ADEMU WORKSHOP PROCEEDINGS

"Risk-sharing mechanisms for the European Union"

Johannes Fleck* Anna Rogantini Picco† Chima Simpson-Bell‡

European University Institute

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As has been recognized in the Four and Five Presidents' Reports (2012 and 2015), the European Union – and, in particular, the Euro Area – needs mechanisms and institutions capable of absorbing the impact of shocks across states and regions, something which, to a large extent, is automatically accomplished through the central budget in federal states. Similarly, there have been proposals to enhance European risk-sharing in specific domains, such as European Banking Union Deposit Insurance or European Unemployment Insurance. The design, and the possible implementation, of risk-sharing mechanisms in a heterogeneous union without a significant federal budget, raises many questions which only appropriate research can fully and properly answer.

* Johannes.Fleck@eui.eu
† Anna.Rogantini@eui.eu
‡ Chima.Simpson-Bell@eui.eu

ADEMU workshop

"Risk-sharing mechanisms for the European Union"

Organizers

Ramon Marimon (European University and UPF-Barcelona GSE)

Giancarlo Corsetti (University of Cambridge INET)

Juan Rojas (European Stability Mechanism)

Christopher Towe (International Monetary Fund)

Location and date

European University Institute, Florence

Theatre, Badia Fiesolana

20 – 21 May 2016

Workshop program

List of speakers

ADEMU Project website

WELCOME

Joseph Weiler (President of the European University Institute), welcomes the workshop participants with some opening remarks. He recalls an episode from the early 1990s in which he participated in a seminar on European politics at an American University. He shares his memories regarding the opinions of participants on the future of financial and economic governance in Europe. At the time, there was a clear consensus among the academic community that the European Union will eventually be complemented by institutions to share fiscal risks among its members. The view was that they would be added as preventing crises would eventually require this step. Against this backdrop, he sees with great pleasure that a group of scholars is gathering at the European University Institute to address this policy challenge.

Ramon Marimon (scientific coordinator of the ADEMU project, organizer of the workshop), welcomes the participants and thanks the other organizing and participating institutions, the International Monetary Fund and the European Stability Mechanism in particular. He expresses his gratitude to see such a distinguished and high profile group of speakers and participants. Before opening the first session, he says that he is looking forward to a lively exchange of ideas under the umbrella of the ADEMU project's research agenda.

SESSION 1:

MARKET VERSUS FISCAL RISK-SHARING

Tigran Poghosyan (International Monetary Fund): "The Role of Fiscal Transfers in Smoothing Regional Shocks: Evidence from Existing Federations and Implications for the Euro Area"

Three main issues arise when addressing the role of inter-regional fiscal transfers. A first challenge is related to the different roles played by fiscal transfers depending on the type of shock they are

aimed at mitigating. When permanent, fiscal transfers have a redistributive role; instead, when temporary, they have either a risk sharing or a stabilization role depending on whether they respond to idiosyncratic or common shocks. Indeed, disentangling the type of shock and, hence, the role that transfers play is not straightforward.

A second aspect to consider when thinking about fiscal transfers as shock absorbers is the degree of fiscal insurance in existing fiscal unions. To provide some estimates, the paper complements the two-step procedure used in the empirical literature on risk sharing and redistribution with a new one-step estimation method. This method uses a pooled mean group estimator, which is a panel data version of the error-correction model. Regressions are run using data on three fiscal federations: US, Canada and Australia. Even if the extent of risk sharing and redistribution varies across countries, sample periods, and estimation methods, there is evidence that redistribution tends to be more sizeable than risk sharing.

Having analyzed the degree of risk-sharing and redistribution in three existing fiscal federations, a third step is to consider the possible implications for the Euro Area. Indeed, the key challenge for the Euro Area is to design risk sharing institutions so as to prevent permanent redistribution across countries. Tigran Poghosyan suggests three possible avenues. First, the centralization of some spending and revenue functions which are sensitive to the economic cycle (e.g. common unemployment insurance and taxes). Second, a rainy-day fund with the mandate to transfer resources to countries hit by a shock. Third, the creation of a Euro Area budget similar to the EU budget so as to reduce the risk of destabilizing fiscal policies at state level.

Discussant: Aitor Erce (European Stability Mechanism)

The paper is timely and interesting. Nevertheless, several challenges remain regarding the design of proper risk sharing mechanisms. While risk sharing should help offsetting the consequences of temporary idiosyncratic shocks, mechanisms of stabilization should be implemented to address common shocks. How to clearly distinguish idiosyncratic from common shocks as well as temporary from permanent shocks are issues that deserve to be explored further. In addition, Aitor Erce comments on the econometric approach, suggesting to clarify how the one-step methodology compares to the traditional two-step approach. Finally, he states some of the benefits related to risk sharing, such as lower financing costs of participating countries, could be explored in more detail.

Gilles Mourre (European Commission, DG ECFIN): "Income insurance: a theoretical exercise with empirical application for the euro area" (joint with Nicolas Carnot, Phil Evans, and Serena Fatica)

The paper first shows some evidence on the current degree of risk sharing in the Euro Area. In particular, it notices that in the EMU there are large heterogeneous and persistent cyclical patterns and that the degree of risk sharing is lower than in other monetary unions, which are also fiscal federations. Given the main features that an income insurance scheme should have – being politically acceptable, being temporary, relying on the business cycle – Gilles Mourre presents four possible schemes which trade off simplicity with desirable features in terms of optimal design. The more innovative scheme aiming to stabilize relative and common shocks is the one where each country contributes when its output gap is above the Euro Area average output gap, while it receives when it is below.

Finally, results of retrospective empirical simulations using both ex-post and real time data for the Euro Area are discussed. The results show that the scheme would have helped absorbing a non-negligible portion of shocks, even though the relative stabilization is halved when using real-time data as opposed to ex-post data. Gilles Mourre concludes his presentation discussing pros and cons of the four schemes presented. For example, some imply more budget risk than others and may have pro-cyclical effects.

Discussant: Chima Simpson-Bell (European University Institute)

The paper addresses the important and timely topic of the role and structure of an income insurance scheme. In particular, it discusses the desirable properties such a scheme should have, the challenges related to the measurement of shocks, and the different ways measurement errors should be considered.

Some aspects touched upon by the paper should be explored further. First, while an income insurance scheme should allow for the stabilization of shocks without threatening fiscal discipline, the paper remains silent on how the funds of the scheme should be spent and financed by national authorities. Moreover, the statement that the scheme should not result in permanent transfers should be complemented by some clarifications on how to evaluate ex-ante whether a transfer is permanent or temporary and what the corresponding time horizon should be. A more formalized defini-

tion of permanent transfers would also help solving the possibly persistent impact of measurement errors. Finally, more details on the fund capacity, the initial capital and the ability to issue debt would help clarifying the contribution of this scheme as a source of income insurance.

SESSION 2:

RISK-SHARING IN THE EUROPEAN UNION AND IN THE EURO AREA

Ramon Marimon (European University Institute and UPF-Barcelona GSE): "On the optimal design of a Financial Stability Fund" (joint with Árpád Ábrahám, Eva Cárceles-Poveda, and Yan Liu)

Having in mind the need for the Euro Area to build a risk sharing mechanism across its member states, the paper develops a dynamic model of a financial stability fund. The fund is modelled as a two-sided limited commitment long-term contract between lender and borrower countries with two main features. First, risk sharing transfers should not be permanent. Second, moral hazard considerations should be taken into account in order to meet participation constraints of member states.

As opposed to unconditional debt liabilities which are currently issued by member states, the financial stability fund would be based on conditionality. At the same time, it would differ from the European Stability Mechanism set up in 2012 as its conditionality would not be limited to extreme situations. Instead, it would cover a much broader set of risk-events. This feature is helpful in reducing the stigma member states benefitting from rescue mechanisms are subject to.

In order to assess the efficiency of the proposed fund, an economy with member states participating in the fund is compared to an economy with incomplete markets in which sovereign countries issue long-term defaultable debt. The latter scenario is chosen as a benchmark in order to compare countries' responses to shocks during the European sovereign debt crisis to the counterfactual responses in the presence of a stabilization fund. The model is calibrated to the Euro Area 'stressed' countries for the period 1980-2015. The quantitative comparison between the two economies shows that there are substantial efficiency gains in the presence of the stability fund. In particular, while

an incomplete-market economy with defaultable debt would generate positive spreads relative to the risk-free rate, an economy with the fund would result in negative spreads. This reflects the risk of the lender's participation constraint to become binding. Ramon Marimon concludes by emphasizing the welfare gains resulting from the establishment of a fund such as the one proposed.

Discussant: Charles Brendon (Cambridge University)

A financial stability fund would be an alternative to countries' default on non-contingent debt in bad times. Default is a poor form of insurance as it is time-inconsistent, triggers a direct economic disruption, and has uncertain effects on future borrowing opportunities.

Given that default is not an ideal form of insurance, the challenge for the Euro Area is whether it is possible to commit to alternative schemes, and move from non-contingent to contingent debt. In this framework, the central question of the paper is the following: how can a financial stability fund adopt liabilities of a sovereign, restructure required payments and issue contingent debt?

In order to achieve a sustainable common insurance mechanism, a fund should be able to smooth consumption, provide incentives for policy efforts, preserve gains from participations, and maintain solvency. Some important questions that should be addressed are how the degree of integration (i.e. the pooling of national resources in the fund) and the degree of solidarity (i.e. how strict participation constraints are) affect welfare outcomes. Finally, the issue how to manage the legacy debt of some countries remains open.

Alessandro Ferrari (European University Institute): "Has the Euro increased risk sharing across Euro Area countries?" (joint with Anna Rogantini Picco)

The aim of the paper is to empirically evaluate the effect of Euro membership on the ability of Euro Area member states to smooth consumption. The issue is investigated by building a counterfactual dataset of macroeconomic variables through the synthetic control method. This method is a data-driven procedure that has been used to estimate the effect of policy interventions in absence of a natural counterfactual.

Risk-sharing ability is measured in the paper using different methods. The method discussed during

the presentation is the output decomposition proposed by Asdrubali, Sorensen and Yosha (1996). This decomposition identifies different channels through which output volatility is absorbed: capital markets, fiscal transfers, public savings and private savings.

In order to evaluate whether and how risk sharing channels have changed, the output decomposition is implemented using both actual and synthetic data. The main result of the paper is that Euro membership has partially reduced the ability to smooth consumption of member states. In particular, the estimates suggest that credit markets would have had a larger role in reducing consumption fluctuations had the common currency not been introduced. In summary, the Euro seems to have decreased cross-border risk sharing channels among its members.

Discussant: Cinzia Alcidi (Center for European Policy Studies)

The fact that Euro membership has reduced consumption smoothing should not surprise too much. Other authors also find that the role of credit channels in absorbing shocks has become smaller, meaning that market channels have actually amplified the shocks, especially during the crisis.

The authors should mention that the private credit channel in the output decomposition is not proper risk sharing, but rather inter-temporal consumption smoothing. Therefore, what has changed with the Euro is not really risk-sharing, but rather the inter-temporal choice of consumers.

Mathias Hoffmann (University of Zurich and CESifo): "Small Firms and Domestic Bank Dependence in Europe's Great Recession" (joint with Bent E. Sørensen)

There are two forms of cross-border bank lending integration: direct foreign bank lending to domestic small/medium enterprises (SMEs) and indirect foreign bank lending through domestic bank intermediation. The paper reports evidence that while cross-border bank lending has increased since the introduction of the Euro until the outburst of the financial crisis, SMEs have remained very dependent on direct credit from domestic banks.

This lending structure has two consequences. On the one hand, the heavy dependence of SMEs on domestic bank lending makes them vulnerable to domestic shocks; on the other hand, the higher cross-country banking integration results in an increased exposure of the domestic banking sector

to foreign shocks. During the crisis, these two features acted as amplifiers and transmitters of shocks instead of absorbers.

The analysis presented in the paper is based on a regression method which uses country specific domestic bank dependence to evaluate the degree of risk sharing. The main finding is that risk sharing decreases in SME importance (i.e. the relative share of SMEs in the domestic economy). Interacting the SME importance term with bank cross-border links further reduces risk sharing. Indeed, real banking integration (i.e. lending of a foreign bank to a domestic firm) would be more beneficial than bank-to-bank integration, where domestic banks are exposed to foreign shocks while simultaneously being exposed to domestic shocks.

Discussant: Kari Korhonen (European Stability Mechanism)

The heterogeneity in the economic importance of SMEs across the Euro Area is remarkable. Moreover, SMEs differ significantly with respect to the source of their funds, for example many of them rely on personal loans or community banks which have no international linkages. It would be helpful to clarify how much SMEs in each member state actually rely on bank loans and how the dataset classifies community versus internationally linked banks. Finally, Kari Korhonen argues that some of the recent policy measures towards a capital market union will foster the extension of direct credit of foreign banks to domestic SMEs.

SESSION 3:

BANK FINANCING, SOVEREIGN DEBT, CONTAGION AND RISK SHARING

Gaetano Gaballo (Banque de France): "Bailouts, Moral Hazard, and Banks' Home Bias for Sovereign Debt" (joint with Ariel Zietlin-Jones)

The analysis in this paper begins with the observation of home bias in the government bond holdings of European banks; holdings of domestic government debt exhibited a downward trend between the introduction of the Euro and 2006, which was then reversed during the crisis. Intuitively,

we might have expected greater diversification in bold holdings for risk sharing purposes after the introduction of the single currency. Home bias may also present a concern for policymakers because it reflects financial segmentation amongst Eurozone banking systems and can create the conditions for bank-sovereign feedbacks during periods of financial distress.

Gaetano Gaballo offers a different perspective where home bias in bond holdings arises as an optimal response to commitment problems faced by sovereigns. The basic mechanism is that home bias in bank holdings makes domestic bailout more expensive for the government, because the act of issuing debt to raise funds for a bailout reduces the market value of outstanding debt, worsening the financial position of the banks which hold it. Empirical justification for this mechanism is provided by the case of Ireland, whose banking sector showed much lower levels of home bias in its government bond holdings, and where a bailout of the banking sector was eventually carried out.

The framework for exploring this mechanism is a dynamic moral hazard model as in Holmstrom and Tirole (1998), in which the bank is able to invest capital in government debt and a private project. The bank's creditors are able to secure more effort from the management of the bank using the threat of liquidation of the bank's projects in the case that low returns are realized. However, this threat is only credible if the government does not bail out the bank in order to avoid an inefficient liquidation. The optimal contract avoids bail out in equilibrium by having the bank hold its sovereign's debt, under the assumption that the price of the debt is sufficiently sensitive to the amount of debt issued by the government. The authors also find that equilibrium home bias is decreasing in the initial stock of debt, since with a higher debt stock the repayment probability of the government is lower, which has a negative impact on its bailout capacity.

Discussant: Andreja Lenarcic (European Stability Mechanism)

The authors provide a new explanation for home bias which complements more traditional channels such as fear of the collapse of the Euro and moral suasion of the domestic banking sector by sovereigns. Andreja Lenarcic is interested in the link between this framework and that of Farhi and Tirole (2015), which presents the 'doom loop' in which the government bails out the banking sector, and then requires debt forgiveness by international creditors. She also observes that it could make more sense to consider the role of the debt stock measured as a proportion of output rather than in levels, since this is the type of statistic more commonly employed in judging the financial position of

the government. She suggests that recent moves to avoid bailouts by introducing ‘bail-in’ mechanisms might be used as an identification strategy to try to measure the effects in the paper.

Discussion: In the wider discussion which follows, Juan Rojas from the European Stability Mechanism observes that the Spanish government attempted a bailout of the banking sector, despite facing high levels of home bias. It is also argued that banks were actually eager to be bailed out by sovereigns as an alternative to trying to raise more funds from the market. Gaetano clarifies that *ex post*, after the realization of a bad shock, private creditors would prefer the bailout; the key claim of the paper is that *ex ante* home bias deters bailout and thereby reduces moral hazard problems for creditors of the bank.

Piero Gottardi (European University Institute): “Risk Sharing and Contagion in Networks” (joint with Antonio Cabrales and Fernando Vega-Redondo)

In this paper presented by Piero Gottardi, the authors seek to explore the effectiveness of financial linkages between firms in sharing risk. On the one hand, these linkages enable individual firms to diversify risks related to the performance of projects in which they have invested; however, at the aggregate level, the existence of these links may also create propagation channels for shocks. There might therefore be benefits from limiting linkages between firms when defaults are costly. This is the central trade off which the paper seeks to capture.

The aggregate structure of financial linkages can be described using concepts from network theory. The paper highlights three main dimensions of network structure which can be important determinants of stability: externalization of risk (the strength of linkages to other firms), segmentation (the number of links which firms have) and network density (the relative strength of different links). The formal analysis aims to describe how the links should be organized in order to minimize the expected number of defaults in the system. Each firm has access to an investment opportunity for which the returns are subject to shocks; they also have liabilities with fixed promised returns to creditors. The firm defaults if its net worth becomes negative as a result of a bad realization of the shock to the project return. However, the firms can also create linkages with each other, which grant claims on other firms’ projects.

For the talk, the presentation focuses on symmetric financial structures, where bilateral claims are balanced (i.e. firm i’s claim on firm j’s project is equal to firm j’s claim on firm i’s project). Shocks are

assumed to be sufficiently large to cause autarkic firms to default whenever they arrive. In this environment, the authors are able to relate the optimal network structure to the probability distribution of the shocks. For example, if shocks are Pareto distributed, the optimal network structure has a single component, so that it is possible to reach any firm from any other by travelling along the links in the network; however, the network segmentation is either maximal or minimal depending on whether the distribution has fat or thin tails. In other configurations, it can be optimal to have each firm intensely connected to a few others and weakly connected to the rest.

The paper also shows that there is a tension between efficiency and individual incentives, since the optimal structure cannot be supported as a coalition proof equilibrium, in which no subset of firms can make an improvement by deleting or adding linkages. This reflects the fact that firms do not internalize the effects of their decisions on system stability.

Discussant: Shenxing Zhang (London School of Economics)

In order to make the economic mechanisms at work clear, Shenxing Zhang simplifies the model by looking at an environment with just two firms. In this version, one firm is assumed to have risky assets, while the other does not, and the planner is faced with the question of whether it is optimal to allocate some of the risk from the risky to the safe firm. Here, there is still a trade-off between contagion (higher aggregate default risk) and risk sharing. In this simplified problem, risk sharing is still not desirable if the distribution of shocks is thick tailed, in the sense that it has a concave density function. The inefficiency of unilateral choices is also very clear here – the safe agent does not have any incentive to share risk with the risky agent. The inefficiency resulting from the lack of individual incentives to share risk creates a role for policy coordination.

Discussion: In further questions on the paper, Roel Beetsma asks whether any of the results would change if the shocks faced by different firms were asymmetric. Another comment also suggests one of the policy implications of the paper might be that insurance of systemic risk in the banking system should take place by having the non-bank sector hold the equity of the banking sector. Piero Gottardi responds by arguing that asymmetry could be incorporated in the model by having firms of different sizes, but this was an avenue which the authors had not explored. He also clarifies that the paper is silent on the role of capital in ensuring the stability of the system, but that the model would need to include some cost of capital in order to analyze this problem.

Martin Hillebrand (European Stability Mechanism) "European Government Bond Dynamics and Stability Policies: Taming Contagion Risks" (joint with Thomas Ott, Martin Schuele and Peter Schwendner)

This paper aims to quantify certain aspects of the European Financial Stability Fund's (EFSF) involvement in European bond markets. This is achieved by examining the behavior of ten year bond yields for twelve issuers, including the EFSF. The authors use the time series of bond yields to estimate the pairwise correlations of bond yields between issuers. These correlations are then used to construct an influence network based on *partial* correlation coefficients, which strip away spurious co-movement in yields driven by confounding factors. The authors also attempt to tackle high frequency noise in the influence measures using a bootstrap filter, which estimates the volatility of the correlation influence, and retains links in the network for which the associated point estimate is at least three bootstrapped standard deviations away from zero.

The resulting influence network, illustrated using correlation heat maps, shows how the correlations between the bond yields of Eurozone issuers weakened and in some cases became negative after 2009 as the debt crisis began to take hold. Blocks emerge along the lines of the core-periphery split which is commonly invoked in discussions of Eurozone fiscal discipline. In a case study, the authors are also able to follow the effects of various stages of the negotiations of the third Greek bailout programme. Periods of greater uncertainty in the negotiations, such as Tsipras' confirmation of Syriza's election promises, were characterized by higher prevalence of negative correlations in the influence network, where the yields of periphery country bonds were decoupled from those of the core. In a final exercise, it is shown that the periods where negative correlations were observed could be exploited to construct portfolios of Euro Area bonds with lower volatility. Overall, the results suggest that the yields of the EFSF's bond issues are more closely connected to those of the core economies, indicating that investors have confidence in its solvency.

Discussant: Roel Beetsma (University of Amsterdam)

The paper is interesting because the technique of constructing influence networks is relatively new. However, the focus of the paper is not clear since it seems to address several related but separate issues such as contagion risk, the role of the EFSF and portfolio choice. He also finds that the results are quite descriptive, and that it would be useful to try to explore some of the economic mechanisms which could be driving the correlations between bond yields. The authors could say more

about the extent to which the guarantee structure of the EFSF is driving the connection between EFSF bond yields and those of core economies.

Discussion: Giancarlo Corsetti from Cambridge University challenges the claim made during the presentation that the approach of the paper is theory free, arguing that the use of correlations to capture the dependencies between country bond yields is quite restrictive. He points out work is being done to develop more appropriate measures for the literature on contagion. Further comments highlight the importance of providing the comparison between the EFSF and ESM, which is not feasible with the data available for this paper; since the ESM is not directly guaranteed by governments it would be interesting to see whether the guarantees play an important role in the market treatment of the bond issues. Christopher Towe from the International Monetary Fund also suggests that the separation between core and periphery bond yields may have partly reflected divestments of periphery government debt by banks in the core countries.

PANEL 1:

RISK-SHARING WITHOUT RISK-SHARING INSTITUTIONS

Chair: Ramon Marimon (European University Institute)

Panelists: Angana Banerji (International Monetary Fund), Giancarlo Corsetti (Cambridge University), Thomas Cooley (New York University)

Angana Banerji (International Monetary Fund) opens this panel by arguing that the EU needs stronger powers and better governance to achieve effective risk sharing. One of the reasons that gaps have arisen between member states in terms of economic performance is that necessary structural reforms have not been completed. Weak incentives to complete these reforms are being exacerbated by the complexity of the EU's governance system, which also introduces opportunities for political discretion. She also observes that the EU does not have the power to legislate in many of the areas in which reforms are needed. In the absence of adequate powers to execute these reforms,

risk sharing cannot be economically or politically feasible and will just reinforce moral hazard problems.

Giancarlo Corsetti (Cambridge University) follows these comments by posing two questions: is a monetary union viable with regimes of diverging country risk and, knowing what we now know, what would we have done differently in designing the EMU? He observes that the Euro Area and the USA had similar debt levels, but while we saw economic divergence in Europe, this did not occur in the USA. Comparing the trajectories of these two economic unions over the crisis, he proposes that feedback loops between sovereigns, banks and non-financial firms were responsible for the divergence of economic performance in Europe. One important change which could improve the performance of the EMU would be to find a way to manage sovereign default in the Euro Area along the same lines as for individual states in the USA.

Thomas Cooley (New York University) asks whether the completion of the banking union will provide the desired degree of risk sharing. An objective of the EMU was to have the Euro's value be uniform across the banking system in the Euro Area, much like the value of a dollar is in the American banking system. Completing the banking union is therefore an important goal, but there seems to be no agreement about what completion requires and how it will happen. This is especially important for the EMU as banks provide much more credit to the private sector in Europe than they do in the USA. Thomas Cooley then outlines some of the essential features of the banking union, remarking in particular that the single resolution mechanism is untested and is too reliant on the use of contingent convertible bonds. It will also be important to break the link between banks and sovereigns, for which a crucial initiative is deposit insurance at the European level, otherwise guarantees of deposits will always be dependent on national fiscal policies.

Ramon Marimon (European University Institute) begins the discussion which follows by asking whether it is enough to have well-functioning financial markets to achieve risk sharing in the Euro Zone. In response to this, a recurring theme amongst the participants is that these markets cannot emerge by themselves; the EMU was founded on the pillars of price stability, no bailout and the Growth and Stability Pact, with the implicit assumption that the single market would develop organically, an assumption which has proven to be incorrect. Moreover, capital market harmonization is currently in the hands of national governments, due to the limitations on the power of the EU, which may not be sustainable. With this in mind, the discussants identify as a major obstacle the fact that anti-EU elements may ultimately need to be persuaded to give up more powers to the union to support more effective risk sharing mechanisms.

OPEN ISSUES AND FURTHER QUESTIONS FROM THE ADEMU WORKING GROUP

Anna Rogantini Picco (European University Institute) begins the presentation of research ideas and questions by giving a brief overview on the history and purpose of the ADEMU working group at the European University Institute. She describes the research interests of the working group members as well the aim and structure of its meetings. Regarding current policy debates, she questions whether the distinction between private and public risk sharing can be drawn as clearly as is usually assumed. The empirical estimates of private and public risk sharing channels differ substantially in the literature and economic theory does not provide a clear answer to whether the two are independent from each other or not. With reference to the banking union, her question challenges the view that this union alone, i.e. without a simultaneous creation of public risk sharing institutions, can actually increase private risk sharing among EMU members. Another current policy issue she mentions is the effect of a lack of risk sharing institutions on the ECB. In particular, Anna Rogantini Picco points out the current institutional setting in the EMU might reduce the effectiveness of monetary policy transmission.

Johannes Fleck (European University Institute) continues the presentation by relating the theory of risk sharing to the specific context of the EMU. Quoting the Five Presidents' Report, he cites the common view that a more convergent union is a prerequisite for the establishment of risk sharing institutions. He makes clear that this notion is not supported by scientific theory. Hence, it is questionable if the focus on convergence is a desirable blueprint for the way towards more risk sharing. Regarding the institutional design of risk sharing institutions, he points out that a key element of insurance theory - adverse selection - is missing from the debates in the policy and academic communities. This is a serious shortcoming as some EMU member states are unable to collect resources from their own citizens due to a lack of administrative capacity. Accordingly, they cannot make credible unconditional promises to non-citizen - which a joint risk insurance scheme requires. Research needs to focus on overcoming this constraint. Finally, Johannes Fleck concludes by emphasizing that the current EMU setting is based on a misconception regarding risk sharing. Running deficits at the national level reflects sharing risks inter-temporally while intra-temporal sharing of risks can only be achieved by cross-country insurance schemes. Given the political resistance to a joint fiscal capacity, it is necessary to consider other forms of cross-country risk sharing. One avenue could be to exploit the heterogeneous demographics of EMU member states to share risks arising from pension and health care liabilities.

SESSION 4:

AN UNEMPLOYMENT INSURANCE FOR THE EU (& EA)

Mathias Dolls (Zentrum für Europäische Wirtschaftsforschung): "An Unemployment Insurance Scheme for the Euro Area? A Comparison of Different Alternatives Using Micro Data" (joint with Clemens Fuest, Dirk Neumann and Andreas Peichl)

The paper studies the benefits and characteristics of a possible scheme for a joint European Unemployment Insurance (EUI). It presents a counterfactual simulation which answers the question how unemployment would have evolved during the recent crisis had the scheme proposed in the paper already been in place. Both the empirical analysis and the simulation of the proposal are based on a partial equilibrium environment. This means that the paper does not consider general equilibrium effects such as behavioral responses to the introduction of the EUI scheme (for example, financial flows at the household level). Instead, it focuses on first round effects.

In the simulation part, the study displays the national EUI coverage rates for the partaking countries over time and the effect of the insurance as measured by a stabilization coefficient. Unlike other measures, this coefficient can be broken down into the different benefits of a joint insurance system (the effects on government budgets and household incomes) as well as its redistributive consequences.

An important distinction of different EUI proposal pertains to whether the scheme can use debt for inter-temporal smoothing. If it cannot, only inter-regional i.e. intra-temporal, smoothing of shocks can be achieved. Interestingly, in the proposed scheme, even low-unemployment countries such as Germany would have benefited from intra-regional smoothing alone. In fact, all EMU countries except Malta would have been better off by participating in the scheme. Possible extensions to the proposed scheme are i) experience rating - which makes payments adjustable so that each country can balance its contributions and receipts ii) contingent benefits - in which case the scheme only pays if national unemployment meets a triggering criterion such as an abrupt increase relative to earlier years.

João Brogueira de Sousa (European University Institute): "On the Design of a European Unemployment Insurance Mechanism" (joint with Árpád Ábrahám, Ramon Marimon and Lukas Mayr)

Unemployment figures (magnitude, duration, etc.), labor market institutions and national unemployment insurance systems differ substantially across EMU economies. The same applies to business cycles (phase, amplitude, etc.). The idea of this paper is to exploit EMU heterogeneity to realize gains from having common unemployment insurance. To do so, the authors develop a structural partial equilibrium model in which agents can either be employed, unemployed or inactive.

As João Brogueira de Sousa emphasizes, the model allows capturing the effects of a joint unemployment insurance system on the participating countries. It does so by employing a multi country environment of interconnected labor markets which host a continuum of infinitely lived agents exposed to idiosyncratic labor productivity shocks over time. The rate of job separation and the rate of job arrival are exogenously given and agents can insure against income fluctuations by saving through a risk free bond. The model calibration targets transition probabilities between unemployment, employment and inactivity in two EU countries (Austria and Slovakia). In detail, João Brogueira de Sousa presents the choices an agent faces in the model economy, the aggregation of the different model blocks and the definition of equilibrium in this framework. He then describes the policy experiments the paper performs. The first experiment designs national unemployment insurance systems financed by a joint EU budget. The model predicts that the flow between unemployment and employment is much higher in the country with higher unemployment because the insurance system targets short term contracts. The second experiment introduces a common benefit system on top of the common financing. The model shows a resulting marked decrease in the transition from unemployment to employment. The reason is that unemployment benefits are more attractive now so agents do not accept job offers as frequently as before. The third experiment extends the average duration of unemployment benefits to two years. The model implies that Austria would receive net transfers in this scenario because its unemployment would double while the Slovakian one would remain unchanged.

To allow for country-specific differences in productivity, the authors enrich the environment by total factor productivity (TFP) shocks at the country level and they compute the evolution of shares of employed, unemployed and inactive agents following a shock. As pointed out by João Brogueira de Sousa, adding this component to the model also requires accounting for participation constraints of the two countries to avoid permanent transfers. In this extended framework, the authors perform some experiments analogous to the ones described above. Perhaps surprisingly, they find that

it is actually Slovakia that would not want to participate in a common unemployment insurance system because its net-payments are large.

Discussant: Juan F. Jimeno (Banco de España)

The current situation of EMU labor markets is characterized by a substantial dispersion of unemployment rates. EMU governance did little to help, perhaps it made things even worse. Hence, a common EUI has several additional benefits, beyond more risk sharing. In general, one can have two views on unemployment insurance: i) it solves inefficiencies by insuring risks which are uninsurable by capital markets ii) it sustains excessive unemployment. Both papers attempt to address this trade-off.

Juan F. Jimeno responds to the papers by raising the following three issues: First, there is a large literature on optimal unemployment insurance. Many aspects of this rich literature are related to the proposed scheme and should be considered and discussed. Second, the two models differ in their approach (macro versus micro). Both have their advantages and shortcomings. From the macro perspective, a question about the second paper is which part of the results (change in unemployment and welfare) is driven by the model and which by the interventions. Since the focus of the paper is on short-term, not structural unemployment, this is a critical element. From the micro perspective, the heterogeneity of unemployed workers is an important issue. However, the first paper misses out on behavioral responses and the effects of ad hoc changes in unemployment schemes. Third, it is also clear, however, that none of the papers make proposals for implementing optimal unemployment insurance schemes in a way that helps people directly. This is not a desirable feature because unemployment insurance should aim to benefit households, not governments.

Discussant: Rody Manuelli (Washington University in St. Louis and Federal Reserve Bank of St. Louis)

While being quite different in their approaches, both papers can be compared along four dimensions: The data they are based on or target, the degree of household heterogeneity, the endogenous decision rules and the equilibrium response to proposed unemployment schemes. Regarding the first paper, Rody Manuelli raises several questions regarding the motivation for the stabilization measure. For example, he asks why the authors do not use a measure based on the variance of an

unemployment related outcome variable and why stabilization is targeting government budgets instead of household relevant variables (such as consumption fluctuations). Moreover, he emphasizes that the lack of a behavioral response is a severe limit to study the effects of policy interventions and recommends making this point clearer in the presentation of the results. Regarding the policy experiments, he points out that the results of the experience rating based scheme are very close to self-financing of unemployment benefits at national level and wonders what the reason for this outcome is.

On the second paper, Rody Manuelli points out that the choices, i.e. transitions between employment, unemployment and inactivity, are almost completely summarized by individual shocks (labor productivity) and current assets holdings. As a result, these choices are basically invariant to policy interventions and so the presented policy experiments are not very insightful. Accordingly, an important addition to the paper would be to show the asset distribution implied by the model. Another very important limitation of the paper is that it assumes the behavioral response to different interventions is small or even zero. However, the literature finds the job search elasticity with respect to unemployment benefits, for example to be positive. A more careful look at the distribution of households in the data could therefore be informative about the actual behavioral response. As a final comment, he calls into question the predictive power of the model experiments because, while being very explicit about the supply side of the labor market, the model is silent about the demand side. On a closing remark, he encouraged the authors to use the model as a basis to answer more policy questions. For example, they could explore the empirical fact that in the US, labor markets share very little risk and are largely based on transfers within states.

Finally, he points out that the two papers could benefit substantially from incorporating each other's elements and findings. For instance, the macro paper could use the micro results presented in the first paper to enrich the heterogeneity space of households.

PANEL 2:

RISK-SHARING WITHIN THE EMU: THE ESM EXPERIENCE

Chair: Giorgia Giovannetti (University of Florence and European University Institute)

Panelists: Aitor Erce (European Stability Mechanism), Päivi Leino-Sandberg (University of Helsinki), Juan Rojas (European Stability Mechanism)

Juan Rojas (European Stability Mechanism) begins the statements of the panelists by giving a short review on the history, purpose and structure of the EFSF and ESM. He explains that the financial assistance program to Greece required a dedicated lending facility which was the purpose of the EFSF. The Ireland and Portugal programs then required an increase in the scope of the existing facility which resulted into the transformation of the EFSF into the ESM. Accordingly, the EFSF is a temporary institution which is in the process of being phased out. While it is set up as a private institution, it is backed by financial guarantees of EMU governments. The ESM, on the other hand, is an institution governed by international law, designed to be a permanent facility and backed by paid-in-capital as well as committed callable capital. Its maximum lending capacity at the moment is 500bn EUR. Both the EFSF and the ESM enjoy high credit ratings and have five instruments at their disposal: loans, primary and secondary market purchases, pre-emptive lending and direct bank recapitalization. Juan Rojas gives a detailed description of each of these and focuses on their aims and requirements in particular. He emphasizes that all of them have some conditionality while the specific terms differ according to the sector which receives financial support (governments or banks).

Finally, he also shows a breakdown of all of the ESM's current and past lending operations and gives details on their volumes and maturities. Juan Rojas concludes his remarks by giving a brief comparison of the ESM and the IMF. He points out the ESM charges much lower interest rates and offers longer maturities in its support programs. Moreover, he explains the ESM is focusing more on short term imbalances, typically has a better knowledge of regional economies and uses more tailored instruments to support adjustment programs. In comparison, the IMF focuses more on long-term, structural problems as well as systemic crises, and has a more comprehensive surveillance capacity.

Päivi Leino-Sandberg (University of Helsinki) focuses on the legal aspects of the ESM. In particular, she discusses three elements. First, is the ESM compatible with EU law? The answer to that question is not obvious given the No-Bailout Clause in the EU Treaty (Article 125) and the overlap of the ESM with economic governance which remains at national discretion. Yet, the European Court of Justice has ruled it is compatible with EU Law and, in doing so, set a clear standard. However, because of the conditionality of its assistance programs, the ESM is not about risk sharing from a legal point of view, i.e. it does not qualify as a per se risk sharing institution. Second, while the fact that the ESM is outside of the EU Treaty is not a severe problem as such, it does raise questions about its legal identity and accountability. It is de facto run by the Euro Group and cannot take its own decisions. This setup also introduces accountability problems. Put differently, who is responsible for the effects of the decisions taken by the ESM? For the same reason, the ESM evades scrutiny regarding its actions. A more fundamental question in this regard is whether the ESM can be effective without a stronger basis for its legitimacy. Finally, regarding the future of the ESM, the natural question is whether it should be brought into the legal framework of the EU Treaties.

Päivi Leino-Sandberg discusses some of the pros and cons associated with such a step, in particular regarding the identity and accountability of the ESM. As she points out, the European Investment Bank (EIB) is actually similar to the ESM as it also has no legal relationship to legitimacy enhancing institutions. However, without a federal structure of EMU, there are few options to address the legitimacy shortcoming of the ESM.

Aitor Erce (European Stability Mechanism) notes that a fundamental question regarding the ESM is how it interacts with insurance or redistribution motives. Generally, regional financial agreements (RFA) do not permanently redistribute but provide transfers via reductions of the net present value of the outstanding commitments of sovereign borrowers. In this sense, they redistribute existing and new credit risk and involve some risk sharing between private creditors and RFA members. The problems associated with this relationship, for example the flight of private capital, are well documented: We see that private capital usually still leaves the economy which receives assistance which points to the fact that private risk sharing may be crowded out by public risk sharing. In the cases when the ESM became active, it is found that private capital flight actually

increased as the ESM stepped in.

Discussion with the audience:

Christopher Towe (International Monetary Fund) responds to some comments made by the panelists to clarify the role of the IMF in risk sharing. IMF resources are not meant to share risks but to assist in emerging economies or to prevent crises and the lesson from assistance programmes is not that IMF support generally causes capital flight. However, the key issue is a thorough debt sustainability analysis which must be carried out ex-ante.

Árpád Ábrahám (European University Institute) poses several questions to the ESM panelists: Why does the ESM think that the actual credit risk of a sovereign borrower is lower than market interest rate? What is going to happen when countries cannot pay even 30 years down the road (when loans mature)? What is the meaning of conditionality in this context (reforms or state contingencies such as GDP levels)?

Klaus Masuch (European Central Bank) emphasizes that changing net present values of public debt does imply losses for shareholders of the ESM, i.e. European tax payers, in expectation. He asks why there is no clear and open debate about this.

Ramon Marimon (European University Institute) points out that, given the demographic trends in Europe, it might not be a good idea to extend loans with long maturities. How can they be paid in the future? Moreover, he notes that the ESM has actually expanded its mandate since its inception. He recalls that it was meant to safeguard the financial stability of Europe as a whole. How does this mandate justify extending financial assistance to Cyprus? This seems to reflect a legal tension in the ESM mandate. Given this tension, how sustainable is the ESM in its current form and structure?

Giancarlo Corsetti (University of Cambridge) responds to some questions raised earlier by mentioning that maturity extension per se is not for free. But it avoids the cost of default by constructing loans to governments in an appropriate way. The theoretical underpinning is to perform an operation to achieve an outcome which the market cannot. As is well known, a lender of last resort can improve welfare outcomes relative to market solutions.

Juan Rojas (European Stability Mechanism) emphasizes that the reason for the creation of the ESM was that countries had lost market access. There was no other way to obtain finance for them. Of course, ex-ante, good policies are the better option than offering financial assistance. This is why

conditionality of loans is important. However, so far, the ESM came in as an ex-post instrument, i.e. to impose ex-post conditionality. The long-term aim is to move to an ex-ante focus in which crises can be avoided by encouraging sound fiscal policies at the national level. Regarding maturity extension, he points out that the objective is to reduce financing needs in the years during and following a structural adjustment program. Finally, he states that in his view, there is no risk to tax payer money arising from the ESM other than the paid-in and callable capital.

Aitor Erce (European Stability Mechanism) recalls that Greece almost defaulted on IMF lending so credit risk is always present while no immediate risk for the taxpayers arose even in this situation. Moreover, he clarifies that the observation that the IMF may bail out private creditors comes from the IMF itself. Lastly, he reminds the audience that structural reforms take a long time to show effects and to deliver benefits. Hence, one has to allow for longer repay horizons.

PANEL 3:

NEW RISK-SHARING MECHANISMS FOR THE EMU

Chair: Christopher Towe (International Monetary Fund)

Panelists: Klaus Masuch (European Central Bank), Paolo Pasimeni (European Commission), Tuomas Saarenheimo (Finnish Ministry of Finance), Rolf Strauch (European Stability Mechanism)

Klaus Masuch (European Central Bank) opens the statements of the panelists by pointing out the two main challenges are to increase performance of politicians regarding domestic economic governance and to regain public support for the way forward in the EMU. A critical condition for the public to respond positively to more risk sharing in the EMU is to increase the quality of domestic institutions by implementing fundamental structural reforms. They reduce the overall risk that needs to be shared so the cost of sharing and the financial implications associated with it are lower. On a related note, he says that it cannot be emphasized too often that the quality of institutions is critical. Empirical research shows that good institutions deliver higher long term growth outcomes.

Moreover, they explain a lot of the variation among EMU countries in soft indicators such as well-being. In particular, high quality of services delivered by the public sector makes a real difference to the life of Europeans. This insight was lost in the crisis. Recent studies have also made the case that reforms would help to address the growing divergence in Europe.

According to Klaus Masuch, the short-term prospects for more public risk sharing are modest but the private risk sharing channel can be strengthened substantially. Hence, the key question is how to improve the conditions that restrict it so far. Here, the Banking Union (BU) and the Capital Markets Union (CMU) are critical. Regarding the BU, he states that common European deposit insurance should be financed by risk based contributions from the banking sector, instead of flat fees. This way of financing it would reduce the exacerbation of leverage due to implicit deposit insurance. Hence, private risk sharing would increase and make it more attractive for banks to issue further equity. On the relationship of fiscal policy and risk sharing, Klaus Masuch expresses the view that the essential point is to make the public response more predictable for the private sector. In this context, he also points out that it is critical to make sure the ECB can focus on inflation. A clear commitment to this objective allows separating inflation from credit risk which fosters diversification across Euro denominated assets.

Paolo Pasimeni (European Commission) starts his contributions by posing the question why risk sharing is a particular concern for the EMU. In his view, the main reason is that the generation of shocks is endogenous to the current governance structure. He states that, in addition to a tendency to generate shocks, there is a deflationary bias in the EMU because of the single monetary policy rate. Paolo Pasimeni then proceeds to answer the questions of which steps are necessary and what policy makers can do to solve these problems. He expresses the opinion that risk sharing, having an inter-temporal and inter-regional stabilization effect could tackle the problems just described. For inter-temporal stabilization, monetary policy should be sufficient but inter-regional stabilization cannot be achieved by it. Inter-regional stabilization needs to be tackled by improving the capacity of countries to adjust structural differences. Fiscal risk sharing should be considered only if this approach turns out to be insufficient. This is because extending the current EMU governance structure to also focus on risk sharing would create additional deflationary pressures which, consequently, would force monetary policy more and more to its limits.

Tuomas Saarenheimo (Finnish Ministry of Finance) relates his comments to his experience in policy making to provide guidance on the question what kind of policy reforms will work in real life. On automaticity, he points out that eliminating political decisions from common EMU procedures kills their democratic foundation. On a similar note, he makes clear the EU always renegotiates and so there is no chance it can make time consistent choices. Therefore, putting conditionality on loans does not make sense as it will always be questioned ex-post. For that reason, the IMF has punitive interest rates on its assistance loans. Any policy proposal should take into account the best the EU can do is to be close to a discretionary optimum. Along the same thought, he encourages the present researchers to worry less about political feasibility but about political sustainability and to keep a balance between the two. Moreover, policy proposals for further EU integration should aim to produce benefit for citizens, not governments of member states. Hence, risk sharing should target citizens and companies, not governments. This might also have benefits regarding implementability: The experience of the EMU demonstrates that it is possible to create rules for companies and citizens via governments. But creating rules for governments is difficult. Regarding the move of EU governance from punitive to rewarding actions, i.e. going from sticks to carrots, he mentions that withholding the carrot can easily make it a stick. Finally, he closes his remarks by saying that making a great leap forward to buy public support for the EMU is not going to deliver the desired outcomes in the current political and social climate.

Rolf Strauch (European Stability Mechanism) starts his remarks by mentioning to the audience that all proposals for more risk sharing via the ESM made so far have turned out to be very controversial among the EMU member states. He lays out some policy options for a potential role of the ESM in moving towards a framework which allows for more risk sharing and gives his view on what policy makers need to work towards in order to achieve it: implement strict fiscal rules, improve private risk sharing, de-risk states and resolve the sovereign-bank nexus and re-think the concept of a joint fiscal capacity. He clarifies that binding fiscal rules should focus on short-term flexibility and work as an anchor for long-term policies. Enforcing private sector risk sharing requires moving from the paradigm of bail-out to a regime which is predominantly based on the principle of bail-in. One of the issues to consider in this context is the question whether the EMU would be better off with non-zero risk weights for sovereign debt on bank balance sheets. He conjectures that a substantial problem is posed by the risks associated with a forced deleveraging in the financial markets. Some of its consequences might in fact require a public backstop.

On the issue of creating a central fiscal capacity, Rolf Strauch points out that both the ESM and the ECB can be considered to already carry out some of its tasks. For example, the ECB's Target2 system and its bond purchasing program clearly affect the risk profile of countries which is what a fiscal capacity would do. To achieve a higher degree of risk sharing in the EMU, he states that two promising options are the establishment of a joint rainy day fund and to push for a framework of stronger governance. Regarding the latter, he noted that according to empirical studies, countries enjoying stronger cross-regional risk sharing have stronger governance structures. As a result, the question is not whether the EMU can decide between moving towards more risk sharing or towards better governance but the question is how to get to the latter. He concludes his remarks by stating the key challenge is to understand that going for more risk sharing might require to first push for stronger governance. A direct push for more risk sharing will not deliver the desired results.

Discussion with the audience:

Thomas Cooley (New York University) states that the US experience clearly shows that common deposit insurance is no panacea. While deposit insurance in the US is organized at the federal level, i.e. includes all states, banks have become larger and larger and gained more lobbying and political power. At the same time, the deposit fund is not always adequate: It was too big in the 1990s (and was reduced in size at the time) but was too small at the onset of the financial crises (when it should have been larger). Moreover, many banks have been and are still moving some of their activities towards the shadow banking sector which blurs the distinction between insured and uninsured institutions.

Thomas Cooley emphasizes equity is the optimal shock absorber but political constraints seem to make it impossible to mandate banks to change the structure of their liabilities. As a result, the "too big to fail" problem is still present. Against this backdrop, he adds the question EMU policy makers should ask themselves is what kind of equity requirements they want. The increased stability associated with higher capital requirements addresses the issue of sharing risks at the public level and will also support market based risk sharing.

Gilles Mourre (European Commission, DG ECFIN) revisits the issues of political feasibility and sustainability. He emphasizes that in a political environment in which even ex-post transfers resulting from a fair insurance scheme are considered problematic, the actual design and desirability of

any risk sharing instrument cannot be discussed. Hence, moving towards more risk sharing might require rethinking the fundamentals on which the EU is constructed at present.

Paolo Pasimeni (European Commission) adds to the discussion on deposit insurance that, given the current legal EU framework, it is more feasible to focus on a system of reinsurance for the national deposit insurance schemes instead of pushing for a common insurance. Regarding the relationship of the ECB to risk sharing, he states that in his opinion, the Target2 procedure indeed is a way in which risks are already being shared. However, Quantitative Easing (QE) does not qualify as such because of the strict requirements regarding asset purchases specified in the public sector purchase program.

Johannes Fleck (European University Institute) follows up on two comments made by the panelists. First, he asks to clarify the judgment on the abilities of individual countries versus the EU as a group of countries to commit to time consistent policies. He points out that some EMU members successfully committed to independent monetary policy institutions while others could not. At the same time, no single EMU member was ever able to commit to a rainy day fund as proposed by the panelists. Hence, how realistic is this proposal at EMU level? Second, he asks to spell out the consequences of moving towards a stronger EMU governance framework for the participation of EMU citizens in the political process of the union. In particular, he points out that more central governance means less political involvement of national political bodies.

CONCLUDING REMARKS

Christopher Towe (International Monetary Fund) expresses his gratitude to be part of the event and his appreciation of the academic and policy oriented debates. He makes clear that in his view, there is still a lot of work which needs to be done. However, a lot has happened in a rather short time in the past, i.e. when the urgency of the situation required it. In some sense, it might still be too early to judge some of the steps taken because their effects will take a long time to materialize.

Luis Rojas (European Stability Mechanism) states he considers the workshop a very good mix of research, policy and discussions. He says he is looking forward to keeping the debate and exchange ongoing and concludes by saying he believes this could be the beginning of a wonderful friendship.

Giancarlo Corsetti (University of Cambridge) emphasizes the importance of keeping up the momentum. He lists some of the events related to the ADEMU project already scheduled for the future and invites all participants to stay in touch.

Ramon Marimon (European University Institute) closes the workshop by expressing his satisfaction with the presentations and the high level of the discussions. He agrees with previous speakers that a lot more still needs to be done for a sustainable and competitive EMU. He finishes his statement by saying this is exactly what the ADEMU project is about and he is looking forward to the ongoing process of thinking and discussions.