Policy 26
- Frenkel, Jacob, and Morris Goldstein (1991), "Monetary Policy in an Emerging European Economic and Monetary Union." IMF Staff Papers 38, 356-73
- Goodhart, Charles E. A., and Stephen Smith (1993), "Stabilization" in: European Commission, The Economics of Community Public Finance, European Economy Reports and Studies 5, 417-55

Hervé, Yves, and Robert Holzmann (1998), Fiscal Transfers and Economic Convergence in the EU: An Analysis of Absorption Problems and an Evaluation of the Literature. Baden-Baden: Nomos

Hochreiter, Eduard, and Georg Winckler (1995), "The Advantages of Tying Austria's Hands: The Success of a Hard-currency Strategy." European Journal of Political Economy 11, 83-111

Ingram, J. C. (1959), "State and Regional Payments Mechanisms." Quarterly Journal of Economics

Kenen, Peter B. (1969), "The Theory of Optimum Currency Areas: An Eclectic View." in: Robert Mundell and Alexander Swoboda (eds.), Monetary Problems of the World Economy. Chicago: University of Chicago Press

Kletzer, Kenneth, and Willem Buiter (1997), "Monetary Union and the Role of Automatic Stabilizers," in Jean-Olivier Hairault, Pierre-Yves Henin and Franck Portier, eds., Should We Rebuild Built-in Stabilizers, Dordrecht: Kluwer, 1997, pp. 109-147.

Kletzer, Kenneth (1999) "Monetary Union, Asymmetric Productivity Shocks and Fiscal Insurance: an Analytical Discussion of Welfare Issues," in A. Hughes-Hallett, M. Hutchison, S. Jensen, eds., Fiscal Aspects of European Monetary Integration, London: Cambridge University Press, forthcoming, 1999.

Méltz, Jacques, and Silvia Vori (1993), "National Insurance Against Unevenly Distributed Shocks in a European Monetary Union." Recherches Economiques de Louvain 59, 81-104

Méltz, Jacques, and Frédéric Zumer (1998), "Regional Redistribution and Stabilization by the Centre in Canada, France, the United Kingdom, and the United States: New Estimates Based on Panel Data Econometrics." CEPR Discussion Paper 1829

Migué, Jean-Luc (1993), Federalism and Free Trade. Hobart Paper, London: Institute of Economic Affairs

Mundell, Robert (1961), "A Theory of Optimal Currency Areas." American Economic Review 51

Obstfeld, Maurice, and Giovanni Peri (1998), "Regional Non-Adjustment and Fiscal Policy." Economic Policy 26

Persson, Torsten, and Guido Tabellini (1996a), "Federal Fiscal Constitutions: Risk Sharing and Moral Hazard." Econometrica 64, 623-46

Persson, Torsten, and Guido Tabellini (1996a), "Federal Fiscal Constitutions: Risk Sharing and Redistribution." Journal of Political Economy 104, 979-1009

Pisani-Ferry, Jean, Alexander Italianer, and Roland Lescure (1993), "Stabilization Properties of Budgetary Systems: A Simulation Analysis." in: European Commission, The Economics of Community Public Finance, European Economy Reports and Studies 5, 417-55

Sala-i-Martin, Xavier, and Jeffrey Sachs (1991), "Fiscal Federalism and Optimum currency Areas: Evidence for Europe from the United States." in: Matthew Canzoneri, Vittorio Grilli, and Paul Masson (eds.), Establishing a Central Bank: Issues in Europe and Lessons from the US, Cambridge: Cambridge University Press

Sorensen, Bent E. and Oved Yosha (1997), "Federal Insurance of US States: An Empirical Investigation." in: Assaf Razin and Efraim Sadka (eds.), Globalization: Public Economics Policy Perspectives, Cambridge University Press

van der Ploeg, Frederik (1991), "Macroeconomic Policy Coordination Issues During the Various Phases of Economic and Monetary Integration in Europe." European Economy Special Edition 1, 136-164

van Wincoop, Eric (1995), "Regional Risksharing." European Economic Review 39, 1545-68

von Hagen, Jürgen (1992), "Fiscal Arrangements in a Monetary Union - Some Evidence from the US." in: Don Fair and Christian de Boissieux (eds.), Fiscal Policy, Taxes, and the Financial System in an Increasingly Integrated Europe Deventer: Kluwer Academic Publishers.

von Hagen, Jürgen (1993), "Monetary Union and Fiscal Union: A Perspective from Fiscal Federalism." in: Paul R. Masson and Mark P. Taylor (eds.), Policy Issues in the Operation of Currency Unions. Cambridge: Cambridge University Press

von Hagen, Jürgen, and George W. Hammond (1998), "Regional Insurance Against Asymmetric Shocks: An Empirical Study for the European Community." The Manchester School 66, 331-53

von Hagen, Jürgen, Holger Gleich and Ralph Hepp (1999), Empirical properties of fiscal equalization among Germany's Länder. Mimeo: ZEI

Wildasin, David E. (1995), "Factor Mobility, Risk, and Redistribution in the Welfare State." Scandinavian Journal of Economics 97, 527-46

Wyplosz, Charles, (1991), "Monetary Union and Fiscal Policy Discipline." European Economy Special Edition 1, 165-184

2008		
B01-08	Euro-Diplomatie durch gemeinsame „Wirtschaftsregierung“	<i>Martin Seidel</i>
2007		
B03-07	Löhne und Steuern im Systemwettbewerb der Mitgliedstaaten der Europäischen Union	<i>Martin Seidel</i>
B02-07	Konsolidierung und Reform der Europäischen Union	<i>Martin Seidel</i>
B01-07	The Ratification of European Treaties - Legal and Constitutional Basis of a European Referendum.	<i>Martin Seidel</i>
2006		
B03-06	Financial Frictions, Capital Reallocation, and Aggregate Fluctuations	<i>Jürgen von Hagen, Haiping Zhang</i>
B02-06	Financial Openness and Macroeconomic Volatility	<i>Jürgen von Hagen, Haiping Zhang</i>
B01-06	A Welfare Analysis of Capital Account Liberalization	<i>Jürgen von Hagen, Haiping Zhang</i>
2005		
B11-05	Das Kompetenz- und Entscheidungssystem des Vertrages von Rom im Wandel seiner Funktion und Verfassung	<i>Martin Seidel</i>
B10-05	Die Schutzklauseln der Beitrittsverträge	<i>Martin Seidel</i>
B09-05	Measuring Tax Burdens in Europe	<i>Guntram B. Wolff</i>
B08-05	Remittances as Investment in the Absence of Altruism	<i>Gabriel González-König</i>
B07-05	Economic Integration in a Multicore World?	<i>Christian Volpe Martincus, Jennifer Pédussel Wu</i>
B06-05	Banking Sector (Under?)Development in Central and Eastern Europe	<i>Jürgen von Hagen, Valeriya Din-g</i>
B05-05	Regulatory Standards Can Lead to Predation	<i>Stefan Lutz</i>
B04-05	Währungspolitik als Sozialpolitik	<i>Martin Seidel</i>
B03-05	Public Education in an Integrated Europe: Studying to Migrate and Teaching to Stay?	<i>Panu Poutvaara</i>
B02-05	Voice of the Diaspora: An Analysis of Migrant Voting Behavior	<i>Jan Fidrmuc, Orla Doyle</i>
B01-05	Macroeconomic Adjustment in the New EU Member States	<i>Jürgen von Hagen, Iulia Traistaru</i>
2004		
B33-04	The Effects of Transition and Political Instability On Foreign Direct Investment Inflows: Central Europe and the Balkans	<i>Josef C. Brada, Ali M. Kutan, Tanner M. Yigit</i>
B32-04	The Choice of Exchange Rate Regimes in Developing Countries: A Multinomial Panel Analysis	<i>Jürgen von Hagen, Jizhong Zhou</i>
B31-04	Fear of Floating and Fear of Pegging: An Empirical Analysis of De Facto Exchange Rate Regimes in Developing Countries	<i>Jürgen von Hagen, Jizhong Zhou</i>
B30-04	Der Vollzug von Gemeinschaftsrecht über die Mitgliedstaaten und seine Rolle für die EU und den Beitrittsprozess	<i>Martin Seidel</i>
B29-04	Deutschlands Wirtschaft, seine Schulden und die Unzulänglichkeiten der einheitlichen Geldpolitik im Eurosystem	<i>Dieter Spethmann, Otto Steiger</i>
B28-04	Fiscal Crises in U.S. Cities: Structural and Non-structural Causes	<i>Guntram B. Wolff</i>
B27-04	Firm Performance and Privatization in Ukraine	<i>Galyna Grygorenko, Stefan Lutz</i>
B26-04	Analyzing Trade Opening in Ukraine: Effects of a Customs Union with the EU	<i>Oksana Harbuzyuk, Stefan Lutz</i>
B25-04	Exchange Rate Risk and Convergence to the Euro	<i>Lucjan T. Orlowski</i>
B24-04	The Endogeneity of Money and the Eurosystem	<i>Otto Steiger</i>
B23-04	Which Lender of Last Resort for the Eurosystem?	<i>Otto Steiger</i>
B22-04	Non-Discretionary Monetary Policy: The Answer for Transition Economies?	<i>Elham-Mafi Kreft, Steven F. Kreft</i>
B21-04	The Effectiveness of Subsidies Revisited: Accounting for Wage and Employment Effects in Business R+D	<i>Volker Reinthaler, Guntram B. Wolff</i>
B20-04	Money Market Pressure and the Determinants of Banking Crises	<i>Jürgen von Hagen, Tai-kuang Ho</i>
B19-04	Die Stellung der Europäischen Zentralbank nach dem Verfassungsvertrag	<i>Martin Seidel</i>

B18-04	Transmission Channels of Business Cycles Synchronization in an Enlarged EMU	<i>Iulia Traistaru</i>
B17-04	Foreign Exchange Regime, the Real Exchange Rate and Current Account Sustainability: The Case of Turkey	<i>Sübüdey Togan, Hasan Ersel</i>
B16-04	Does It Matter Where Immigrants Work? Traded Goods, Non-traded Goods, and Sector Specific Employment	<i>Harry P. Bowen, Jennifer Pédussel Wu</i>
B15-04	Do Economic Integration and Fiscal Competition Help to Explain Local Patterns?	<i>Christian Volpe Martincus</i>
B14-04	Euro Adoption and Maastricht Criteria: Rules or Discretion?	<i>Jiri Jonas</i>
B13-04	The Role of Electoral and Party Systems in the Development of Fiscal Institutions in the Central and Eastern European Countries	<i>Sami Yläoutinen</i>
B12-04	Measuring and Explaining Levels of Regional Economic Integration	<i>Jennifer Pédussel Wu</i>
B11-04	Economic Integration and Location of Manufacturing Activities: Evidence from MERCOSUR	<i>Pablo Sanguinetti, Iulia Traistaru, Christian Volpe Martincus</i>
B10-04	Economic Integration and Industry Location in Transition Countries	<i>Laura Resmini</i>
B09-04	Testing Creditor Moral Hazard in Sovereign Bond Markets: A Unified Theoretical Approach and Empirical Evidence	<i>Ayşe Y. Evrensel, Ali M. Kutan</i>
B08-04	European Integration, Productivity Growth and Real Convergence	<i>Taner M. Yigit, Ali M. Kutan</i>
B07-04	The Contribution of Income, Social Capital, and Institutions to Human Well-being in Africa	<i>Mina Balamoune-Lutz, Stefan H. Lutz</i>
B06-04	Rural Urban Inequality in Africa: A Panel Study of the Effects of Trade Liberalization and Financial Deepening	<i>Mina Balamoune-Lutz, Stefan H. Lutz</i>
B05-04	Money Rules for the Eurozone Candidate Countries	<i>Lucjan T. Orłowski</i>
B04-04	Who is in Favor of Enlargement? Determinants of Support for EU Membership in the Candidate Countries' Referenda	<i>Orla Doyle, Jan Fidrmuc</i>
B03-04	Over- and Underbidding in Central Bank Open Market Operations Conducted as Fixed Rate Tender	<i>Ulrich Bindseil</i>
B02-04	Total Factor Productivity and Economic Freedom Implications for EU Enlargement	<i>Ronald L. Moomaw, Euy Seok Yang</i>
B01-04	Die neuen Schutzklauseln der Artikel 38 und 39 des Beitrittsvertrages: Schutz der alten Mitgliedstaaten vor Störungen durch die neuen Mitgliedstaaten	<i>Martin Seidel</i>
2003		
B29-03	Macroeconomic Implications of Low Inflation in the Euro Area	<i>Jürgen von Hagen, Boris Hofmann</i>
B28-03	The Effects of Transition and Political Instability on Foreign Direct Investment: Central Europe and the Balkans	<i>Josef C. Brada, Ali M. Kutan, Taner M. Yigit</i>
B27-03	The Performance of the Euribor Futures Market: Efficiency and the Impact of ECB Policy Announcements (Electronic Version of International Finance)	<i>Kerstin Bernoth, Juergen von Hagen</i>
B26-03	Sovereign Risk Premia in the European Government Bond Market (überarbeitete Version zum Herunterladen)	<i>Kerstin Bernoth, Juergen von Hagen, Ludger Schulknecht</i>
B25-03	How Flexible are Wages in EU Accession Countries?	<i>Anna Iara, Iulia Traistaru</i>
B24-03	Monetary Policy Reaction Functions: ECB versus Bundesbank	<i>Bernd Hayo, Boris Hofmann</i>
B23-03	Economic Integration and Manufacturing Concentration Patterns: Evidence from Mercosur	<i>Iulia Traistaru, Christian Volpe Martincus</i>
B22-03	Reformzwänge innerhalb der EU angesichts der Osterweiterung	<i>Martin Seidel</i>
B21-03	Reputation Flows: Contractual Disputes and the Channels for Inter-Firm Communication	<i>William Pyle</i>
B20-03	Urban Primacy, Gigantism, and International Trade: Evidence from Asia and the Americas	<i>Ronald L. Moomaw, Mohammed A. Alwosabi</i>
B19-03	An Empirical Analysis of Competing Explanations of Urban Primacy Evidence from Asia and the Americas	<i>Ronald L. Moomaw, Mohammed A. Alwosabi</i>

B18-03	The Effects of Regional and Industry-Wide FDI Spillovers on Export of Ukrainian Firms	<i>Stefan H. Lutz, Oleksandr Talavera, Sang-Min Park</i>
B17-03	Determinants of Inter-Regional Migration in the Baltic States	<i>Mihails Hazans</i>
B16-03	South-East Europe: Economic Performance, Perspectives, and Policy Challenges	<i>Iulia Traistaru, Jürgen von Hagen</i>
B15-03	Employed and Unemployed Search: The Marginal Willingness to Pay for Attributes in Lithuania, the US and the Netherlands	<i>Jos van Ommeren, Mihails Hazans</i>
B14-03	FCIs and Economic Activity: Some International Evidence	<i>Charles Goodhart, Boris Hofmann</i>
B13-03	The IS Curve and the Transmission of Monetary Policy: Is there a Puzzle?	<i>Charles Goodhart, Boris Hofmann</i>
B12-03	What Makes Regions in Eastern Europe Catching Up? The Role of Foreign Investment, Human Resources, and Geography	<i>Gabriele Tondl, Goran Vuksic</i>
B11-03	Die Weisungs- und Herrschaftsmacht der Europäischen Zentralbank im europäischen System der Zentralbanken - eine rechtliche Analyse	<i>Martin Seidel</i>
B10-03	Foreign Direct Investment and Perceptions of Vulnerability to Foreign Exchange Crises: Evidence from Transition Economies	<i>Josef C. Brada, Vladimír Tomsík</i>
B09-03	The European Central Bank and the Eurosystem: An Analysis of the Missing Central Monetary Institution in European Monetary Union	<i>Gunnar Heinsohn, Otto Steiger</i>
B08-03	The Determination of Capital Controls: Which Role Do Exchange Rate Regimes Play?	<i>Jürgen von Hagen, Jizhong Zhou</i>
B07-03	Nach Nizza und Stockholm: Stand des Binnenmarktes und Prioritäten für die Zukunft	<i>Martin Seidel</i>
B06-03	Fiscal Discipline and Growth in Euroland. Experiences with the Stability and Growth Pact	<i>Jürgen von Hagen</i>
B05-03	Reconsidering the Evidence: Are Eurozone Business Cycles Converging?	<i>Michael Massmann, James Mitchell</i>
B04-03	Do Ukrainian Firms Benefit from FDI?	<i>Stefan H. Lutz, Oleksandr Talavera</i>
B03-03	Europäische Steuerkoordination und die Schweiz	<i>Stefan H. Lutz</i>
B02-03	Commuting in the Baltic States: Patterns, Determinants, and Gains	<i>Mihails Hazans</i>
B01-03	Die Wirtschafts- und Währungsunion im rechtlichen und politischen Gefüge der Europäischen Union	<i>Martin Seidel</i>
2002		
B30-02	An Adverse Selection Model of Optimal Unemployment Assurance	<i>Marcus Hagedorn, Ashok Kaul, Tim Mennel</i>
B29B-02	Trade Agreements as Self-protection	<i>Jennifer Pédussel Wu</i>
B29A-02	Growth and Business Cycles with Imperfect Credit Markets	<i>Debajyoti Chakrabarty</i>
B28-02	Inequality, Politics and Economic Growth	<i>Debajyoti Chakrabarty</i>
B27-02	Poverty Traps and Growth in a Model of Endogenous Time Preference	<i>Debajyoti Chakrabarty</i>
B26-02	Monetary Convergence and Risk Premiums in the EU Candidate Countries	<i>Lucjan T. Orlowski</i>
B25-02	Trade Policy: Institutional Vs. Economic Factors	<i>Stefan Lutz</i>
B24-02	The Effects of Quotas on Vertical Intra-industry Trade	<i>Stefan Lutz</i>
B23-02	Legal Aspects of European Economic and Monetary Union	<i>Martin Seidel</i>
B22-02	Der Staat als <i>Lender of Last Resort</i> - oder: Die Achillesverse des Eurosystems	<i>Otto Steiger</i>
B21-02	Nominal and Real Stochastic Convergence Within the Transition Economies and to the European Union: Evidence from Panel Data	<i>Ali M. Kutan, Taner M. Yigit</i>
B20-02	The Impact of News, Oil Prices, and International Spillovers on Russian Financial Markets	<i>Bernd Hayo, Ali M. Kutan</i>

B19-02	East Germany: Transition with Unification, Experiments and Experiences	<i>Jürgen von Hagen, Rolf R. Strauch, Guntram B. Wolff</i>
B18-02	Regional Specialization and Employment Dynamics in Transition Countries	<i>Iulia Traistaru, Guntram B. Wolff</i>
B17-02	Specialization and Growth Patterns in Border Regions of Accession Countries	<i>Laura Resmini</i>
B16-02	Regional Specialization and Concentration of Industrial Activity in Accession Countries	<i>Iulia Traistaru, Peter Nijkamp, Simonetta Longhi</i>
B15-02	Does Broad Money Matter for Interest Rate Policy?	<i>Matthias Brückner, Andreas Schaber</i>
B14-02	The Long and Short of It: Global Liberalization, Poverty and Inequality	<i>Christian E. Weller, Adam Hersch</i>
B13-02	De Facto and Official Exchange Rate Regimes in Transition Economies	<i>Jürgen von Hagen, Jizhong Zhou</i>
B12-02	Argentina: The Anatomy of A Crisis	<i>Jiri Jonas</i>
B11-02	The Eurosystem and the Art of Central Banking	<i>Gunnar Heinsohn, Otto Steiger</i>
B10-02	National Origins of European Law: Towards an Autonomous System of European Law?	<i>Martin Seidel</i>
B09-02	Monetary Policy in the Euro Area - Lessons from the First Years	<i>Volker Clausen, Bernd Hayo</i>
B08-02	Has the Link Between the Spot and Forward Exchange Rates Broken Down? Evidence From Rolling Cointegration Tests	<i>Ali M. Kutan, Su Zhou</i>
B07-02	Perspektiven der Erweiterung der Europäischen Union	<i>Martin Seidel</i>
B06-02	Is There Asymmetry in Forward Exchange Rate Bias? Multi-Country Evidence	<i>Su Zhou, Ali M. Kutan</i>
B05-02	Real and Monetary Convergence Within the European Union and Between the European Union and Candidate Countries: A Rolling Cointegration Approach	<i>Josef C. Brada, Ali M. Kutan, Su Zhou</i>
B04-02	Asymmetric Monetary Policy Effects in EMU	<i>Volker Clausen, Bernd Hayo</i>
B03-02	The Choice of Exchange Rate Regimes: An Empirical Analysis for Transition Economies	<i>Jürgen von Hagen, Jizhong Zhou</i>
B02-02	The Euro System and the Federal Reserve System Compared: Facts and Challenges	<i>Karlheinz Ruckriegel, Franz Seitz</i>
B01-02	Does Inflation Targeting Matter?	<i>Manfred J. M. Neumann, Jürgen von Hagen</i>
2001		
B29-01	Is Kazakhstan Vulnerable to the Dutch Disease?	<i>Karlygash Kuralbayeva, Ali M. Kutan, Michael L. Wyzan</i>
B28-01	Political Economy of the Nice Treaty: Rebalancing the EU Council. The Future of European Agricultural Policies	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B27-01	Investor Panic, IMF Actions, and Emerging Stock Market Returns and Volatility: A Panel Investigation	<i>Bernd Hayo, Ali M. Kutan</i>
B26-01	Regional Effects of Terrorism on Tourism: Evidence from Three Mediterranean Countries	<i>Konstantinos Drakos, Ali M. Kutan</i>
B25-01	Monetary Convergence of the EU Candidates to the Euro: A Theoretical Framework and Policy Implications	<i>Lucjan T. Orlowski</i>
B24-01	Disintegration and Trade	<i>Jarko and Jan Fidrmuc</i>
B23-01	Migration and Adjustment to Shocks in Transition Economies	<i>Jan Fidrmuc</i>
B22-01	Strategic Delegation and International Capital Taxation	<i>Matthias Brückner</i>
B21-01	Balkan and Mediterranean Candidates for European Union Membership: The Convergence of Their Monetary Policy With That of the European Central Bank	<i>Josef C. Brada, Ali M. Kutan</i>
B20-01	An Empirical Inquiry of the Efficiency of Intergovernmental Transfers for Water Projects Based on the WRDA Data	<i>Anna Rubinchik-Pessach</i>
B19-01	Detrending and the Money-Output Link: International Evidence	<i>R.W. Hafer, Ali M. Kutan</i>

B18-01	Monetary Policy in Unknown Territory. The European Central Bank in the Early Years	<i>Jürgen von Hagen, Matthias Brückner</i>
B17-01	Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Caribbean Countries	<i>Mark Hallerberg, Patrick Marier</i>
B16-01	Sources of Inflation and Output Fluctuations in Poland and Hungary: Implications for Full Membership in the European Union	<i>Selahattin Dibooglu, Ali M. Kutan</i>
B15-01	Programs Without Alternative: Public Pensions in the OECD	<i>Christian E. Weller</i>
B14-01	Formal Fiscal Restraints and Budget Processes As Solutions to a Deficit and Spending Bias in Public Finances - U.S. Experience and Possible Lessons for EMU	<i>Rolf R. Strauch, Jürgen von Hagen</i>
B13-01	German Public Finances: Recent Experiences and Future Challenges	<i>Jürgen von Hagen, Rolf R. Strauch</i>
B12-01	The Impact of Eastern Enlargement On EU-Labour Markets. Pensions Reform Between Economic and Political Problems	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B11-01	Inflationary Performance in a Monetary Union With Large Wage Setters	<i>Lilia Cavallar</i>
B10-01	Integration of the Baltic States into the EU and Institutions of Fiscal Convergence: A Critical Evaluation of Key Issues and Empirical Evidence	<i>Ali M. Kutan, Niina Pautola-Mol</i>
B09-01	Democracy in Transition Economies: Grease or Sand in the Wheels of Growth?	<i>Jan Fidrmuc</i>
B08-01	The Functioning of Economic Policy Coordination	<i>Jürgen von Hagen, Susanne Mundschenk</i>
B07-01	The Convergence of Monetary Policy Between Candidate Countries and the European Union	<i>Josef C. Brada, Ali M. Kutan</i>
B06-01	Opposites Attract: The Case of Greek and Turkish Financial Markets	<i>Konstantinos Drakos, Ali M. Kutan</i>
B05-01	Trade Rules and Global Governance: A Long Term Agenda. The Future of Banking.	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B04-01	The Determination of Unemployment Benefits	<i>Rafael di Tella, Robert J. McCulloch</i>
B03-01	Preferences Over Inflation and Unemployment: Evidence from Surveys of Happiness	<i>Rafael di Tella, Robert J. McCulloch, Andrew J. Oswald</i>
B02-01	The Konstanz Seminar on Monetary Theory and Policy at Thirty	<i>Michele Fratianni, Jürgen von Hagen</i>
B01-01	Divided Boards: Partisanship Through Delegated Monetary Policy	<i>Etienne Farvaque, Gael Lagadec</i>
2000		
B20-00	Breakin-up a Nation, From the Inside	<i>Etienne Farvaque</i>
B19-00	Income Dynamics and Stability in the Transition Process, general Reflections applied to the Czech Republic	<i>Jens Hölscher</i>
B18-00	Budget Processes: Theory and Experimental Evidence	<i>Karl-Martin Ehrhart, Roy Gardner, Jürgen von Hagen, Claudia Keser</i>
B17-00	Rückführung der Landwirtschaftspolitik in die Verantwortung der Mitgliedsstaaten? - Rechts- und Verfassungsfragen des Gemeinschaftsrechts	<i>Martin Seidel</i>
B16-00	The European Central Bank: Independence and Accountability	<i>Christa Randzio-Plath, Tomasso Padoa-Schioppa</i>
B15-00	Regional Risk Sharing and Redistribution in the German Federation	<i>Jürgen von Hagen, Ralf Hepp</i>
B14-00	Sources of Real Exchange Rate Fluctuations in Transition Economies: The Case of Poland and Hungary	<i>Selahattin Dibooglu, Ali M. Kutan</i>
B13-00	Back to the Future: The Growth Prospects of Transition Economies Reconsidered	<i>Nauro F. Campos</i>

B12-00	Rechtsetzung und Rechtsangleichung als Folge der Einheitlichen Europäischen Währung	<i>Martin Seidel</i>
B11-00	A Dynamic Approach to Inflation Targeting in Transition Economies	<i>Lucjan T. Orłowski</i>
B10-00	The Importance of Domestic Political Institutions: Why and How Belgium Qualified for EMU	<i>Marc Hallerberg</i>
B09-00	Rational Institutions Yield Hysteresis	<i>Rafael Di Tella, Robert MacCulloch</i>
B08-00	The Effectiveness of Self-Protection Policies for Safeguarding Emerging Market Economies from Crises	<i>Kenneth Kletzer</i>
B07-00	Financial Supervision and Policy Coordination in The EMU	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B06-00	The Demand for Money in Austria	<i>Bernd Hayo</i>
B05-00	Liberalization, Democracy and Economic Performance during Transition	<i>Jan Fidrmuc</i>
B04-00	A New Political Culture in The EU - Democratic Accountability of the ECB	<i>Christa Randzio-Plath</i>
B03-00	Integration, Disintegration and Trade in Europe: Evolution of Trade Relations during the 1990's	<i>Jarko Fidrmuc, Jan Fidrmuc</i>
B02-00	Inflation Bias and Productivity Shocks in Transition Economies: The Case of the Czech Republic	<i>Josef C. Brada, Arthur E. King, Ali M. Kutan</i>
B01-00	Monetary Union and Fiscal Federalism	<i>Kenneth Kletzer, Jürgen von Hagen</i>
1999		
B26-99	Skills, Labour Costs, and Vertically Differentiated Industries: A General Equilibrium Analysis	<i>Stefan Lutz, Alessandro Turrini</i>
B25-99	Micro and Macro Determinants of Public Support for Market Reforms in Eastern Europe	<i>Bernd Hayo</i>
B24-99	What Makes a Revolution?	<i>Robert MacCulloch</i>
B23-99	Informal Family Insurance and the Design of the Welfare State	<i>Rafael Di Tella, Robert MacCulloch</i>
B22-99	Partisan Social Happiness	<i>Rafael Di Tella, Robert MacCulloch</i>
B21-99	The End of Moderate Inflation in Three Transition Economies?	<i>Josef C. Brada, Ali M. Kutan</i>
B20-99	Subnational Government Bailouts in Germany	<i>Helmut Seitz</i>
B19-99	The Evolution of Monetary Policy in Transition Economies	<i>Ali M. Kutan, Josef C. Brada</i>
B18-99	Why are Eastern Europe's Banks not failing when everybody else's are?	<i>Christian E. Weller, Bernard Morzuch</i>
B17-99	Stability of Monetary Unions: Lessons from the Break-Up of Czechoslovakia	<i>Jan Fidrmuc, Julius Horvath and Jarko Fidrmuc</i>
B16-99	Multinational Banks and Development Finance	<i>Christian E. Weller and Mark J. Scher</i>
B15-99	Financial Crises after Financial Liberalization: Exceptional Circumstances or Structural Weakness?	<i>Christian E. Weller</i>
B14-99	Industry Effects of Monetary Policy in Germany	<i>Bernd Hayo and Birgit Uhlenbrock</i>
B13-99	Financial Fragility or What Went Right and What Could Go Wrong in Central European Banking?	<i>Christian E. Weller and Jürgen von Hagen</i>
B12-99	Size Distortions of Tests of the Null Hypothesis of Stationarity: Evidence and Implications for Applied Work	<i>Mehmet Caner and Lutz Kilian</i>
B11-99	Financial Supervision and Policy Coordination in the EMU	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B10-99	Financial Liberalization, Multinational Banks and Credit Supply: The Case of Poland	<i>Christian Weller</i>
B09-99	Monetary Policy, Parameter Uncertainty and Optimal Learning	<i>Volker Wieland</i>
B08-99	The Connection between more Multinational Banks and less Real Credit in Transition Economies	<i>Christian Weller</i>

B07-99	Comovement and Catch-up in Productivity across Sectors: Evidence from the OECD	<i>Christopher M. Cornwell and Jens-Uwe Wächter</i>
B06-99	Productivity Convergence and Economic Growth: A Frontier Production Function Approach	<i>Christopher M. Cornwell and Jens-Uwe Wächter</i>
B05-99	Tumbling Giant: Germany's Experience with the Maastricht Fiscal Criteria	<i>Jürgen von Hagen and Rolf Strauch</i>
B04-99	The Finance-Investment Link in a Transition Economy: Evidence for Poland from Panel Data	<i>Christian Weller</i>
B03-99	The Macroeconomics of Happiness	<i>Rafael Di Tella, Robert McCulloch and Andrew J. Oswald</i>
B02-99	The Consequences of Labour Market Flexibility: Panel Evidence Based on Survey Data	<i>Rafael Di Tella and Robert McCulloch</i>
B01-99	The Excess Volatility of Foreign Exchange Rates: Statistical Puzzle or Theoretical Artifact?	<i>Robert B.H. Hauswald</i>
1998		
B16-98	Labour Market + Tax Policy in the EMU	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B15-98	Can Taxing Foreign Competition Harm the Domestic Industry?	<i>Stefan Lutz</i>
B14-98	Free Trade and Arms Races: Some Thoughts Regarding EU-Russian Trade	<i>Rafael Reuveny and John Maxwell</i>
B13-98	Fiscal Policy and Intranational Risk-Sharing	<i>Jürgen von Hagen</i>
B12-98	Price Stability and Monetary Policy Effectiveness when Nominal Interest Rates are Bounded at Zero	<i>Athanasios Orphanides and Volker Wieland</i>
B11A-98	Die Bewertung der "dauerhaft tragbaren öffentlichen Finanzlage" der EU Mitgliedstaaten beim Übergang zur dritten Stufe der EWWU	<i>Rolf Strauch</i>
B11-98	Exchange Rate Regimes in the Transition Economies: Case Study of the Czech Republic: 1990-1997	<i>Julius Horvath and Jiri Jonas</i>
B10-98	Der Wettbewerb der Rechts- und politischen Systeme in der Europäischen Union	<i>Martin Seidel</i>
B09-98	U.S. Monetary Policy and Monetary Policy and the ESCB	<i>Robert L. Hetzel</i>
B08-98	Money-Output Granger Causality Revisited: An Empirical Analysis of EU Countries (überarbeitete Version zum Herunterladen)	<i>Bernd Hayo</i>
B07-98	Designing Voluntary Environmental Agreements in Europe: Some Lessons from the U.S. EPA's 33/50 Program	<i>John W. Maxwell</i>
B06-98	Monetary Union, Asymmetric Productivity Shocks and Fiscal Insurance: an Analytical Discussion of Welfare Issues	<i>Kenneth Kletzer</i>
B05-98	Estimating a European Demand for Money (überarbeitete Version zum Herunterladen)	<i>Bernd Hayo</i>
B04-98	The EMU's Exchange Rate Policy	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B03-98	Central Bank Policy in a More Perfect Financial System	<i>Jürgen von Hagen / Ingo Fender</i>
B02-98	Trade with Low-Wage Countries and Wage Inequality	<i>Jaleel Ahmad</i>
B01-98	Budgeting Institutions for Aggregate Fiscal Discipline	<i>Jürgen von Hagen</i>
1997		
B04-97	Macroeconomic Stabilization with a Common Currency: Does European Monetary Unification Create a Need for Fiscal Insurance or Federalism?	<i>Kenneth Kletzer</i>
B-03-97	Liberalising European Markets for Energy and Telecommunications: Some Lessons from the US Electric Utility Industry	<i>Tom Lyon / John Mayo</i>
B02-97	Employment and EMU	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B01-97	A Stability Pact for Europe	<i>(a Forum organized by ZEI)</i>

ISSN 1436 - 6053

Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn
Walter-Flex-Strasse 3
D-53113 Bonn
Germany

Tel.: +49-228-73-1732
Fax: +49-228-73-1809
www.zei.de