



**European Commission**

Research Executive Agency (REA)

Inclusive, Innovative and Reflective Societies



**ANNEX 1 (part A)**

**Research and Innovation action**

**NUMBER — 649396 — ADEMU**

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## 1.1. The project summary

Project Number <sup>1</sup>	649396	Project Acronym <sup>2</sup>	ADEMU
One form per project			
General information			
Project title <sup>3</sup>	A Dynamic Economic and Monetary Union		
Starting date <sup>4</sup>	01/06/2015		
Duration in months <sup>5</sup>	36		
Call (part) identifier <sup>6</sup>	H2020-EURO-SOCIETY-2014		
Topic	EURO-1-2014 Resilient and sustainable economic and monetary union in Europe		
Fixed EC Keywords	Macroeconomics		
Free keywords	Economic and monetary union, Risk assessment, Credible policies, Risk sharing, Fiscal imbalances, Macroeconomic policy coordination		
Abstract <sup>7</sup>			
<p>In response to the European debt crisis and associated deep recession, a number of important steps have recently been taken towards redesigning the institutional architecture of EMU, based on the roadmap outlined in the Van Rompuy Report (2012). But these institutional innovations – in particular the ‘fiscal compact’, the ESM, the SSM and the SRM – retain relatively weak theoretical foundations. In particular, there is a noticeable gap between policy-oriented analyses of the precise EU challenges, and the major developments in dynamic macroeconomic theory of the past three decades.</p> <p>ADEMU brings together eight research groups from leading European institutions with the aim of closing this gap. It studies the overall monetary and fiscal structure of the EU and the euro area, and the mechanisms of fiscal policy coordination among member states, with specific focus on: i) ensuring the long-term sustainability of EMU, addressing issues such as debt overhang, fiscal consolidation, public debt management, risk-sharing within the union, and crisis management mechanisms; ii) building resilience to economic shocks, with special emphasis on the coordination of fiscal policies, fiscal multipliers and labor market risks; and iii) managing interdependence in the euro area, analyzing both fiscal and financial spillovers and the effects of macroeconomic imbalances on financial and money markets, and, to confront these issues, new forms of banking regulation and monetary policy.</p> <p>ADEMU is at the frontier of dynamic macroeconomic research, and the project will generate new knowledge that will be used to provide a rigorous assessment of the current institutional framework, and detailed proposals for improving it. It will also be a focal point in debates among academics, policymakers and other stakeholders regarding the implementation of new policies. The scope of the project will include a full consideration of political economy and legal dimensions to alternative institutional reforms</p>			

## 1.2. List of Beneficiaries

Project Number <sup>1</sup>	649396	Project Acronym <sup>2</sup>	ADEMU
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### List of Beneficiaries

No	Name	Short name	Country	Project entry month <sup>8</sup>	Project exit month
1	EUROPEAN UNIVERSITY INSTITUTE	EUI	Italy	1	36
2	THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	UCAM	United Kingdom	1	36
3	RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	Germany	1	36
4	FONDATION JEAN-JACQUES LAFFONT, TOULOUSE SCIENCES ECONOMIQUES	TSE	France	1	36
5	UNIVERSITY COLLEGE LONDON	UCL	United Kingdom	1	36
6	UNIVERSIDADE CATOLICA PORTUGUESA	UNIVERSIDADE CATOLICA PORTUGUESA	Portugal	1	36
7	FUNDACIO PRIVADA BARCELONA GRADUATE SCHOOL OF ECONOMICS	BARCELONA GSE	Spain	1	36
8	UNIVERZITA KARLOVA V PRAZE	Univerzita Karlova v Praze	Czech Republic	1	36

## 1.3. Workplan Tables - Detailed implementation

### 1.3.1. WT1 List of work packages

WP Number <sup>9</sup>	WP Title	Lead beneficiary <sup>10</sup>	Person-months <sup>11</sup>	Start month <sup>12</sup>	End month <sup>13</sup>
WP1	Long-term sustainability of a monetary and fiscal union	2 - UCAM	91.00	1	36
WP2	Stabilisation policy in currency unions	6 - UNIVERSIDADE CATOLICA PORTUGUESA	61.00	1	36
WP3	Macroeconomic and financial imbalances and spillovers	8 - Univerzita Karlova v Praze	65.00	1	36
WP4	Policy Implementation	1 - EUI	44.00	1	36
WP5	Dissemination	7 - BARCELONA GSE	44.00	1	36
WP6	Management	1 - EUI	33.00	1	36
<b>Total</b>			<b>338.00</b>		

### 1.3.2. WT2 list of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	WP number <sup>9</sup>	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D1.1	Working papers first draft WP1	WP1	2 - UCAM	Report	Public	12
D1.2	Working papers WP1	WP1	2 - UCAM	Report	Public	34
D1.3	Workshop 1.1	WP1	5 - UCL	Demonstration	Public	12
D1.4	Workshop 1.2	WP1	2 - UCAM	Demonstration	Public	24
D1.5	Workshop 1.3	WP1	3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	Demonstration	Public	36
D1.6	Policy Briefs WP1	WP1	2 - UCAM	Report	Public	34
D1.7	Risk assesment report	WP1	2 - UCAM	Report	Public	34
D2.1	Working papers first draft WP2	WP2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Report	Public	12
D2.2	Working papers WP2	WP2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Report	Public	34
D2.3	Workshop 2.1	WP2	4 - TSE	Demonstration	Public	24
D2.4	Workshop 2.2	WP2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Demonstration	Public	36
D2.5	Policy briefs WP2	WP2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Report	Public	34
D3.1	Working papers first draft WP3	WP3	8 - Univerzita Karlova v Praze	Report	Public	12
D3.2	Working papers WP3	WP3	8 - Univerzita Karlova v Praze	Report	Public	34
D3.3	Workshop 3.1	WP3	8 - Univerzita Karlova v Praze	Demonstration	Public	24
D3.4	Workshop 3.2	WP3	7 - BARCELONA GSE	Demonstration	Public	36
D3.5	Policy Briefs WP3	WP3	8 - Univerzita Karlova v Praze	Report	Public	34
D3.6	Indicators	WP3	8 - Univerzita Karlova v Praze	Report	Public	34

<b>Deliverable Number <sup>14</sup></b>	<b>Deliverable Title</b>	<b>WP number <sup>9</sup></b>	<b>Lead beneficiary</b>	<b>Type <sup>15</sup></b>	<b>Dissemination level <sup>16</sup></b>	<b>Due Date (in months) <sup>17</sup></b>
D4.1	Working papers first draft WP4	WP4	1 - EUI	Report	Public	12
D4.2	Working papers 4	WP4	1 - EUI	Report	Public	34
D4.3	Workshop 4.1	WP4	1 - EUI	Demonstration	Public	24
D4.4	Workshop 4.2	WP4	1 - EUI	Demonstration	Public	36
D4.5	Policy briefs WP4	WP4	1 - EUI	Report	Public	34
D4.6	Experimental software	WP4	1 - EUI	Report	Public	34
D4.7	Preparation for experiments	WP4	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D4.8	Report on The State of the Van Rompuy Roadmap in 2018	WP4	1 - EUI	Report	Public	36
D5.1	Initial Dissemination plan and Website	WP5	7 - BARCELONA GSE	Report	Confidential, only for members of the consortium (including the Commission Services)	4
D5.2	Dissemination of the results of the Take-off Conference	WP5	7 - BARCELONA GSE	Demonstration	Public	8
D5.3	Dissemination of Working Papers I	WP5	7 - BARCELONA GSE	Demonstration	Public	12
D5.4	Dissemination of Working Papers II	WP5	7 - BARCELONA GSE	Demonstration	Public	34
D5.5	Dissemination of the results of Workshops I	WP5	7 - BARCELONA GSE	Demonstration	Public	12
D5.6	Dissemination of the results of the Workshops II & Policy Forums	WP5	7 - BARCELONA GSE	Demonstration	Public	24
D5.7	Support and dissemination of the ADEMU Lectures and Courses	WP5	7 - BARCELONA GSE	Demonstration	Public	24
D5.8	Support and dissemination of the Policy Briefs	WP5	7 - BARCELONA GSE	Other	Public	34

<b>Deliverable Number <sup>14</sup></b>	<b>Deliverable Title</b>	<b>WP number <sup>9</sup></b>	<b>Lead beneficiary</b>	<b>Type <sup>15</sup></b>	<b>Dissemination level <sup>16</sup></b>	<b>Due Date (in months) <sup>17</sup></b>
D5.9	Web dissemination of ADEMU data, indicators and software	WP5	7 - BARCELONA GSE	Demonstration	Public	34
D5.10	Support and dissemination of The Risk Assessment Report on Public Sector Balance Sheets	WP5	7 - BARCELONA GSE	Demonstration	Public	34
D5.11	Dissemination of the events of last year of the project	WP5	7 - BARCELONA GSE	Demonstration	Public	36
D5.12	Dissemination of the results of the Final Conference	WP5	7 - BARCELONA GSE	Other	Public	36
D5.13	Support and dissemination of the two ADEMU Final Reports	WP5	7 - BARCELONA GSE	Demonstration	Public	36
D6.1	Initial management plan	WP6	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	4
D6.2	Coordination and supervision of the first year activities	WP6	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D6.3	Coordination and supervision of the second year activities	WP6	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D6.4	Coordination and preparation of the final activities	WP6	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	30
D6.5	Advisory Committee initial recommendations	WP6	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	8



Deliverable Number <sup>14</sup>	Deliverable Title	WP number <sup>9</sup>	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D6.6	Advisory Committee final recommendations	WP6	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D6.7	Data Management Plan	WP6	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	4

### 1.3.3. WT3 Work package descriptions

Work package number <sup>9</sup>	WP1	Lead beneficiary <sup>10</sup>	2 - UCAM
Work package title	Long-term sustainability of a monetary and fiscal union		
Start month	1	End month	36

#### Objectives

##### Objectives

**Main Objective:** To conduct a rigorous investigation of risks to the long-run sustainability of EMU, and to develop detailed institutional proposals aimed at mitigating these risks.

##### Specific Objectives:

1.1 To clarify the determinants of sovereign debt crises, to develop new indicators that could be used to assess the risk of such crises occurring, and to devise new strategies for reducing this risk.

1.2 To devise credible rules and strategies for sustainable public debt management appropriate to the institutional and demographic characteristics of the EU/euro area.

1.3 To provide detailed institutional proposals for optimal fiscal risk-sharing among EMU member states, subject to the constraint that participation cannot be enforced, and to contrast these proposals with the existing institutional framework (e.g. the ESM).

#### Description of work and role of partners

##### **WP1 - Long-term sustainability of a monetary and fiscal union** [Months: 1-36]

**UCAM, EUI, RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN, TSE, UCL, UNIVERSIDADE CATOLICA PORTUGUESA, BARCELONA GSE, Univerzita Karlova v Praze**

As explained in the main proposal, the overall purpose of WP1 is to focus on the long-run sustainability of EMU – in particular the sustainability of sovereign debt, and of union-wide burden-sharing mechanisms. For each objective, we split the research tasks according to the four categories outlined in section 1.4 of the proposal.

##### Objective 1.1

##### Foundational empirical analysis

The purpose of the work under Objective 1 is to explore the relationship between debt sustainability and crisis risk. Research led by Giancarlo Corsetti (GC) and Coen Tuelings (CT) will conduct a comparative historical analysis of two major European crises (the 1992–93 ERM crisis and the recent crisis), together with the Japanese crisis of the early 1990s and the 1997–98 East Asian crisis. This research will provide a detailed reconstruction of stylised facts during these crises, as well as to characterise the trade-offs between market- and institution-based correction mechanisms. Documenting the financial history of crises in the euro area is a key building block for a balanced view of the root causes of the current slump. In particular, it will help reconcile the two main competing views of the crisis: whether it was driven by excessive borrowing by periphery countries, or whether a self-fulfilling, belief-driven liquidity ‘crunch’ was mainly responsible.

Related work led by Luca Fornaro (LF) will investigate the effects of the recent and previous financial crises on different measures of inequality. This is particularly important for understanding the appropriate welfare priorities for policy measures introduced in the wake of crises, including ‘conditionality’ arrangements, as well as the political viability of such policies. The research will investigate whether there is a trade-off between equality and economic stability and, in such a case, whether this trade-off has become more severe during episodes of financial turmoil.

##### Foundational theoretical analysis

Research led by Robert Ulbricht (RU) and Christian Hellwig (CH) will provide new insight into the broader role of uncertainty and incomplete information in the transmission and amplification of financial shocks. A widespread idea is that increasingly uncertain business conditions were a key factor in the persistence of the recent crisis (e.g. Christiano et al., 2010; Gilchrist et al., 2014). But a full understanding of this hypothesis requires empirically sound models in which uncertainty is endogenous. This research will build on Straub and Ulbricht (2013) to develop dynamic macroeconomic models in which agents learn about economic fundamentals from prices, but the efficiency of prices in aggregating information may evolve over the course of the economic cycle – causing endogenous movements in uncertainty. Quantitative work will shed light on how far this mechanism has contributed to the persistence and magnitude of the

European sovereign debt crisis. A specific direction of model development will build on recent theories of asset prices based on heterogeneous information (Albagli, Hellwig and Tsyvinski, 2011 & 2014) to integrate informational frictions into a small open economy macro model – allowing a more realistic view on the informational frictions and limits to arbitrage inherent in international debt markets.

#### Practical assessments of current policymaking

Complementing this work on crisis mechanics, research led by Jürgen Von Hagen (JvH) will develop a new ‘balance sheet’ approach for the assessment of sovereign crisis risk. Bi and Leeper (2013) have recently developed a macroeconomic framework to evaluate the probability of sovereign default given the government’s current fiscal position and the distribution of macroeconomic shocks. But their models rely on complex simulations and a drastic simplification of the macroeconomic framework, limiting their applicability. This research will improve on the Bi and Leeper approach by taking an asset-pricing approach to analysing risk, building on Von Hagen (2013). It will exploit the literature on asset pricing in general equilibrium to build model-based, flexible frameworks for assessing public-sector balance-sheet risk. These can be used as an input for understanding when coordinated action is required to prevent crisis.

#### Practical recommendations for improved policymaking

The possibility of self-fulfilling beliefs driving spreads on sovereign bond markets remains a central question in the literature, and will be explored further in applied theoretical work led by Pedro Teles (PT). The early work of Calvo (1988) highlighted the possibility of self-fulfilling crisis dynamics, and leading current models of sovereign default (such as Arellano, 2008, or Cooper, 2012) are often consistent with the corresponding multiple equilibria. Work will address the benefits of a central bank backstop (of the OMT form) in countries with monetary autonomy, and members of a currency union, building on the existing literature (such as Corsetti and Dedola, 2013) by addressing the detailed design of a credible intervention strategy on the set of market equilibria that should be provided by this sort of backstop.

### Objective 1.2

#### Foundational theoretical analysis

A central issue in the design of improved mechanisms for fiscal cooperation in Europe is the optimal level of public debt that should be targeted. The research led by Piero Gottardi (PG) will explore the extent to which missing insurance markets matter for this. When idiosyncratic income risk cannot be insured, households have an incentive to self-insure by holding assets – including, where available, public debt. It is therefore possible that the insurance benefits of public debt motivate a need for a positive debt stock, despite the distortionary taxation needed to finance it.

Work led by Pat Kehoe (PK) and Marco Bassetto (MB) will complement this by advancing further the analysis of optimal debt management policy in monetary unions. Research will give particular emphasis to two challenges that distinguish monetary unions from individual countries with monetary autonomy. First, countries in monetary unions cannot rely on exchange-rate devaluations to reduce the value of their outstanding debt when sustainability becomes a worry. This could leave costly fiscal retrenchment as the only option. Second, there is a significant risk that countries with high debt levels in a monetary union could suffer from an adverse feedback effect during this retrenchment, if austerity induces deflation, and this raises the real cost of servicing debt. Research will explore the implications of these mechanisms.

#### Practical recommendations for improved policymaking

At present many countries in Europe are pursuing economic reforms aimed at improving their long-run fiscal sustainability. The effects of these reforms on private wealth levels play a significant role in their stabilising – or destabilising – consequences for the macroeconomy. Research led by GC and CT will examine the interaction between economic reforms, private wealth and debt sustainability, with particular emphasis on political and economic constraints implied by Europe’s ageing population. They will assess the scope for reforms that ensure a stable fiscal outlook at the same time as reducing private wealth uncertainty – thereby preventing consumption demand from falling. The aim is to formulate a practical set of norms and standards for running fiscal policy that are directly aimed at reducing policy uncertainty, and can thus stimulate consumption and reduce risk premiums.

In designing institutions for public debt management in Europe, a crucial question is whether, and how fast, public debt levels should be stabilised relative to GDP. The standard approach to this question in the literature either follows Aiyagari et al. (2002) in assuming that governments can commit fully to a time-inconsistent optimal plan, or treats policy as an inefficient Markovian game between different generations of policymakers (as in Klein et al., 2008). Neither of these seems to capture the normative problem that institutional designers face in practice. Research led by Charles Brendon (CB) will apply a new concept of ‘time-consistent institutional design’ to the problem of debt stabilisation in Europe, building on work in Brendon and Ellison (2014). The aim is to obtain rules for appropriate debt management that are meaningfully optimal without exhibiting the implausible sensitivity to initial conditions associated with the Ramsey plan (see, for instance, Faraglia et al., 2012).

A final practical dimension to debt sustainability the appropriate design of tax reforms for raising additional public revenue. This is addressed in work led by Arpad Abraham (AA), which will study the effects of different income tax reforms under incomplete markets and endogenous borrowing constraints, building on Abraham and Carceles-Poveda

(2010). They will explore the benefits from combining increased progressivity in the labour tax code with a reduction in capital income taxes, showing that this has the potential to raise welfare both in the long run and along the transition. Tax revenue can also be raised through more effective policing of evasion. Work led by Jordi Caballe (JC) will analyse the specific effects of inflation on tax compliance and government revenue, allowing for tax morale and social norms to contribute to compliance (following the most recent contributions on this topic). This will help improve understanding of fiscal gains from alternative monetary policy strategies in the euro area.

### Objective 1.3

#### Foundational theoretical analysis

It has long been conjectured that countries subject to asymmetric shocks in a monetary union require an active fiscal policy in the form of international transfer payments in order to provide effective insurance against the shocks (e.g. Kennen, 1969). Farhi and Werning (2013) have recently formalised this intuition in an influential paper that applied a version of the canonical New Keynesian model. But their work did not take account of the limited enforcement and moral hazard problems that a realistic fiscal union must consider. Work led by AA, Marek Kapička (MK) and Evi Pappa (EP) will develop the theoretical analysis of an optimal scheme, making allowances for these factors.

#### Practical recommendations for improved policymaking

Building on this theoretical work, research led by Ramon Marimon (RM) and AA will provide detailed proposals for a European Financial Stability Fund (FSF). As the Van Rompuy Report recognises, there is a need for a ‘shock-absorbing’ financial mechanism of this kind in the euro area, to substitute for the absence of domestic monetary policy or a large Union-level fiscal capacity. The model will assume limited enforcement (countries may decide to leave), which implies limits on the size of ex-post redistribution that is possible. It will also take seriously the issue of moral hazard, and the appropriate form of conditionality to address this. Three important practical considerations will be addressed in the analysis. First, it is not clear that it should be optimal to set up separate funds, one for ‘crisis management’ (the ESM) and one for risk sharing (the FSF), as has been proposed for EMU in the Van Rompuy Report. Second, fully optimal contracts may be relatively complex. The focus will be on designing simple rules that are ‘almost optimal’, and contrasting these with alternative (ad hoc) rules (such as those for the ESM). Finally, the political governance of the fund will be given close attention. Enhanced conditionality runs the risk of ex-post renegotiation problems and credibility issues, and workable strategies for addressing these will be considered.

Further work in this vein will study two additional aspects of the problem. First, how can risk-sharing be enhanced through deeper market integration and freer mobility within the euro area? Greater freedom of capital movement, for instance, could serve as a shock-absorption mechanism that substitutes for direct fiscal redistribution, though greater mobility of talent may result in a ‘brain drain’. The trade-offs here deserve greater attention. Second, credible institutional designs for EMU will be analysed in more detail. In particular, it is not clear why the ECB is granted full independence from government interference whilst the ESM is an intergovernmental body.

Finally, work led by CH will investigate the gains from an alternative (potentially complementary) risk-sharing scheme: the mutualisation of short-term European debt. Building on the recent work by Albagi et al. (2011), this proposal will be analysed in terms of the trade-offs between fiscal discipline and international liquidity provision. Using a framework of financial markets with information frictions and limits to arbitrage, the work will show that liquidity provision on short-term debt need not undermine fiscal discipline, if it brings debt service costs closer in line with fundamental risks, and reduces exposure to liquidity shocks. The detailed relationship between an optimal FSF and short-term mutualisation will be explored, contributing to a comprehensive agenda for reform.

### Participation per Partner

Partner number and short name	WP1 effort
1 - EUI	13.00
2 - UCAM	31.00
3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	5.00
4 - TSE	9.00
5 - UCL	6.00
6 - UNIVERSIDADE CATOLICA PORTUGUESA	7.00
7 - BARCELONA GSE	12.00

Partner number and short name	WP1 effort
8 - Univerzita Karlova v Praze	8.00
<b>Total</b>	<b>91.00</b>

#### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D1.1	Working papers first draft WP1	2 - UCAM	Report	Public	12
D1.2	Working papers WP1	2 - UCAM	Report	Public	34
D1.3	Workshop 1.1	5 - UCL	Demonstrator	Public	12
D1.4	Workshop 1.2	2 - UCAM	Demonstrator	Public	24
D1.5	Workshop 1.3	3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	Demonstrator	Public	36
D1.6	Policy Briefs WP1	2 - UCAM	Report	Public	34
D1.7	Risk assesment report	2 - UCAM	Report	Public	34

#### Description of deliverables

Most of the ADEMU research will first appear in the form of Working Papers, which subsequently will be submitted for publication to leading journals or further developed in books or other formats. WP1 deliverables include 15 Working papers, the outcomes of 3 workshops, 3 policy briefs and a risk assessment report

D1.1 : Working papers first draft WP1 [12]

Input to MS2 1. Comparative Analysis of the Euro-area financial and economic crisis from a historical perspective under Objective 1 [GC, CT] 2. Income inequality consequence of financial crisis under Objective 1 [LF] 3. The Role of uncertainty and incomplete information in the transmission and amplification of financial shocks under Objective 1 [RU, CH] 4. Balance -Sheet Risk Assessment of Sovereign Debt under Objective 1 [JvH] 5. Quantitative analysis of belief-driven debt crises under Objective 1 [PT] 6. Incomplete markets and the optimal level of public debt under Objective 2 [PG] 7. Optimal public debt management policy in monetary unions under Objective 2 [PK, MB] 8. Interaction among economic reforms, private wealth and debt sustainability in an aging society under Objective 2 [GC, CT] 9. Time-consistent institutional design of debt- stabilisation schemes in Europe under Objective 2 [CB] 10. The effects of different income tax reforms under incomplete markets and endogenous borrowing constraints under Objective 2 [AA] 11. The effects of social norms inflation on tax compliance and government revenue under Objective 2 [JC] 12. Optimal transfer schemes against asymmetric shocks in a monetary union under limited enforcement and moral hazard under Objective 3 [AA, MK, EP] 13. On the Optimal design of a Financial Stability Fund under Objective 3 [RM, AA (with E. Carceles)] 14. The mutualisation of short-term European debt under information frictions and limits to arbitrage in financial markets: Trade-offs between fiscal discipline and international liquidity provision under Objective 3 [CH] 15. Debt default and asset pricing with heterogeneous information under Objective 3 [CH] A preliminary version of the working papers will be delivered within 12 months to be discussed in Workshops. The final version will be delivered within 34 months (see D.1.2)

D1.2 : Working papers WP1 [34]

Input to MS4 Final version of working papers D.1.1

D1.3 : Workshop 1.1 [12]

Input to MS3 and MS8 Summary of the outcome of the Workshop on Fiscal Consolidation and Fiscal Risk-sharing in the EU which is expected to take place in the first year

D1.4 : Workshop 1.2 [24]

Input to MS3. Summary of the outcome of the Workshop on long-term fiscal sustainability which is expected to take place in the second year.

D1.5 : Workshop 1.3 [36]

Input to MS6 Summary of the outcome of the Workshop on Measures of Public Balance Sheet Risk assessment and on Social & Labour Insurance Risks which is expected to take place in the third year.

D1.6 : Policy Briefs WP1 [34]

Input to MS9 1. Policy Brief with summary of main conclusions in WP1 Objective 1 2. Policy Brief with summary of main conclusions in WP1 Objective 2 3. Policy Brief with summary of main conclusions in WP1 Objective 3

D1.7 : Risk assesment report [34]

Input to MS6 A new Risk Assessment Report on Public Sector Balance Sheets

#### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Take-off Conference	2 - UCAM	6	Take-off Conference
MS2	Working Papers Submission I	1 - EUI	12	Working Papers Submission I
MS3	Project workshops	1 - EUI	24	Scheduled (1-24 month) workshops have taken place
MS4	Working Papers Submission II	1 - EUI	34	Working Papers Submission II
MS5	ADEMU lectures	7 - BARCELONA GSE	24	At least 6 ADEMU lectures have taken place
MS6	Risk Assessment Report	3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAT BONN	34	Risk Assessment Report
MS7	ADEMU Course	4 - TSE	24	ADEMU Course has been designed
MS8	Economic and Legal Assessment of existing mechanisms and procedures	1 - EUI	12	Economic and Legal Assessment of existing mechanisms and procedures: ESM vs. FSF, MIP & SIP, SSM & SRM
MS9	Policy Briefs	8 - Univerzita Karlova v Praze	34	Policy Briefs
MS10	Final Conference	1 - EUI	36	Final Conference
MS12	Final Scientific Report	7 - BARCELONA GSE	36	Final Scientific Report



<b>Work package number</b> <sup>9</sup>	<b>WP2</b>	<b>Lead beneficiary</b> <sup>10</sup>	<b>6 - UNIVERSIDADE CATOLICA PORTUGUESA</b>
<b>Work package title</b>	<b>Stabilisation policy in currency unions</b>		
<b>Start month</b>	<b>1</b>	<b>End month</b>	<b>36</b>

## Objectives

**Main Objective:** To assess the short-run stabilising potential of alternative approaches to conducting fiscal policy in a currency union, so as to improve resilience to macroeconomic shocks.

**Specific Objectives:**

- 2.1 To determine the most appropriate forms of macroeconomic policy coordination among EU and euro area countries, and to quantify the risks associated with uncoordinated policymaking.
- 2.2 To provide an empirical assessment of the multipliers associated with active fiscal policy, and to clarify the theoretical channels through which these multipliers work.
- 2.3 To explore the theoretical channels through which social insurance and labour market policy can serve as automatic stabilising – or destabilising – devices.

## Description of work and role of partners

**WP2 - Stabilisation policy in currency unions** [Months: 1-36]

**UNIVERSIDADE CATOLICA PORTUGUESA, EUI, UCAM, RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAT BONN, TSE, UCL**

The purpose of WP2 is to consider alternative policy approaches for improving the short-term resilience of euro area economies in the face of macroeconomic shocks, with a particular focus on the distinctions: (i) between coordinated and uncoordinated policies (especially fiscal policies), and (ii) between ‘active’ and ‘passive’ stabilisation devices. As in WP1, for each objective we separate specific research topics according to the categories of section 1.4 above.

**Objective 2.1**

**Foundational theoretical analysis**

The deepest form of international policy coordination that presently exists among European countries is, of course, the decision among euro area states to share a common currency. This decision is itself worth reassessing in the light of more modern macroeconomic techniques. An important omission from traditional optimal currency theory is the question of policy credibility. Research led by Pat Kehoe (PK) will show that when the members of a potential currency area face correlated shocks affecting their credibility, the classic Mundell criterion must be changed substantially. The argument will be illustrated both for a reduced form model and for a relatively standard sticky-price general equilibrium model. The new criterion should lead to a rethinking of the massive amount of empirical work on optimal currency areas.

Research led by Gernot Muller (GM) will then turn to the benefits from fiscal policy coordination within a currency union. A well-known result from open-economy New Keynesian models (e.g. Gali and Monacelli, 2008) is that fiscal policy has a role to play only in stabilising asymmetric shocks within countries: aggregate stabilisation can be done at the union level. But this no longer holds when the nominal interest rate is constrained by the zero lower bound. Corsetti et al. (2013) have shown that in this case fiscal multipliers are small for individual countries, but (because of spillover effects) large for the union as a whole. This implies the losses from non-cooperative fiscal policymaking could be significantly greater than when the nominal interest rate is unconstrained. The work will explore this claim formally, and quantify the gains from policy coordination.

**Practical recommendations for improved policymaking**

Work led by Pedro Teles (PT) will consider an important dimension to policy coordination that can be factored into the design of fiscal risk-sharing arrangements, of the sort explored in WP1. This is the question of tax coordination. A model will be considered in which a set of countries can either compete or cooperate in setting taxes, but where the gain from cooperation is the ability to participate in a risk-sharing scheme. Provisional work suggests a robust model prediction: that smaller countries will become tax havens. The research will indicate how the appropriate design of a risk-sharing scheme can best remedy coordination problems of this kind.

**Objective 2.2**

**Foundational empirical analysis**

A first strand of research under Objective 1 will ask how far the existing range of empirical estimates for the size of the fiscal multipliers is consistent with alternative theoretical assumptions common in the literature. This work, led by Alban Mouha (AM) and Patrick Fève (PF), will first reassess the value of structural vector autoregressions (SVARs) as devices for estimating these multipliers. Compared to alternative approaches SVARs are generally viewed as more flexible tools, keeping dynamic restrictions and identification assumptions minimal. But the standard identification approach – which assumes exogeneity of the government expenditure process to contemporaneous non-fiscal shocks – may not be consistent with forward-looking private-sector behaviour. The research will analyse the sensitivity of it – and hence the estimated size of the multipliers – to: (a) private agents anticipating economic shocks, and (b) the government implementing a rule to control expenditure as shocks evolve.

This line of work will then further consider whether the wide array of estimated multipliers obtained under SVAR techniques can be accounted for by the omission of key interactions at the estimation stage – interactions that ought to feature if commonly-used DSGE models are valid. It will focus on three mechanisms that may be responsible for empirical bias: (a) Edgeworth complementarity/substitutability between private consumption and government spending, (b) endogeneity of government spending, and (c) habits in consumption. The analysis will be based on a medium-scale DSGE model will be in the tradition of Smets and Wouters (2003, 2007).

Complementing this research on the size of the aggregate fiscal multipliers, work led by Evi Pappa (EP) will investigate differences in the size of the multiplier according to the precise component of expenditure that is being cut. With the exception of Pappa (2009) and Hernández de Cos and Moral-Benito (2011), the focus in the literature has so far been on the effects of general expenditure shocks. Moreover, apart from Devries et al. (2010), most of the existing analysis neglects the effects of fiscal consolidations on unemployment – focusing exclusively on output. This research will compare the output and unemployment losses generated by cuts in different types of government outlays, providing important new evidence that will help mitigate the detrimental effects of fiscal consolidation.

#### Foundational theoretical analysis

Further research under Objective 2 will clarify the channels through which the fiscal multipliers operate. First, work led by Martial Dupaigne (MD) and PF will investigate how the specification of preferences influences the government spending multiplier in the context of standard neoclassical and sticky-price models. The work will place particular focus on the size of the wealth effect on labour supply, and the possibility that government purchases enter preferences in a non-separable fashion.

In addition, research led by Franck Portier (FP) will explore a new mechanism for government spending to deliver positive multipliers, through its impact on the gains from trade between agents in the economy (building on Beaudry and Portier, 2013). If workers are not perfectly mobile across sectors, a balanced-budget tax-spending policy can give rise to an increase in private consumption and possibly a multiplier greater than one – contrasting with conventional results. The research will illustrate this possibility in a model with heterogeneous agents.

Related work will then consider the role of public spending during periods of liquidation. The plan is to re-examine the ‘liquidationist’ view – according to which recessions are need to liquidate excessive prior investment – in an environment where trades are not all coordinated through centralized market, in the style of Diamond (1982) and Guerrieri and Lorenzoni (2009). The aim is to demonstrate how a desire to liquidate interacts with coordination frictions, leading to outcomes that are not Pareto optimal. Fiscal policy can then be used to improve welfare, with multipliers that depend on the stock of durables and capital already accumulated. A particularly interesting trade-off should emerge between the low demand in the short run and the length of the liquidation: aggregate demand management is beneficial in the short term, but at the same time increase the length of the liquidation period.

### Objective 2.3

#### Foundational theoretical analysis

The focus of Objective 3 is on ‘automatic’ instruments of stabilisation policy. An important aspect of the research will be to conduct an in-depth analysis of labour market risk in the macroeconomy, and the impact of unemployment insurance in mitigating this risk. This work, conducted by Hamish Low (HL), Pontus Rendahl (PR), Morten Ravn (MR) and Vincent Sterk (VS), will explore the aggregate consequences of uninsurable idiosyncratic income and employment risk. Building on state-of-the-art foundations from the literature on heterogeneous agents (e.g., Krusell and Smith, 1998), the research will show how endogenous unemployment dynamics can give rise to a naturally emerging uncertainty-demand channel (cf. Bloom, 2009), leading to rich aggregate economic dynamics and new policy insights. With uninsurable idiosyncratic employment risk, a negative shock brings a strong element of income uncertainty, providing powerful motive for agents to hold back their spending. This sets a downward spiral in motion: lower demand due to risk causes more unemployment, adding additional risk to the economy. The framework provides a theoretical basis for unconventional countercyclical policies, in the form of social insurance in general and unemployment insurance in particular. It may also motivate measures to prevent job separation as a means to prevent the downward spiral from taking effect. But there are important trade-offs here: higher unemployment insurance, for instance, could adversely affect unemployed workers’ search incentives, and thus raise unemployment. Research will consider these trade-offs



in full, in models that make realistic allowances for the structural labour market weaknesses highlighted by the recent recession. Of particular importance here is the rise in long-term unemployment – the potential causes of which will be explored, and which is likely to have significantly exacerbated the income risk associated with job loss (central to the aggregate analysis).

Research led by Juan Dolado (JD) will contribute to this analysis a specific focus on the labour market risks associated with gaps in employment protection legislation (EPL) – so-called ‘dual’ labour markets. This work will model firms’ technology adoption decisions and workers’ search intensity in order to analyse how aggregate demand shocks translate into relocation shocks over the business cycle. This is important from a policy viewpoint since working-time reduction or training policies may be ineffective and costly if relocation shocks mean that mismatch is large. More generally, it is paramount to understand how dual labour markets lead to strong job creation in expansions and to unbalanced production specialization – accounting for their extremely volatile performance on average. This will allow better-targeted stabilisation policy to be designed at the EU level.

#### Foundational empirical analysis

Changes to social insurance policy will generally have differing effects depending on the level of private wealth that households can use for self-insurance purposes. Such changes may also cause households to change their wealth holdings, with important aggregate consequences. The portfolio composition of this wealth is additionally of intrinsic interest in understanding the exposure of the economy to asset price shocks. Research by Christian Bayer (CB), Thomas Hintermaier (TH) and Moritz Schularick (MS) will focus on these issues. It will assess the determining factors behind the portfolio composition of private households in EU countries, with a particular with a focus on housing. The work will first document the historical variation in real estate prices and in mortgage debt, providing a foundation for identifying the country-specific drivers of house price developments that individual households are exposed to. These shocks will then be incorporated into quantitative models of heterogeneous households, augmented with country-specific features, with the aim of explaining differences across EU countries in their distributions of asset holdings. Household-level survey data on asset holdings in EU countries will provide for the relevant empirical benchmark. The work will then test different candidate explanations for the observed variation, including differences in national pension systems, national schemes of unemployment benefit, and health insurance. This will allow for a more accurate assessment of the effects of changing social insurance policy.

#### Practical recommendations for improved policymaking

Further research led by Juan Dolado will consider the benefits from reducing the EPL gap in dual labour markets, through the introduction of a ‘Single Contract’ – with increasing severance pay in job tenure. Several European authors have advocated policies along such lines (e.g. Cahuc and Kramarz, 2004, for France, Boeri and Garibaldi, 2008, and Andrés et al., 2009, for Spain). The goal here is to develop a common methodology for assessing them, based on a search and matching model of the labour market. Further, using a large dataset on social security registers in Spain (Muestra Continua de Vidas Laborales), the research will analyse whether there is a ‘Laffer curve’ effect, whereby a reduction of the EPL gap between permanent and fixed-term jobs increases job tenure so much that, even if severance payments go down on average, the expected indemnity in case of firing goes up.

Finally, work led by Sumudu Kankanamge (SK) will focus on the political (time consistency) problems associated with reforming unemployment insurance (UI) in the presence of precautionary savings. The latter provide self-insurance against uninsurable income risk, and thus an imperfect substitute for UI programs. Existing models of optimal UI design (e.g., Hansen and Imrohoroglu, 1992) rest on either steady state comparisons or simple transitional dynamics computations. They do not allow for the government’s temptation to deviate from past promises. This work will characterize a Markov-perfect equilibrium of the policy game in a model with liquidity-constrained agents facing uninsurable risks, following Krusell, Quadrini and Rios-Rull (1997). It will allow better understanding of the political constraints faced by an attempt to reform European UI provision.

### Participation per Partner

Partner number and short name	WP2 effort
1 - EUI	4.00
2 - UCAM	12.00
3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	13.00
4 - TSE	16.00
5 - UCL	6.00

Partner number and short name	WP2 effort
6 - UNIVERSIDADE CATOLICA PORTUGUESA	10.00
<b>Total</b>	<b>61.00</b>

#### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D2.1	Working papers first draft WP2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Report	Public	12
D2.2	Working papers WP2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Report	Public	34
D2.3	Workshop 2.1	4 - TSE	Demonstrator	Public	24
D2.4	Workshop 2.2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Demonstrator	Public	36
D2.5	Policy briefs WP2	6 - UNIVERSIDADE CATOLICA PORTUGUESA	Report	Public	34

#### Description of deliverables

Most of the ADEMU research will first appear in the form of Working Papers, which subsequently will be submitted for publication to leading journals or further developed in books or other formats. WP2 Deliverables include 12 Working papers, the outcomes of 2 workshops and 3 policy briefs

D2.1 : Working papers first draft WP2 [12]

Input to MS2 1. Policy credibility and the design of optimal common currency areas under Objective 1 [PK] 2. Benefits from fiscal policy coordination within a currency union under a zero lower bound for interest rates under Objective 1 [GM] 3. Fiscal policy coordination, fiscal risk-sharing arrangements and tax havens in a monetary union under Objective 1 [PT] 4. On the limitations of using SVARs to estimate fiscal multipliers under Objective 2 [AM, PF] 5. How does the size of fiscal multipliers depend on the composition of public expenditure cuts ? under Objective 2 [EP] 6. How do preferences regarding consumption and leisure affect the channels through which fiscal multipliers operate in the economy ? under Objective 2 [MD, FV] 7. Recessions as liquidation periods: The size of fiscal multipliers under limited coordination ? under Objective 2 [FP] 8. On the aggregate consequences of uninsurable idiosyncratic income and employment risk for macroeconomic dynamics under Objective 3 [HL, PR; MR, VS] 9. The effects of demand shocks on technology adoption, job turnover and sectorial composition in dual labour markets under Objective 3 [JD] 10. The determining factors of households' wealth composition in EU countries and its response to financial shocks under Objective 3 [CB, TH, HS] 11. On the optimal job-tenure profile of dismissal costs and the role of a single contract under Objective 3 [JD] 12. On the time- consistency problems of reforming unemployment insurance in the presence of precautionary savings under Objective 3 [SK] Preliminary versions of the working papers will be delivered within 12 months. To be discussed in a workshops The final version will be delivered within 34 months.

D2.2 : Working papers WP2 [34]

Input to MS4 Final version of Working papers D.2.1

D2.3 : Workshop 2.1 [24]

Input to MS3. Summary of the outcome of the Workshop on Fiscal Multipliers which is expected to take place in the second year.

D2.4 : Workshop 2.2 [36]

Input to MS3. Summary of the outcome of the Workshop on Fiscal Policy Coordination which is expected to take place in the second year.

D2.5 : Policy briefs WP2 [34]

Input to MS9 1. Policy Brief with summary of main conclusions in WP2 Objective 1 2. Policy Brief with summary of main conclusions in WP2 Objective 2 3. Policy Brief with summary of main conclusions in WP2 Objective 3

#### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Take-off Conference	2 - UCAM	6	Take-off Conference
MS2	Working Papers Submission I	1 - EUI	12	Working Papers Submission I
MS3	Project workshops	1 - EUI	24	Scheduled (1-24 month) workshops have taken place
MS4	Working Papers Submission II	1 - EUI	34	Working Papers Submission II
MS5	ADEMU lectures	7 - BARCELONA GSE	24	At least 6 ADEMU lectures have taken place
MS7	ADEMU Course	4 - TSE	24	ADEMU Course has been designed
MS9	Policy Briefs	8 - Univerzita Karlova v Praze	34	Policy Briefs
MS10	Final Conference	1 - EUI	36	Final Conference
MS12	Final Scientific Report	7 - BARCELONA GSE	36	Final Scientific Report

<b>Work package number</b> <sup>9</sup>	<b>WP3</b>	<b>Lead beneficiary</b> <sup>10</sup>	<b>8 - Univerzita Karlova v Praze</b>
<b>Work package title</b>	<b>Macroeconomic and financial imbalances and spillovers</b>		
<b>Start month</b>	<b>1</b>	<b>End month</b>	<b>36</b>

### Objectives

**Main Objective:** To develop new understanding of the fiscal policy implications of cross-border economic interdependence within the EU, particularly in the form of spillovers and imbalances associated with macroeconomic and financial variables.

**Specific Objectives:**

3.1 To provide new evidence on the cross-border spillover effects of fiscal and financial shocks in the euro area, to understand exactly how these shocks propagate from one country to another, and to explore the implications of this for the conduct of fiscal policy in EU countries.

3.2 To assess the role of macroeconomic and financial imbalances in the recent crisis, to analyse the existing institutional mechanisms for controlling such imbalances (in particular the SGP, MIP and EIP), and to consider strategies for their effective improvement, including reform of the European banking sector.

### Description of work and role of partners

**WP3 - Macroeconomic and financial imbalances and spillovers** [Months: 1-36]

**Univerzita Karlova v Praze, EUI, UCL, BARCELONA GSE**

The focus of WP3 is on the macroeconomic and financial interdependencies that are of relevance to reformed institutional governance of the euro area. Attention is placed on two specific categories: international spillovers, particularly those associated with fiscal policy, and macroeconomic and financial imbalances.

**Objective 3.1**

**Foundational empirical analysis**

Fiscal spillovers currently represent a major concern in the Eurozone because of the sizeable and synchronized fiscal consolidation measures undertaken in many countries in the last few years. The existing evidence points to large fiscal spillover effects across euro area countries, with Auerbach and Gorodnichenko (2012) additionally showing that these effects depend on the state of the business cycle of the domestic and foreign economies. Research by Fabio Canova (FC) and Luca Gambetti (LG) will revisit the problem, using new data and methodological approaches. The research will place special focus on the impact of austerity measures adopted since 2011 in many countries. It will apply two main approaches. The first consists of estimating a panel VAR using data from Portugal, Spain, Italy, Greece, Germany, France and Holland, and identifying a fiscal shock with sign restrictions. Shocks can originate in one of the first four countries, with the analysis focused on the response of the other three. The exercise, among other things, can allow the construction of a 'fiscal stance' indicator at the EU and country-specific levels. It will also allow an assessment of whether (and when) fiscal policy coordination is desirable.

The second approach will focus on a longer horizon, and is aimed at tracing the evolution of spillovers over time. It will make use of a Time-Varying Factor Model for the euro area countries, allowing for dynamic changes in the magnitude of the spillovers to be estimated. This is crucial to capture potential changes in the conduct of monetary and fiscal policy, as well as institutional change. The analysis will shed light on whether the international transmission of fiscal shocks has changed during the recent crisis.

In addition to fiscal spillovers, financial spillover effects have played an important role in the recent sovereign debt crisis. Research led by Peter Hansen (PH) will seek to understand the mechanisms by which volatility in financial variables spreads from one area to another, and how these interrelations change over time. The Realized GARCH framework, introduced in Hansen et al. (2012), will be used to study the major volatility shocks during the financial crisis and to relate them to specific events. Preliminary analysis suggests that the largest downwards 'shocks' to volatility can be related to policy interventions, such as specific actions taken by central banks – suggesting an important policy role in mitigating financial contagion. Some multivariate models will additionally be developed, along the lines of Hansen et al. (2013), for the purpose of studying the propagation of volatility shocks in the foreign exchange markets.

Research led by Richard Portes (RP) will further examine the interconnections between euro area financial markets and sovereign default risk, with a particular focus on credit default swap (CDS) markets. Using data on the volumes of CDS trades, the analysis will assess how the integrated market for CDS indices affects the markets for individual sovereigns. It will also investigate the 'feedback loop' between banks and sovereigns – including how fluctuations in the prices and

default risks of sovereign bonds directly affect the financial health of banks. This research has important implications for EU regulation of the sovereign bond market.

#### Foundational theoretical analysis

The issue of contagion in the sovereign bond market will be analysed in more detail in work led by Wei Cui (WC). The research will focus on the extent to which sovereign bond risks can be transmitted through interbank lending markets in ways that may reinforce national imbalances. It will propose a general equilibrium model in which domestic long-term government bonds are traded on a costly search market, building on Cui and Radde (2014). These bonds will be only partially resaleable – akin to the Kiyotaki and Moore (2012) setup, but with the resaleability more fully endogenised. In contrast, money or short-term government bonds are fully liquid. The model will be estimated using Bayesian techniques on macroeconomic data, focusing on the potential shocks that specific countries in the Euro area were facing before 2010 debt crisis.

### Objective 3.2

#### Foundational theoretical analysis

Imbalances in the interbank lending market were an important focus of attention during the euro area sovereign debt crisis. Research led by Hugo Rodriguez (HR) will shed light on the underlying factors behind banks' net lending positions. Large and small banks are known to behave differently in the money market. In normal times, small banks are net seller of funds while large banks are net buyers. Existing theories to explain this pattern are based on differences in: (a) risk-aversion (Ho and Saunders, 1985); (b) deposit-taking costs leading to local monopoly power (Rose and Kolari, 1985, or Ho and Saunders, 1985); and (c) asymmetric information (Allen and Saunders, 1986). Informed by events during the recent crisis, this research will provide a new theory based on the size distribution of banks, risk diversification, market segmentation and deposit insurance. The work will make recommendations for addressing disruptions in money markets that have distributional consequences across different segments of the market or different countries.

In order to understand when intervention in financial markets is justified, it is essential to develop a full theoretical understanding of the potential barriers to efficient market functioning. Research led by Ramon Marimon (RM) will contribute a new understanding of the potential role of 'credit-easing' policies (whether run by the government or, more likely, the central bank) in improving credit market conditions in times of high economic uncertainty. In such an environment a credit crisis may persist even when economic 'fundamentals' have returned to normal, if private banks are too pessimistic to experiment with lending. In this context, it can be socially valuable for the central bank to subsidise lending and assume credit risk. The work provides a new perspective with respect to the existing literature on credit easing policies. It brings the concept of self-confirming equilibrium to a competitive environment, building on the pioneering work by Fudenberg and Levine (1993) and Sargent (1999), and will result in specific recommendations on when and how credit easing policies should be implemented by the ECB.

#### Practical assessments of current policymaking

An important feature of financial integration in Europe is the convergence in financial regulation policies. Research led by Joachim Jungherr (JJ) will use data by Barth, Caprio and Levine (2011) to investigate to what extent asymmetries in regulation across countries contributed to the build-up of macroeconomic imbalances in Europe before the crisis. The analysis will allow for a joint assessment of a broad set of policy measures such as public disclosure and capital requirements, stress tests and bail-out policies, and will consider the potential benefits from a unifying regulatory framework in the Eurozone (the Single Supervisory Mechanism).

#### Practical recommendations for improved policymaking

A growing literature suggests that cycles in leverage are key sources of financial disruption: potentially more important to economic activity and prices than interest rates, and more important to regulate. The contribution of research led by Radim Bohacek (RB) will be to provide a theoretical framework and numerical analysis of leverage bounds for optimal regulation in financial markets in the EU and the Banking Union. The work will develop a general equilibrium model in which it is optimal for collateralised borrowing to take place up to a maximum level of leverage, building on Bernanke and Gertler (1989) and Bohacek (2006). It will derive leverage bounds that correspond to incentive-compatible equilibrium allocations, and analyse the role these bounds might play in alleviating the negative effects of excessive deleveraging during cycles. The project will additionally analyse the optimal regulation of leverage in order to prevent negative spillover effects across financial markets. Finally, it will consider data on leverage in financial markets, and propose new measures to be included in indicators of financial imbalances.

In addition to leverage bounds, another useful instrument to counteract imprudent lending may be to increase bank transparency – especially public information on asset holdings. Further work led by JJ will consider the gains from this. Bank opacity arguably contributed to the origins and severity of the 2007-09 financial crisis. The work will introduce a new model of bank transparency and strategic competition among intermediaries to the literature, and shed new light on the economic determinants of financial stability.

A more radical reform proposal will be assessed in research led by RM: a move to ‘narrow banking’ in the euro area. The current (and proposed) design of the euro area regulatory framework vindicates ‘Eurozone deposit insurance’, which requires both detailed supervision (by the SSM) and well-engineered remedial intervention (by the SRM) in order to work. Such design is costly – for banks and regulators – and often proves time-inconsistent when banks are ‘too big to fail’. An alternative regulatory approach would be to resurrect the old idea of narrow banking, with 100% reserve requirements imposed on deposit-taking institutions. This eliminates the moral hazard problem intrinsic in a deposit insurance/lender of last resort scheme. Narrow banking has often been dismissed with the argument that its implementation would result in a severe reduction of credit. But this criticism is now being questioned, and a proper assessment of the proposal in a euro area context is needed. In particular, it is a framework that helps to isolate the financial sector from political pressures (and vice-versa), although it also calls for the ECB being the ultimate provider of safe liquid assets.

Finally, research led by RP will focus on macroprudential regulation as a tool for regulating the effects of growing interdependence. Recent research on the global financial cycle (Rey, 2013) suggests that the classic Mundell-Fleming policy ‘trilemma’ has yielded to a dilemma. Global capital flows transmit impulses arising from monetary policies of the centre country (in particular, the US) to other economies regardless of their exchange-rate regimes. Hence countries must choose simply between free movement of capital and monetary policy autonomy. The implication: domestic financial stability may require capital controls. But macroprudential policies may provide an alternative means to protect the domestic financial sector and the broader macroeconomy from destabilizing international impulses. The research will analyse the form that such policies should take.

#### Participation per Partner

Partner number and short name	WP3 effort
1 - EUI	11.00
5 - UCL	2.00
7 - BARCELONA GSE	35.00
8 - Univerzita Karlova v Praze	17.00
<b>Total</b>	<b>65.00</b>

#### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D3.1	Working papers first draft WP3	8 - Univerzita Karlova v Praze	Report	Public	12
D3.2	Working papers WP3	8 - Univerzita Karlova v Praze	Report	Public	34
D3.3	Workshop 3.1	8 - Univerzita Karlova v Praze	Demonstrator	Public	24
D3.4	Workshop 3.2	7 - BARCELONA GSE	Demonstrator	Public	36
D3.5	Policy Briefs WP3	8 - Univerzita Karlova v Praze	Report	Public	34
D3.6	Indicators	8 - Univerzita Karlova v Praze	Report	Public	34

#### Description of deliverables



Most of the ADEMU research will first appear in the form of Working Papers, which subsequently will be submitted for publication to leading journals or further developed in books or other formats. WP3 Deliverables include 11 Working papers, the outcomes of 2 workshops, 3 policy briefs, and macroeconomic imbalance Indicators

#### D3.1 : Working papers first draft WP3 [12]

1. Estimating the time-varying magnitude cross-border spillover effects of fiscal shocks in the Euro area under alternative methodological approaches under Objective 1 [FC, LG] 2. Volatility spillovers, contagion and the dynamics of financial-asset spreads under Objective 1 [PH] 3. The role of credit default swap (CDS) markets in the interconnecting euro area financial markets and sovereign default risk under Objective 1 [RP] 4. Liquidity and sovereign-bank interlinkages under Objective 1 [WC] 5. Bank size and net lending positions in money markets under Objective 1 [HR] 6. Analysis of the potential role of ‘credit-easing’ policies to improve financial conditions in times of high when economic uncertainty under Objective 2 [RM] 7. The effects of asymmetries in regulation across countries on the build-up of macroeconomic imbalances in the EU under Objective 2 [JJ] 8. Leverage bounds for optimal regulation in the financial markets of the EU and the Banking Union under Objective 2 [RB]. 9. The role of bank transparency and strategic competition among intermediaries as determinants of financial stability under Objective 2 [JJ] 10. Revisiting the pros and cons of narrow banking in the EU under Objective 2 [RM] 11. Macro-prudential regulations as an alternative to capital controls in achieving monetary policy autonomy under Objective 2 [RP] Preliminary versions of the working paper versions will be delivered within 12 months to be discussed in workshops. The final version will be delivered within 34 months.

#### D3.2 : Working papers WP3 [34]

Input to MS4 Final version of Working papers D.3.1

#### D3.3 : Workshop 3.1 [24]

Input to MS3 Summary of the outcome of the Workshop on Macro-Financial Imbalances which is expected to take place in the first year.

#### D3.4 : Workshop 3.2 [36]

Input to MS3 Summary of the outcome of the Workshop on Macro-Fiscal Imbalances which is expected to take place in the third year.

#### D3.5 : Policy Briefs WP3 [34]

Input to MS9 1. Policy Brief with summary of main conclusions in WP3 Objective 1 2. Policy Brief with summary of main conclusions in WP3 Objective 2

#### D3.6 : Indicators [34]

- Data and new set of Macroeconomic Imbalance Indicators

### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Take-off Conference	2 - UCAM	6	Take-off Conference
MS2	Working Papers Submission I	1 - EUI	12	Working Papers Submission I
MS3	Project workshops	1 - EUI	24	Scheduled (1-24 month) workshops have taken place
MS4	Working Papers Submission II	1 - EUI	34	Working Papers Submission II
MS5	ADEMU lectures	7 - BARCELONA GSE	24	At least 6 ADEMU lectures have taken place
MS7	ADEMU Course	4 - TSE	24	ADEMU Course has been designed

### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS8	Economic and Legal Assessment of existing mechanisms and procedures	1 - EUI	12	Economic and Legal Assessment of existing mechanisms and procedures: ESM vs. FSF, MIP & SIP, SSM & SRM
MS9	Policy Briefs	8 - Univerzita Karlova v Praze	34	Policy Briefs
MS10	Final Conference	1 - EUI	36	Final Conference
MS12	Final Scientific Report	7 - BARCELONA GSE	36	Final Scientific Report



<b>Work package number</b> <sup>9</sup>	<b>WP4</b>	<b>Lead beneficiary</b> <sup>10</sup>	<b>1 - EUI</b>
<b>Work package title</b>	<b>Policy Implementation</b>		
<b>Start month</b>	<b>1</b>	<b>End month</b>	<b>36</b>

## Objectives

**Main Objective:** To assess the practical hurdles associated with implementing institutional reforms for the better management of fiscal policy within the EU, with a particular focus on the legal, political and behavioural constraints that the current EMU fiscal institutional structure – and, in particular, the alternative ADEMU proposals – may face.

**Specific Objectives:**

4.1 To identify the legal and constitutional challenges posed at both a European and national level by recent institutional innovations (including the Fiscal Compact, ESM Treaty and SSM), and to identify similar challenges and potential loopholes associated with the proposals made as part of the ADEMU project.

4.2 To explore relevant political economy concerns associated with the fiscal and financial governance of EMU, in particular, how the ADEMU proposals can address these concerns.

4.3 To examine experimentally the viability of specific theoretical models and policy proposals considered under the ADEMU project.

## Description of work and role of partners

**WP4 - Policy Implementation** [Months: 1-36]

**EUI, UCAM, RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN, TSE, UCL, UNIVERSIDADE CATOLICA PORTUGUESA, BARCELONA GSE, Univerzita Karlova v Praze**

**Objective 4.1**

Many of the policy proposals analysed by ADEMU in WP1 to WP3 raise important questions pertaining to the appropriate design of legal institutions, and the translation of economic proposals into the legal framework of EMU. Research by Thomas Beukers, Bruno De Witte, Cristina Fasone, Claire Kilpatrick and Georgio Monti will assess the potential constraints and loopholes that could impede effective implementation of proposed policy reforms.

Some examples of the institutional design problems that may arise include: How to incorporate new findings about the optimal design of coordinated policies (under WP2, Objective 1) into the macroeconomic imbalance procedures? And how should a fuller evaluation of the fiscal strength of a country (WP1, Objective 1) be translated into an amended SGP? Similarly, questions of legal design are raised by proposed fiscal risk sharing mechanisms, such as a possible Financial Stability Fund (WP1, Objective 3). How, for example, to accommodate a Financial Stability Fund in the existing legal structures in a way that ensures the compatibility of such a Fund with EU law? What legal vehicle is best chosen for its establishment (international or EU law)? And what role should be played by what EU institutions? These questions will also be addressed, building on De Witte and Beukers (2013).

The approach taken to these issues will be innovative in the following way. Current legal research about fiscal policy coordination and crisis resolution focuses on the limits posed by European law (for instance Tuori and Tuori, 2014), and how the measures taken so far have expanded the competences of the EU in a manner that is questionable both constitutionally and practically (see Dawson and De Witte, 2013). Little comprehensive or comparative research exists on the challenges, limits and opportunities that exist at the member state level. This will be an important focus of the proposed work.

Preliminary research suggests that the creation of a sustainable EMU raises various legal and constitutional challenges at the national level that need to be addressed. The project will identify potential loopholes both at the EU and the national level that need to be addressed by ADEMU's policy proposals, and propose legal ways to overcome them. In so doing, the project will further strengthen an understanding of the multi-layered legal system in place and the limits and opportunities this creates for different models of fiscal coordination and crisis resolution.

**Objective 4.2**

Research under Objective 2 focuses on various political economy considerations that are raised by proposed reforms to the EU's macroeconomic architecture. First it will consider the overall institutional architecture: whether the current, and proposed, governance and coordination of fiscal, monetary and financial policies leads to credible and efficient policies or, on the contrary, may fail due to problems of incentive, enforcement or –simply, due to its complex procedures – inability to react. In particular, regarding incentives, whether the current dichotomy of ECB independence for monetary policy vs. intergovernmental institutions for fiscal (e.g. to 'coordinate fiscal policies') and financial policies (e.g. the

SRM) is the most adequate; regarding enforcement, whether the current rules to enforce the ‘fiscal compact’ or transfer schemes (e.g. ESM or the ADEMU’s proposed FSF) are sufficient efficient and inclusive, or can be the source of socio-political instability or polarization; finally, complementing the research of WP3, whether the current design of the Banking Union is the most adequate to mitigate financial crisis and, at the same time, efficiently allocate credit. Ramon Marimon will coordinate this research getting feedback from the research of the WP1 – WP3 as well as from political scientists and sociologists from the EUI and other partner, and non-partner, institutions .

Political economy problems of a different sort are central to the reform of banking supervision in the euro area. With the establishment of the Single Supervisor Mechanism (SSM) as part of the ECB activities, the issue of how best to design such supervision has come to the forefront. An important problem is the issue of central bank independence from the financial sector: How best to insulate the ECB from bank lobbying? Relevant considerations include: What are the trade-offs between efficiency and political power as banks grow larger? Is competition or other policy towards bank size desirable? What are the effects of larger capital requirements? And so forth. Research by David Levine, Andrea Mattozzi and Salvatore Modica will explore these issues.

Work led by Andrea Mattozzi will focus on the factors that contribute to budgetary stability in democracies – of direct relevance to the successful design of binding fiscal rules at the national level (as considered under WP1, Objective 1). A well-known prediction of the theoretical literature in political economy is that total government spending as a share of GDP and budget surpluses as a share of GDP should decrease in election years (see, e.g., Nordhaus, Alesina and Schultze, 1989). The most recent empirical evidence, however, is mixed. Above all it suggests that heterogeneity across governments and political systems must be taken seriously into account. Among the several dimensions of heterogeneity, one seems particularly important and relatively easy to quantify: the tenure accumulated by the government. Does it matter for budgetary policies whether the government in power is ‘old’ or ‘young’? And if so, why is it the case? The project will study the fiscal effects of political tenure using a novel dataset covering 62 countries over the period 1945-2010. Preliminary analysis of the data strongly suggests that elected governments increase spending not only towards election time, but also throughout their entire tenure. The work will develop alternative theoretical models based on human capital accumulation or legislative bargaining to interpret such empirical findings.

#### Objective 4.3

The purpose of the final strand of research in WP4 is to employ experimental techniques to analyse possible practical hurdles associated with the models and policies proposed under ADEMU. This work will be led by Marco Casari and David Levine. A first project will focus on sovereign debt defaults, complementing the research under WP1 Objective 1. Macroeconomic experiments are in their infancy, and issues of external validity need to be properly addressed. But the work promises to deliver innovative and original contributions relating to the political constraints on public debt management. The focus will be on which political-economic institutions favour orderly public debt management, and which increase the likelihood of defaults – clearly a matter that is central to the construction of sustainable debt-management institutions in the EU. The features to be analysed include: democracy vs. elite rule, the effects of a social revolt that thwarts the orderly functioning of the credit market, the presence of income inequalities in the structure of the economy, and informational systems that support voters in forecasting the future consequences of current decisions. This task involves designing a platform that captures the essential features of the sovereign debt market, writing the software, implementing the experimental sessions, analysing the data, and carrying out the econometric analysis.

A second project will assess the effects of asymmetries on the resilience of cooperation among multiple decision makers. This is of central interest in testing the validity of the framework used to analyse risk-sharing measures among EU states under WP1 Objective 3. Asymmetries are perceived as one of the main disruptive forces in the viability of monetary unions, either in the form of structural imbalances or of asymmetric shocks. The aim of the proposed research is to study the impact on the resilience of cooperation of two sources of asymmetry: (a) inequality in labour productivities, and (b) inequality in monetary wealth (either pre-existing or endogenous). To analyse these asymmetries the work will use a framework that focuses on long-run interactions among groups of players who can engage in monetary trades, with adequate resources to sustain cooperative outcomes in principle (see Kandori, 1992, and Ellison, 1994). The design will reproduce such interactions in laboratory settings by considering indefinitely repeated social dilemmas of the type studied in Camera et al. (2013). The focus on monetary inequality is novel in this type of setting: previous experiments have shown how money helps to sustain higher levels of cooperation when wealth is evenly distributed (see Camera et al., 2013), but it is unclear how this changes when inequality is introduced. An extension will assess the impact of redistributive fiscal policies on coordination and cooperation.

Partner number and short name	WP4 effort
1 - EUI	21.00
2 - UCAM	5.00
3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAT BONN	3.00
4 - TSE	2.00
5 - UCL	2.00
6 - UNIVERSIDADE CATOLICA PORTUGUESA	3.00
7 - BARCELONA GSE	4.00
8 - Univerzita Karlova v Praze	4.00
<b>Total</b>	<b>44.00</b>

#### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D4.1	Working papers first draft WP4	1 - EUI	Report	Public	12
D4.2	Working papers 4	1 - EUI	Report	Public	34
D4.3	Workshop 4.1	1 - EUI	Demonstrator	Public	24
D4.4	Workshop 4.2	1 - EUI	Demonstrator	Public	36
D4.5	Policy briefs WP4	1 - EUI	Report	Public	34
D4.6	Experimental software	1 - EUI	Report	Public	34
D4.7	Preparation for experiments	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D4.8	Report on The State of the Van Rompuy Roadmap in 2018	1 - EUI	Report	Public	36

#### Description of deliverables

Most of the ADEMU research will first appear in the form of Working Papers, which subsequently will be submitted for publication to leading journals or further developed in books or other formats. WP4 Deliverables include 8 Working papers, the outcomes of 2 workshops, 3 policy briefs, a Software written for the experimental working papers, the documentation needed for the experiments and a Report on The State of the Van Rompuy Roadmap in 2018

D4.1 : Working papers first draft WP4 [12]

Input to MS2 and MS8 1. Analysis of the conditions posed to legal change in reaction to the Eurozone crisis at both EU and national level (analyzing the relevant issues at EU and national level, as well as the profound interconnections between the two). This will identify varieties of practice as well as possibly the best practice under Objective 1 [TB,

BdW, CF, CK, GM] 2. Analysis of the legal aspects of economic governance after the crisis (analyzing the legal implications of the various economic findings for the multilateral surveillance system, macroeconomic imbalances procedure, and excessive deficit procedure). This will feed into EMU policy reviews under Objective 1 [TB, BdW, CF, CK, GM] 3. Analysis of legal aspects of risk-sharing mechanisms (analyzing the legal implications of the various economic findings on for example a Financial Stability Fund and mutualization of debt). This will feed into policy proposals under Objective 1 [TB, BdW, CF, CK, GM] 4. Analysis of legal aspects of a banking union (analyzing the legal implications of the various economic findings on for example optimal design of banking supervision, the independence of the European Central Bank, and the coordination of banking policies). This will feed into policy reviews under Objective 1 [TB, BdW, CF, CK, GM] 5. A cross-country study of the fiscal effects of political tenure on budgetary policies in Objective 2 [AM] 6. Trade-offs between efficiency and political power as banks grow larger in Objective 2 [DL, AM, SM]. 7. Experimental evidence on the effects of political constraints on public debt management in Objective 3 [DL, MC] 8. The effects of productivity and wealth asymmetries on the resilience of cooperation: New experimental evidence in Objective 3 [DL, MC] Preliminary versions of the working papers will be delivered within 12 months. To be discussed in a workshops The final version will be delivered within 34 months.

D4.2 : Working papers 4 [34]

Input to MS4 Final version of Working papers D.4.1

D4.3 : Workshop 4.1 [24]

Input to MS3 and MS8 Summary of the outcome of the Workshop on the legal changes and challenges that the European and national constitutional orders face in response to the Eurozone crisis which it is expected to take place in the first year of the project.

D4.4 : Workshop 4.2 [36]

input to MS3 and MS8 Summary of the outcome of the Workshop on the legal, political economy and behavioural (experimental) implications of the ADEMU policy proposals which is expected to take place in the third year of the project

D4.5 : Policy briefs WP4 [34]

Input to MS9 1. Policy Brief with summary of main conclusions in WP4 Objective 1 2. Policy Brief with summary of other main conclusions in WP4 Objective 2 3. Policy Brief with summary of main conclusions in WP4 Objective 3

D4.6 : Experimental software [34]

Software written for the experimental working papers will be freely available to other researchers and teachers when the WP becomes available. It will be a tool for further studies and for possible training of undergraduate and graduate students to be used in class teaching

D4.7 : Preparation for experiments [12]

Documentation needed for the development of the experimental work: Data protection and Ethics Requirements (EUI Ethics Committee, etc.; see 'Ethics Requirements').

D4.8 : Report on The State of the Van Rompuy Roadmap in 2018 [36]

Report on The State of the Van Rompuy Roadmap in 2018, input to MS11. Although it will involve the whole consortium, WP4, with the support of WP6, will be responsible for the Final Policy Report to be presented and debated in the Final Conference (WP5 for its dissemination).

#### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Take-off Conference	2 - UCAM	6	Take-off Conference
MS2	Working Papers Submission I	1 - EUI	12	Working Papers Submission I
MS3	Project workshops	1 - EUI	24	Scheduled (1-24 month) workshops have taken place

### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS4	Working Papers Submission II	1 - EUI	34	Working Papers Submission II
MS5	ADEMU lectures	7 - BARCELONA GSE	24	At least 6 ADEMU lectures have taken place
MS7	ADEMU Course	4 - TSE	24	ADEMU Course has been designed
MS8	Economic and Legal Assessment of existing mechanisms and procedures	1 - EUI	12	Economic and Legal Assessment of existing mechanisms and procedures: ESM vs. FSF, MIP & SIP, SSM & SRM
MS9	Policy Briefs	8 - Univerzita Karlova v Praze	34	Policy Briefs
MS10	Final Conference	1 - EUI	36	Final Conference
MS11	Final Policy Report	7 - BARCELONA GSE	36	Final Policy Report ('The State of the V. R. ...')
MS12	Final Scientific Report	7 - BARCELONA GSE	36	Final Scientific Report

<b>Work package number</b> <sup>9</sup>	<b>WP5</b>	<b>Lead beneficiary</b> <sup>10</sup>	<b>7 - BARCELONA GSE</b>
<b>Work package title</b>	<b>Dissemination</b>		
<b>Start month</b>	<b>1</b>	<b>End month</b>	<b>36</b>

## Objectives

**Main Objectives:** To communicate the results of the project to stakeholders, to engage stakeholders in providing feedback as to enrich the research project, and to create a mechanism to evaluate the extent to which objectives these have been accomplished.

**Specific Objectives:**

- 5.1 Making a significant impact into the frontier of knowledge in the academic arena
- 5.2 Ensuring a high degree of visibility of the results of the project
- 5.3 Creating the basis for a sustainable impact on the corresponding policy-making bodies
- 5.4 Educating the general public with respect to the issues involved in the project
- 5.5 Tailoring the communication means to the specific target audience
- 5.6 Ensuring feedback from stakeholders, promoting dialogue among the involved parties and obtaining constructive criticism on the project

## Description of work and role of partners

**WP5 - Dissemination** [Months: 1-36]

**BARCELONA GSE**, EUI, UCAM, RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN, TSE, UCL, UNIVERSIDADE CATOLICA PORTUGUESA, Univerzita Karlova v Praze

The coordination of the dissemination work package will be done by the Barcelona GSE.

The objective of ADEMU is to produce state-of-the-art research to tackle three fundamental challenges faced by the EU, namely, the long-term sustainability of the EMU, the policy coordination and economic stability within the EU, and the risks from macroeconomic and financial imbalances. This should not be a mere academic task as these challenges affect, in a fundamental way, the mechanics of markets and society at large. In this sense, these challenges incorporate an essential policy component aiming at compensating any negative impact they may have on the functioning of markets or on standards of living in general.

It is for these reasons that for the project to be successful, we should be able to affect the process by which the aforementioned challenges have an influence on society. This objective can only be accomplished by preparing an adequate communication strategy with the different agents involved. This means a two-way active interaction process between researchers in the project and policy makers, market participants and societal organizations. Furthermore, the project should also promote contacts between these agents themselves. This communication strategy is a difficult enterprise as different stakeholders do not necessarily share the same background, culture, language or even interests. Therefore, the produced dissemination materials should be customized to satisfy the target audiences' informative needs in terms of content, design, technical language, frequency, etc.

The dissemination work package will be divided in the following tasks:

**Task 5.1.** Forming a dissemination team. This team will be responsible for producing the dissemination plans, designing the layouts of the communication means, contacting specific target groups, distributing the material, and maintaining the project website. It will be composed of a coordinator at the BcnGSE, a contact person from other partners and administrative and technical staff.

**Task 5.2.** Producing comprehensive dissemination plans. An initial dissemination plan will develop the points outlined in the tasks below, produce a dissemination calendar, identify specific target groups, tailor the communication means to these groups, foresee potential risks and provide ways to overcome them.

In this sense, target groups involve:

- academic researchers (at universities and research institutes)
- policy makers (at the EU, national and regional level)
- lobbies, think tanks and market associations



- general public

Possible risks to the communications strategy involve those associated with the different background, culture, language or interests of the different stakeholders. Possible ways to overcome these risks include tailoring the content, the means, the language and/or the frequency of the communication to each particular target group. Once specific target groups are singled out in the plan, group-specific communication plans will be developed.

The initial communication plan will be followed by an interim plan at the middle of the project. This interim plan will assess the communication strategy and evaluate its success proposing the corresponding correcting modifications. ADEMU will create a logo for the project as well as design and produce leaflets and posters to be distributed and displayed in conferences, workshops, the website, and the like

Task 5.3. Developing and maintaining an up-to-date and interactive webpage. The project website will gather most of the project's outputs to be specified below and will make it fully accessible to the stakeholders.

Task 5.4. Academic workshops and webinars. Nine research workshops are planned in the ADEMU project. These workshops provide an efficient way to connect the research done by different researchers. The workshop presentations will be made accessible through the project website through live feed and also through video podcast.

Task 5.5. Participating in conferences and publishing of results. Dissemination of ADEMU outcomes will naturally target the broader scientific community. Scientific dissemination, including peer review, is seen as an important condition to enhance and sustain the impact of the project. This dissemination will take place through the regular channels of articles in scholarly journals, reports and scientific conferences and also working papers series. Drafts output will be made available to all participants through the ADEMU Portal. We will strongly promote open access for all our publications and sustainable availability in online repositories. Two main conference will take place, one 'take-off' conference in the first semester to discuss the ADEMU research agenda with the ADEMU Advisory Committee (AAC) and other members of the academic and economic policy communities and one at the end to share with a larger audience of these communities the results of the ADEMU project in the context of The State of the Union of the EUI – City of Florence.

Task 5.6. Policy Forums. There will be two Policy Forum meetings and/or policy roundtables. These Forums will take place in coordination with other workshops and will offer a venue for intensive face-to-face dialogue between researchers, of different disciplines within the social sciences and humanities, decision-makers and analysts from policy, and other societal organizations on key issues on the policy implementation part of the project. The Forums will discuss research outcomes with an explicit view towards exploring the implications for innovative policy ideas. At the same time, policy and societal organizations will provide inputs about the specific challenges they face and the way in which they respond to these challenges. This information should definitely be useful for academic researchers to put their research into a practical context. After each Forum, as a follow-up, a short summary will be circulated among the participants. In addition a wider group of renowned experts from science, policy, society, and the economy will be invited to comment on the summary in order to gain further input. The presentations, summaries, and the results of the discussion will be used to produce a policy brief on the stakeholder dialogue outcomes and will be distributed to European institutions and member state representatives. All this material will be accessible at the ADEMU webpage.

Task 5.7. Short ADEMU course on New Research on the New Macroeconomics of the EMU. We stress the vital importance that the dissemination process reaches students and young scientists. ADEMU will host a series of regular Summer Schools for students and young policymakers in Economics and Political Science. These Summer Schools will take place on campuses of the participating institutions.

Task 5.8. Support to PhD programs and post-docs. One way to ensure the continuation value of the project and its sustainability is to engage young researches in pursuing work on the topics of the project. For that, ADEMU includes support to graduate programs. In particular, it will provide scholarships to students working on thesis within the topics of the call. Furthermore, it will cover mobility expenses to invite professors from institutions in the project to teach at some of the graduate programs of other nodes in the network.

Task 5.9. ADEMU knowledge transfer depository. Policy briefs, e-newsletters, and press releases will be regularly published in the project website. Although the depository will include its own blog, authors could additionally publish this material in certain target policy blogs such as vox.eu.org, economonitor.com or oekonomenstimme.org. The depository could also include pamphlets, reader-friendly versions and videos of the ADEMU publications and results, i.e. short summaries of reports, proceedings of seminars or articles with a link to the original publication and to further reading.

Task 5.10. ADEMU education portal. Through its webpage, ADEMU will provide supporting material so that the general public could understand the relevance of the objectives of the project as well as its conclusions. This supporting material includes presentations and lectures in audio and video format as well as notes explaining the basic concepts and their relevance for society as a whole.

Task 5.11. Close engagement with policy and regulatory bodies. ADEMU will contact relevant national and supra-national bodies in policy making, supervision and regulation. Target EU institutions will be the European System of Central Banks, the European Stability Mechanism, the European Systemic Risk Board, the European Banking Authority, and the DG for Economic and Financial Affairs. National agencies comprise, among other institutions, economic, financial and treasury ministries. Supra-national bodies include the Bank for International Settlements or the International Monetary Fund. The aim of these contacts is to cooperate by sharing data as well as policy recommendations.

Task 5.12. Provide up-to-date web-based communication. ADEMU will be present in social media and dedicate efforts to build a web-based community. Facebook will be used to engage members of the academic and policy, as well as members of the media and general public, for interaction and feedback, as well as for driving traffic to the website. Twitter could be used to update members of this community on new publications, updates to the website and Facebook pages, and events.

Task 5.13. ADEMU Software and Data. The project will make publicly available the new data sets, and experimental numerical solution and estimation software developed by its researchers.

#### Participation per Partner

Partner number and short name	WP5 effort
1 - EUI	4.00
2 - UCAM	5.00
3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	2.00
4 - TSE	2.00
5 - UCL	2.00
6 - UNIVERSIDADE CATOLICA PORTUGUESA	3.00
7 - BARCELONA GSE	23.00
8 - Univerzita Karlova v Praze	3.00
<b>Total</b>	<b>44.00</b>

#### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D5.1	Initial Dissemination plan and Website	7 - BARCELONA GSE	Report	Confidential, only for members of the consortium (including the Commission Services)	4
D5.2	Dissemination of the results	7 - BARCELONA GSE	Demonstrator	Public	8



### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
	of the Take-off Conference				
D5.3	Dissemination of Working Papers I	7 - BARCELONA GSE	Demonstrator	Public	12
D5.4	Dissemination of Working Papers II	7 - BARCELONA GSE	Demonstrator	Public	34
D5.5	Dissemination of the results of Workshops I	7 - BARCELONA GSE	Demonstrator	Public	12
D5.6	Dissemination of the results of the Workshops II & Policy Forums	7 - BARCELONA GSE	Demonstrator	Public	24
D5.7	Support and dissemination of the ADEMU Lectures and Courses	7 - BARCELONA GSE	Demonstrator	Public	24
D5.8	Support and dissemination of the Policy Briefs	7 - BARCELONA GSE	Other	Public	34
D5.9	Web dissemination of ADEMU data, indicators and software	7 - BARCELONA GSE	Demonstrator	Public	34
D5.10	Support and dissemination of The Risk Assessment Report on Public Sector Balance Sheets	7 - BARCELONA GSE	Demonstrator	Public	34
D5.11	Dissemination of the events of last year of the project	7 - BARCELONA GSE	Demonstrator	Public	36
D5.12	Dissemination of the results of the Final Conference	7 - BARCELONA GSE	Other	Public	36
D5.13	Support and dissemination of the two ADEMU Final Reports	7 - BARCELONA GSE	Demonstrator	Public	36

### Description of deliverables

WP5 Deliverables will communicate the results of the project to stakeholders, will engage stakeholders in providing feedback as to enrich the research project, and create a mechanism to evaluate the extent to which these objectives have been accomplished. They include the initial dissemination plan, the dissemination of all project events such

workshops, conferences, lectures and courses, the dissemination of project documents and reports such as working papers, policy briefs, the the dissemination of project data, indicators and software.

D5.1 : Initial Dissemination plan and Website [4]

Initial Dissemination plan and Website

D5.2 : Dissemination of the results of the Take-off Conference [8]

Dissemination of the results of the Take-off Conference, which will include a leaflet explaining the ADEMU project

D5.3 : Dissemination of Working Papers I [12]

Dissemination of Working Papers I The dissemination of the Working Papers will be a constant activity through the project, with the on-line ADEMU Working Papers depository. Furthermore, the ADEMU webpage will highlight their main results and policy prescriptions. The deliverables will summarize the corresponding work, keeping track of the impact and additional publications coming out of the WPs.

D5.4 : Dissemination of Working Papers II [34]

Dissemination of Working Papers II

D5.5 : Dissemination of the results of Workshops I [12]

Dissemination of the results of the Workshops I The dissemination of the ADEMU events will also be a constant activity through the project. On a yearly basis the work on the dissemination of Workshops and Policy Forums will be summarized as a deliverable

D5.6 : Dissemination of the results of the Workshops II & Policy Forums [24]

Dissemination of the results of the Workshops II & Policy Forums

D5.7 : Support and dissemination of the ADEMU Lectures and Courses [24]

Support and dissemination of the ADEMU Lectures and Courses The open ADEMU Lectures will be widely disseminated and will be available online. Development of material for the ADEMU module courses on New Research on the New Macroeconomics of the EMU and their dissemination. D.5.7. will account for the corresponding educational activities of the first two years.

D5.8 : Support and dissemination of the Policy Briefs [34]

Support and dissemination of the Policy Briefs Policy Briefs will be the main vehicles to communicate the policy prescriptions of the project, other than the Final Policy Report (see D.5.12). Editing support and wide dissemination will be provided, this deliverable will summarize this activity

D5.9 : Web dissemination of ADEMU data, indicators and software [34]

Web dissemination of ADEMU data, indicators and software Web dissemination of the new data and software generated by the project, such as the data and new set of Macroeconomic Imbalance Indicators (D.3.6) and the experimental data and software (D.4.6).

D5.10 : Support and dissemination of The Risk Assessment Report on Public Sector Balance Sheets [34]

Support and dissemination of The Risk Assessment Report on Public Sector Balance Sheets

D5.11 : Dissemination of the events of last year of the project [36]

Dissemination of the events of last year of the project Report on the support and dissemination of the events of last year, aside from the Final Conference (D.5.12); i.e. Workshops, the Policy Forum and the ADEMU Lectures and Courses

D5.12 : Dissemination of the results of the Final Conference [36]

Dissemination of the results of the Final Conference

D5.13 : Support and dissemination of the two ADEMU Final Reports [36]

Support and dissemination of the two ADEMU Final Reports: The State of the Van Rompuy Roadmap in 2018 and The Final Scientific Report

### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Take-off Conference	2 - UCAM	6	Take-off Conference
MS2	Working Papers Submission I	1 - EUI	12	Working Papers Submission I
MS3	Project workshops	1 - EUI	24	Scheduled (1-24 month) workshops have taken place
MS4	Working Papers Submission II	1 - EUI	34	Working Papers Submission II
MS5	ADEMU lectures	7 - BARCELONA GSE	24	At least 6 ADEMU lectures have taken place
MS6	Risk Assessment Report	3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	34	Risk Assessment Report
MS7	ADEMU Course	4 - TSE	24	ADEMU Course has been designed
MS9	Policy Briefs	8 - Univerzita Karlova v Praze	34	Policy Briefs
MS10	Final Conference	1 - EUI	36	Final Conference
MS11	Final Policy Report	7 - BARCELONA GSE	36	Final Policy Report ('The State of the V. R. ...')
MS12	Final Scientific Report	7 - BARCELONA GSE	36	Final Scientific Report

<b>Work package number <sup>9</sup></b>	<b>WP6</b>	<b>Lead beneficiary <sup>10</sup></b>	<b>1 - EUI</b>
<b>Work package title</b>	<b>Management</b>		
<b>Start month</b>	<b>1</b>	<b>End month</b>	<b>36</b>

### Objectives

- 6.1 To organize, together with the dissemination team, the main conferences of the project.
- 6.2 To follow up the timely execution of the consortium's activities,
- 6.3 To produce the expected deliverables within the quality standards accepted by the consortium and the EC
- 6.4 To use decision criteria to meet the project objectives according to the rules set forth in the Consortium Agreement
- 6.5 To follow up the dissemination activities as to guarantee the desired impact of the project.

### Description of work and role of partners

#### **WP6 - Management [Months: 1-36]**

**EUI, UCAM, UNIVERSIDADE CATOLICA PORTUGUESA, Univerzita Karlova v Praze**

**Task 1.1: Financial and administrative management of the project**

- The project manager, in close cooperation with the scientific direction and other col-leagues at the EUI, is responsible for the daily management of the Consortium over the full duration of the project. This includes
- day-to-day administrative management;
- legal and contractual management, as well as maintenance of the consortium agreement;
- co-ordination of knowledge management;
- maintaining the web site and the databases;
- maintaining close liaison with the individual project participants;
- co-ordinating external communication on behalf of the co-ordinator;
- general financial management, including administering the budget for centrally organised activities;
- co-ordinating the communication of the co-ordinator with the European Commission;
- defining and following the Data Management Policy and, in general, the Open Access Policy of the consortium.

Together with other units of the EUI/RSCAS administration (Conference Unit, Publication Unit, etc.), the project manager is also managing the input for centrally organised activities.

**Task 1.2: Overall coordination and steering of the project**

The Project Coordinator will:

- manage the project team
- be responsible for monitoring and ensuring the academic quality of final deliverables of the project
- keep contacts with the Commission and with the heads of the research teams
- organise Steering Committee meetings (kick-off and during meetings 1-3)

The Steering Committee will be responsible for:

- the general co-ordination of activities across the different Work Packages;
- the extraction of policy prescriptions from the results of WP4 to WP7;
- the development and delivery of the research projects and of supporting dissemination and exploitation activities;
- the preparation of the content and timing for press releases and joint publications by the Consortium;
- the co-ordination of periodic reports to be delivered to the Commission;
- the preparation of the final report.

The Advisory Committee's task will be to

- advise the project coordinator and the Steering Committee; in particular, regarding the research agenda and its possible policy impact, as well as in the design of other activities, such as the ADEMU course.
- participate in the two conferences of the project and, if possible, in selected workshops and policy forums for which their input can be most valuable;
- members of the Advisory Committee will be invited to deliver an ADEMU Lecture

### Participation per Partner

Partner number and short name	WP6 effort
1 - EUI	20.00
2 - UCAM	6.00
6 - UNIVERSIDADE CATOLICA PORTUGUESA	3.00
8 - Univerzita Karlova v Praze	4.00
<b>Total</b>	<b>33.00</b>

#### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D6.1	Initial management plan	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	4
D6.2	Coordination and supervision of the first year activities	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	12
D6.3	Coordination and supervision of the second year activities	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D6.4	Coordination and preparation of the final activities	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	30
D6.5	Advisory Committee initial recommendations	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	8
D6.6	Advisory Committee final recommendations	1 - EUI	Report	Confidential, only for members of the consortium (including the Commission Services)	24
D6.7	Data Management Plan	1 - EUI	Report	Confidential, only for members of	4

### List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
				the consortium (including the Commission Services)	

### Description of deliverables

WP6 Deliverables are produced in connection with the financial and administrative management of the project and with the overall coordination and steering of ADEMU activities. They include management plans, self-assessment progress reports, Advisory committee recommendations.

#### D6.1 : Initial management plan [4]

Initial management plan Layout of the management and coordination plans and responsibilities. These plans will be updated in the following three deliverables

#### D6.2 : Coordination and supervision of the first year activities [12]

Coordination and supervision of the first year activities Brief self-assessment progress reports on the different activities realized during the first year, paying special attention to the implementation of the recommendations of the Advisory Committee (D.6.5).

#### D6.3 : Coordination and supervision of the second year activities [24]

Coordination and supervision of the second year activities Brief self-assessment progress reports on the different activities realized during the second year, paying special attention to the development of the educational activities of the project (Lectures, Courses, PhD and Post-doctoral support, etc.), and on the preparation of the last year's activities, accounting for the additional recommendations of the Advisory Committee for (D.6.6).

#### D6.4 : Coordination and preparation of the final activities [30]

Coordination and preparation of the final activities Brief self-assessment progress reports on the different activities realized during the first semester of the last year, paying special attention to the development of the policy initiatives (Policy Forums, Policy Briefs, etc.). Brief report on the preparation of the final events – in particular, the Final Conference – and reports.

#### D6.5 : Advisory Committee initial recommendations [8]

Advisory Committee initial recommendations In conjunction with the Take-off Conference, the Advisory Committee will make recommendations for the development of ADEMU

#### D6.6 : Advisory Committee final recommendations [24]

Advisory Committee final recommendations The Advisory Committee recommendations after the first two years of the project and in preparation of the final year

#### D6.7 : Data Management Plan [4]

All the data and publications of ADEMU will comply with the Open Access policy, which will be implemented through the ADEMU website. A specific Data Management Plan, following the Guidelines on Data Management in Horizon 2020 will be presented ahead of the dissemination of the first documents and data of the project.

### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS3	Project workshops	1 - EUI	24	Scheduled (1-24 month) workshops have taken place

### Schedule of relevant Milestones

Milestone number <sup>18</sup>	Milestone title	Lead beneficiary	Due Date (in months)	Means of verification
MS5	ADEMU lectures	7 - BARCELONA GSE	24	At least 6 ADEMU lectures have taken place
MS7	ADEMU Course	4 - TSE	24	ADEMU Course has been designed
MS8	Economic and Legal Assessment of existing mechanisms and procedures	1 - EUI	12	Economic and Legal Assessment of existing mechanisms and procedures: ESM vs. FSF, MIP & SIP, SSM & SRM
MS10	Final Conference	1 - EUI	36	Final Conference
MS11	Final Policy Report	7 - BARCELONA GSE	36	Final Policy Report ('The State of the V. R. ...')
MS12	Final Scientific Report	7 - BARCELONA GSE	36	Final Scientific Report

### 1.3.4. WT4 List of milestones

Milestone number <sup>18</sup>	Milestone title	WP number <sup>9</sup>	Lead beneficiary	Due Date (in months) <sup>17</sup>	Means of verification
MS1	Take-off Conference	WP1, WP2, WP3, WP4, WP5	2 - UCAM	6	Take-off Conference
MS2	Working Papers Submission I	WP1, WP2, WP3, WP4, WP5	1 - EUI	12	Working Papers Submission I
MS3	Project workshops	WP1, WP2, WP3, WP4, WP5, WP6	1 - EUI	24	Scheduled (1-24 month) workshops have taken place
MS4	Working Papers Submission II	WP1, WP2, WP3, WP4, WP5	1 - EUI	34	Working Papers Submission II
MS5	ADEMU lectures	WP1, WP2, WP3, WP4, WP5, WP6	7 - BARCELONA GSE	24	At least 6 ADEMU lectures have taken place
MS6	Risk Assessment Report	WP1, WP5	3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	34	Risk Assessment Report
MS7	ADEMU Course	WP1, WP2, WP3, WP4, WP5, WP6	4 - TSE	24	ADEMU Course has been designed
MS8	Economic and Legal Assessment of existing mechanisms and procedures	WP1, WP3, WP4, WP6	1 - EUI	12	Economic and Legal Assessment of existing mechanisms and procedures: ESM vs. FSF, MIP & SIP, SSM & SRM
MS9	Policy Briefs	WP1, WP2, WP3, WP4, WP5	8 - Univerzita Karlova v Praze	34	Policy Briefs
MS10	Final Conference	WP1, WP2, WP3, WP4, WP5, WP6	1 - EUI	36	Final Conference
MS11	Final Policy Report	WP4, WP5, WP6	7 - BARCELONA GSE	36	Final Policy Report ('The State of the V. R. ...')
MS12	Final Scientific Report	WP1, WP2, WP3, WP4, WP5, WP6	7 - BARCELONA GSE	36	Final Scientific Report



### 1.3.5. WT5 Critical Implementation risks and mitigation actions

Risk number	Description of risk	WP Number	Proposed risk-mitigation measures
R1	Excessive Computational Complexity	WP1, WP4	Build from existing computational algorithms
R2	Non-implementable Policy Prescriptions	WP1, WP2, WP3	Critical Legal and Political – Economy discussions
R3	Difficulties in gathering Imbalance or Risk Indicators	WP1, WP3, WP4	Fully exploit existing data sources and make a specific plan for gathering new data
R4	Experimental Lab Problems	WP4	Careful design of experiments and proper communication to participants in experiments

### 1.3.6. WT6 Summary of project effort in person-months

	WP1	WP2	WP3	WP4	WP5	WP6	Total Person/Months per Participant
1 - EUI	13	4	11	21	4	20	73
2 - UCAM	31	12	0	5	5	6	59
3 - RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITAT BONN	5	13	0	3	2	0	23
4 - TSE	9	16	0	2	2	0	29
5 - UCL	6	6	2	2	2	0	18
6 - UNIVERSIDADE CATOLICA PORTUGUESA	7	10	0	3	3	3	26
7 - BARCELONA GSE	12	0	35	4	23	0	74
8 - Univerzita Karlova v Praze	8	0	17	4	3	4	36
<b>Total Person/Months</b>	<b>91</b>	<b>61</b>	<b>65</b>	<b>44</b>	<b>44</b>	<b>33</b>	<b>338</b>

### 1.3.7. WT7 Tentative schedule of project reviews

Review number <sup>19</sup>	Tentative timing	Planned venue of review	Comments, if any
RV1	14	Brussels	To be discussed and agreed upon with Project Officer
RV2	38	Brussels	To be discussed and agreed upon with Project Officer

DRAFT

## 1.4. Ethics Requirements

Ethics Issue Category	Ethics Requirement Description
PROTECTION OF PERSONAL DATA	<p>- 1. Copies of ethical approvals for the collection of personal data by the competent University Data Protection Officer / National Data Protection authority must be submitted to the REA 2. Detailed information must be provided on the procedures that will be implemented for data collection, storage, protection, retention and destruction and confirmation that they comply with national and EU legislation 3. Detailed information must be provided on the informed consent procedures that will be implemented 4. The applicant must explicitly confirm that the existing data are publicly available 5. In case of data not publicly available, relevant authorisations must be provided</p>
HUMANS	<p>- 1. Details on the procedures and criteria that will be used to identify/recruit research participants must be provided 2. Detailed information must be provided on the informed consent procedures that will be implemented.</p>

## 1. Project number

The project number has been assigned by the Commission as the unique identifier for your project. It cannot be changed. The project number **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

## 2. Project acronym

Use the project acronym as given in the submitted proposal. It can generally not be changed. The same acronym **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

## 3. Project title

Use the title (preferably no longer than 200 characters) as indicated in the submitted proposal. Minor corrections are possible if agreed during the preparation of the grant agreement.

## 4. Starting date

Unless a specific (fixed) starting date is duly justified and agreed upon during the preparation of the Grant Agreement, the project will start on the first day of the month following the entry into force of the Grant Agreement (NB : entry into force = signature by the Commission). Please note that if a fixed starting date is used, you will be required to provide a written justification.

## 5. Duration

Insert the duration of the project in full months.

## 6. Call (part) identifier

The Call (part) identifier is the reference number given in the call or part of the call you were addressing, as indicated in the publication of the call in the Official Journal of the European Union. You have to use the identifier given by the Commission in the letter inviting to prepare the grant agreement.

## 7. Abstract

## 8. Project Entry Month

The month at which the participant joined the consortium, month 1 marking the start date of the project, and all other start dates being relative to this start date.

## 9. Work Package number

Work package number: WP1, WP2, WP3, ..., WPn

## 10. Lead beneficiary

This must be one of the beneficiaries in the grant (not a third party) - Number of the beneficiary leading the work in this work package

## 11. Person-months per work package

The total number of person-months allocated to each work package.

## 12. Start month

Relative start date for the work in the specific work packages, month 1 marking the start date of the project, and all other start dates being relative to this start date.

## 13. End month

Relative end date, month 1 marking the start date of the project, and all end dates being relative to this start date.

## 14. Deliverable number

Deliverable numbers: D1 - Dn

## 15. Type

Please indicate the type of the deliverable using one of the following codes:

- R Document, report
- DEM Demonstrator, pilot, prototype
- DEC Websites, patent filings, videos, etc.
- OTHER

## 16. Dissemination level

Please indicate the dissemination level using one of the following codes:

- PU Public

CO Confidential, only for members of the consortium (including the Commission Services)

CI Classified, as referred to in Commission Decision 2001/844/EC

#### **17. Delivery date for Deliverable**

Month in which the deliverables will be available, month 1 marking the start date of the project, and all delivery dates being relative to this start date.

#### **18. Milestone number**

Milestone number: MS1, MS2, ..., MSn

#### **19. Review number**

Review number: RV1, RV2, ..., RVn

#### **20. Installation Number**

Number progressively the installations of a same infrastructure. An installation is a part of an infrastructure that could be used independently from the rest.

#### **21. Installation country**

Code of the country where the installation is located or IO if the access provider (the beneficiary or linked third party) is an international organization, an ERIC or a similar legal entity.

#### **22. Type of access**

VA if virtual access,

TA-uc if trans-national access with access costs declared on the basis of unit cost,

TA-ac if trans-national access with access costs declared as actual costs, and

TA-cb if trans-national access with access costs declared as a combination of actual costs and costs on the basis of unit cost.

#### **23. Access costs**

Cost of the access provided under the project. For virtual access fill only the second column. For trans-national access fill one of the two columns or both according to the way access costs are declared. Trans-national access costs on the basis of unit cost will result from the unit cost by the quantity of access to be provided.