

SIXTH FRAMEWORK PROGRAMME
PRIORITY [7]
[Citizens and Governance in an Knowledge Based



Contract for:

SPECIFIC TARGETED RESEARCH OR
INNOVATION PROJECT

Annex I - "Description of Work"

Project acronym: PAC

Project full title: Polarization and Conflict

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Table of Contents

1. Project summary	3
2. Project objective(s)	3
3. Participant list	5
4. Relevance to the objectives of the specific programme and/or thematic priority	6
5. Potential Impact	7
5.1 Contributions to standards	7
5.2 Contribution to policy developments	8
6. Project management and exploitation/dissemination plans	8
6.1 Project management	8
7. Workplan- for whole duration of the project	9

1. Project summary

The purpose of this multi-disciplinary research project is to promote and coordinate research on the conceptualization, modelling and measurement of polarization and conflict and the links between the two. We aim at contributing to identify the main forces leading to conflict, to provide tools and indicators for early warning, to understand the role of alternative forms of third party intervention such as mediation or arbitration in the reaching of an agreement, and to the design of post-conflict, viable agreements, including the system of political representation. In order to achieve this task, we will integrate the different approaches that have independently been developed in the different social sciences and will combine models with empirical evidence. We expect the outcome be a multidisciplinary understanding of conflict in which the analytical models will be tested against facts.

2. Project objectives

Introduction

We start with a summary presentation of the general goals of the research project and how these goals materialize into specific objectives. In order to achieve these objectives we set a number of (dated) operational goals. The degree of achievement of these dated targets will be a test of the performance of the team. This degree of achievement will be assessed in the semester progress report prepared by each of the team members in charge of the different work packages. The progress reports will be examined by the coordination board and by the advisory board. On its own analysis and on the recommendation by the advisory board, the coordination board will redefine the work plan, including the reallocation of resources across centres, if necessary.

To a large extent, the following strategic plan essentially consists of a restructuring of information contained in Form B of our application.

1. General goals

The purpose of this multi-disciplinary research project is to promote and coordinate research on the conceptualization, modeling and measurement of polarization and conflict and the links between the two. We aim at integrating into a common, analytical framework the intellectual traditions that have developed quite independently in the different disciplines in the social sciences. Fostering a qualitative advance in the analysis of conflict, we hope to promote a scientific debate that will launch conflict as one of the central research concerns of social scientists.

This research aims at three types of objectives: thematic, methodological and strategic.

Thematic goals

Our research agenda will develop along the lines of the following four specific objectives:

- ✍ Socio-economic polarization: concepts and measures
- ✍ Understanding conflict
- ✍ Promoting agreements in the shadow of conflict

- ✍ Channeling conflicts in a democracy

Methodological goals

This project wishes to achieve significant advances in three fronts:

- ✍ Establishing effective bridges between the approaches that have been independently developed in the different social sciences.
- ✍ Providing an integral analytical framework that permits the understanding of the different phases of conflict: early warnings, occurrence of conflict, negotiation of an agreement, and post-conflict institution design.
- ✍ Integrating theory and evidence, models and facts

Strategic goals

We aim at

- ✍ helping the political community to identify potential conflicts and to provide policymakers with up-to-date data and forecasts
- ✍ promoting a scientific debate that will launch conflict as one of the central research concerns in the areas of the Social Sciences where it is still not.

2. Objectives

These scientific goals translate into the following objectives:

- ✍ Scientific
 - ? 56 publications in top field journals
 - ? 2 edited journal issues
 - ? 1 collective book
- ✍ Educational
 - ? 9 theses supervised
 - ? integration of 6 post-docs into the research teams
 - ? 3 multidisciplinary summer schools
- ✍ Dissemination
 - ? Webpage on polarization and conflict
 - ? 3 open congresses
 - ? 3 non-technical presentations
- ✍ Policy relevance
 - ? strengthen the links with administrations and institutions involved in security and peace keeping
 - ? have policy-makers to participate in the meetings and congresses
 - ? produce non-technical summaries of our research
 - ? facilitate the access and use of the wealth of factual information contained in the existing databases, providing a comprehensive inventory
 - ? make the policy implications of our research operational

3. Participant list

1. Instituto de Análisis Económico, CSIC, Barcelona, Spain

Clara Ponsatí

Enriqueta Aragonés

Melvyn Coles

Joan Esteban (Project coordinator)

Flip Klijn

Marta Reynal-Querol

2. London School of Economics, London, UK

David Stasavage

Oriana Bandeira

Timothy Besley

Robin Burgess

Valentino Larcinese

Andrea Prat

3. Università Bocconi, IGIER, Milano, Italy

Eliana La Ferrara

Conchita d'Ambrosio

Alberto Bisin

4. Universität Konstanz, Konstanz, Germany

Gerald Schneider

Margit Bussmann

Stefan Hartmann

Christian Martin

Thomas Plümper

5. Université de Toulouse I, Toulouse, France

Jean-Paul Azam

Jean Tirole

6. University of Tel Aviv, Tel Aviv, Israel

Tzachi Gilboa

David Schmeidler

7. University of Utrecht, Utrecht, the Netherlands

Vincent Buskens

René Torenvlied

Jeroen Weesie

8. Centre for the Study of Civil War (CSCW), International Peace Research Institute, Oslo (PRIO), Norway

Scott Gates
Nils Petter Gleditsch
Håvard Hegre
Karl Ove Moene
Indra de Soysa

Individual European researchers participating in the project

Valentino Dardanoni, Università di Palermo, Italy
Vito Peragine, Università di Bari, Italy
József Sákovics, University of Edinburgh, UK
Santiago Sánchez-Pagés, University of Edinburgh, UK

Individual US-based researchers participating in the project

Alberto Alesina, Harvard University, USA
Roland Bénabou, Princeton University, USA
Andrew Postlewaite, University of Pennsylvania, USA
Robert Powell, University of California, Berkeley, USA
Debraj Ray, New York University, New York, USA and IAE, Barcelona
James Alan Robinson, University of California, Berkeley, USA
Gérard Roland, University of California, Berkeley, USA
Stergios Skaperdas, University of California, Irvine, USA
Shlomo Weber, Southern Methodist University, Dallas, USA and Université Catholique de Louvain (CORE)
Andrew Weiss, Boston University, USA.

4. Relevance to the objectives of the specific programme and/or thematic priority

The strategic scientific objectives addressed by this project are:

- ✍ **(Research area 6)** ‘Issues connected with the resolution of conflicts and restoration of peace and justice’. Specifically, the project focuses on the *‘critical factors that lead to conflict and/or their escalation: psychological factors, competing historical narratives, economic and social polarization’* and *‘methods for early warning’*.

This project wishes to contribute to the identification of the main forces leading to conflict, to provide tools and indicators for early warning, to understand the role of alternative forms of mediation in the reaching of an agreement, and to the design of post-conflict, viable institutions, including the system of political representation. All these questions are at the very heart of area 6 (conflict and restoration of peace) of priority 7 (citizens and governance in a knowledge based society).

At the same time, we aim at contributing to the establishment of the study of conflict as a core area in the social sciences. With this aim we plan to make an effort to direct the attention of young doctoral students towards this topic, to organize regular meetings inviting all the scholars with an interest in the area, edit books putting together the results of our research, propose to relevant scientific journals the editing of special issues, and set up a webpage to facilitate communication and the diffusion of the results.

Aspects of the project relevant to the wider societal policy objectives:

- ✍ We will study the formation of groups. This is essential to understand the eventual development of excluded groups in Europe. At a more macro level, it will help understanding the basis of national *identification* and hence the ways to develop a new, European identification in an enlarged Europe.
- ✍ We will also analyse how social cleavages are formed and which are the dimensions, economic, religious, language or nationalistic that are at the root of conflict or political and social violence. This is of interest for Europe mainly because of the existence of many groups of immigrant population with a different culture and religion.
- ✍ We analyse the role of income and social polarization on violence and development. The World Bank has come to the conclusion that the benefits of the aid to third world countries is often wasted because of internal conflict and political instability. Peace does not fall from heaven in societies divided by ethnicity, religion, or social fragmentation. This research is bound to shed some useful light on the design of the aid policy that the EU should adopt towards developing countries, Africa in particular, by bringing out the potential impact on foreign aid and on the conditionality on redistribution and credibility. Notice that European international aid is twice as large as the US.
- ✍ We will develop econometric techniques to estimate income and social polarization of countries and thus assess potential conflict.
- ✍ In this project, the team proposes to study a model that will explain why people vote, and why, at the same time, they make other statements such as volunteering for a political candidate, supporting various associations and organisation, and so forth. Again it is especially relevant to EU the strengthening of democracy and political participation in general.
- ✍ We will finally examine the role of democracy and political institutions to mitigate conflict. This is of special relevance for the European union, because we will examine institutional forms to avoid political and social exclusion, both domestically and within the Union.

Moreover we will try to measure the social capital and trust, mainly in Europe, and analyse which are the social and political conditions that promote or reduce it in a country or among countries within the Union.

5. Potential Impact

The contributions with a major potential impact are:

5.1. Contributions to standards

One major aim of this project is to contribute to the establishment of the study of conflict as a core area in the social sciences by means of directing the attention of young doctoral students towards this topic, of organizing regular meetings to coordinate all the scholars with an interest in the area, of editing books with the results of our research, of proposing to relevant scientific journals the editing of special issues, and of setting up a webpage to

facilitate communication and the diffusion of the results. We expect to have a clear impact on this count.

5.2. Contribution to policy developments

A crucial objective is to make of the measure of polarization a regular tool to assess the risks of conflict. The theoretical, econometric and empirical work foreseen by this project on the measurement of polarization should render this tool fully useable by the analysts.

We expect to be able to provide new, fresh ideas on the causes of conflict and the most effective type of mediation. We cannot commit thought to be able to reach conclusions permitting a mechanical application to mediations in actual conflicts.

Our research should give useful insights on post-conflict management. On which type of political arrangements seem to be most viable in each particular situation. This ‘case by case’ approach is in contrast with the more naïve view that the democratic majoritarian system is the only conceivable way of organizing a peaceful society.

6. Project management and exploitation/dissemination plans

The above contributions will be disseminated by the following means:

- ✍ Attracting doctoral students towards this area
- ✍ Organizing international conferences and summer schools facilitating the exchange of ideas among researchers and practitioners
- ✍ Editing books and journal issues
- ✍ Keeping a web page with information on the activities of the research team
- ✍ Posting our research papers of the website
- ✍ Disseminating information on the availability of datasets

6.1 Project management

The management of the project will rest in the hands of a project *coordination board* and an external *scientific advisory board*.

We wish to achieve effectiveness and simplicity. The structure of management is based on the assignment of a set of well-defined and comprehensive responsibilities to a reduced number of coordinators and decision-making bodies.

The *coordination board* will be in charge of the management of the research project.

The coordination board will be chaired by the *project coordinator*, J. Esteban, and assisted by two *deputy coordinators*, N. P. Gleditsch and E. La Ferrara. The board will include the coordinators for each work package. For the sake of organizational simplicity, the coordination of the eight work packages has been distributed in such a way that the eight partner institutions will be represented. Therefore, the work package coordinator will act as well as coordinator within the partner institution.

In order to achieve efficient decision making, a subset of five members of the coordination board, chaired by the project coordinator, will act as an *executive committee*.

The *scientific advisory board* will be in charge of the external review of the scientific activity of the research team.

This structure guarantees that the work of the whole research team is able to follow two guiding principles: scientific excellence and the flexibility that an organization has to preserve in order to remain innovative. In academia, scientific excellence is typically the result of individual achievements and the peer-review process. The supervision by a scientific advisory board consisting of distinguished senior colleagues will guarantee that only outstanding collective publications will be sent to academic publishers and scientific journals. Although an executive board steers the project, some flexibility is needed because the different research teams are based in different countries and are working within different research environments.

7. Workplan– for whole duration of the project

The research activities are divided into four packages.

Package 1: Socio-economic polarization

- 1.1. Inequality and polarization**
- 1.2. Social exclusion and discrimination**
- 1.3. Social and income mobility**

Package 2: Understanding conflict

- 2.1. Modelling conflict**
- 2.2. Group formation**
- 2.3. Social and economic structure and conflict**
- 2.4. Conflict and groups in a multidimensional world**
- 2.5. Social and economic consequences of conflict**

Package 3: Promoting agreements in the shadow of conflict

- 3.1 Right and might in agreements**
- 3.2 Mediation in conflicts**
- 3.3 Institutional arrangements to lessen conflict**
- 3.4 Political systems and conflict of interests**

Package 4: Channelling conflict in a democracy

- 4.1. Stability of democracies and economic development**
- 4.2. Political parties and conflict of interests**
- 4.3. The working of democratic institutions**

The first package deals with measurement. We plan to give a closer examination to the measurement of polarization (1.1.) and the similarities and dissimilarities with inequality. We shall estimate the degree of polarization of the income distribution of various OCDE countries and contrast its behaviour with the degree of inequality. Further, we shall extend the current measure in 1.1. and 8.2. (1994) to large populations. We shall also study the measurement of polarization when the grouping is based on a second

characteristic like ethnicity, gender or religion. Polarization, specially when based on second characteristics, seems closely associated with discrimination (1.2.). Otherwise, income polarization would not be a socially relevant fact. We shall examine the links between polarization and social discrimination and exclusion. Finally, on merely intuitive grounds a polarized distribution seems to correspond to a situation with little income mobility (1.3). This requires an entirely new approach to the modelling of income mobility. The degree of mobility will have to be made endogenous and depend on the shape of the current distribution.

The second package focuses on the modelling of conflict. We start with general, abstract models of conflict, in line with Esteban and Ray (1999). We then move into group formation (2.2.). Most relevant conflicts take place among groups. It is thus essential to understand the forces driving the formation of groups. We explore here four different lines. The first one concerns the understanding of group belonging and/or *group identity*. The second one analyses the creation of the consciousness of social cleavages – which end up defining the relevant groups – by means of the *use of rhetoric*, defined as statements containing no additional information. A third line explores the fact that groups not only share some characteristic, but also develop their own set of values and views of the world. Specifically, we wish to study how this *process of categorization* takes place and why in some instances is successful while in others fades away. Finally, we examine the *emergence of alliances* among smaller groups in the shadow of conflict. We then explore the relationship between the level of conflict and the specific social and economic group structure (2.3.). Which profiles are more conducive to conflict? Which is the relationship between conflict and polarization? Often conflict takes place along lines that are different from the essential cleavages. In a multidimensional world (2.4.) characteristics such as ethnicity or religion might act as the rallying characteristics even when the conflict is basically economic. We wish to understand the trade-offs between the within-group homogeneity/heterogeneity and the sharpness of the across-groups cleavages. Finally, we study the consequences of conflict (2.5.) social, economic and political. We consider conflict harmful, but how harmful it is?

Our third package is concerned with the reaching of agreements in the shadow of conflict. We start by exploring new concepts of agreements, different from the ones furnished by standard bargaining theory. We wish to investigate the implications of taking the viewpoint that the power of the parties influences the terms of the agreement. We aim at developing a theory of agreements able to account for the common saying might is right (3.1). From this angle, the key notion is that of *viability* of an agreement when the parties keep the option of turning to a strategy of conflict. We also examine the viability of the emergence of *social networks* and of *social capital* as forms of tacit social agreements that facilitate the non-conflictual resolution of opposing interests. Specifically, we shall investigate both theoretically and empirically the relationship between the degree of polarization and the potential emergence of networks. We then address the general question as to why some countries seem unable to escape from endemic conflict. We shall explore two lines from both the theoretical and the applied angles. The first line focuses on the role of institutional arrangements to lessen conflict (3.2). The point is that for the concerned parties to be interested in seeking for an agreement it is indispensable that there be institutions granting that its terms will be carried out. Have the parties the capacity to commit? We shall study this issue based on the evidence of selected African countries. The second line concerns the study of the

ability of alternative political systems to channel the conflicts of interest (3.3) that exist within any society. Each political system is a particular way of reaching collective decisions in the presence of opposing interests. Evidence suggests that some political systems are more prone to conflict and instability than others. This line of research aims at providing evidence and theoretical explanations for the link between the structure of interests, political system and conflict. The study of democracy is the matter for the last work package.

Our fourth package concerns the role of democracy to channel opposing interests and avoid conflict. Whether a political system – a democracy, in particular – will be challenged by a social group depends on the costs. In developed economies all social groups have a lot to lose with political instability and conflict. This might explain why democracy appears to be successful in rich countries. Our first task is to provide a theoretical and empirical analysis of the connection between stability of democracies and economic development (4.1). The second point relates to political parties as examples of groups, as studied in our first package. We plan to study the effectiveness of political parties in channelling the different interests (4.2) at stake within a democracy. We are specifically interested on the use of second characteristics, such as ethnicity, religion or regional identity, as the identifying items. We shall develop models that will be tested against empirical data. Finally, we address the question of social and economic polarization and the working of democratic institutions (4.3). In a democracy every citizen has the same political weight. But the strength with which it can push for its interests depends on its economic means. Income/wealth inequality and polarization might interfere with the working of the political process. A first concern is the understanding of why individuals do vote and the links between the exercise of political rights and income. Our second concern is in modelling the ways in which unevenly distributed economic power interferes with the equal political power that defines a democracy. Both points will be developed from the view that voting is not only driven by the belief that one's vote might be decisive, but mostly because it is a political statement conveying information. Our final aim is to marry observed political behaviour and participation with rational choice.

We now proceed to a detailed description of the different tasks and which team member will perform them.

1. Socio-Economic polarization

Coordinator: C. D'Ambrosio

Objectives

- ? Inequality and polarization
- ? Social exclusion and discrimination
- ? Polarization and social and income mobility

Description of work

1.1. Inequality and Polarization

Together with **Esteban** and **Ray** (1994), other measures of polarization have been

put forward recently: Wolfson (1994), **Alesina** and Spolaore (1997) and Zhang and Kanbur (2001), for instance. We plan to systematically examine the properties of these measures so as to have a comprehensive view of the measurement of polarization. [**d'Ambrosio, Esteban and Ray**]

The **Esteban** and **Ray** (1994) measure is specifically designed for discrete distributions, as in distributions of the population on the basis of ethnicity, religion or political vote, for instance. Yet, there are relevant variables, like income or wealth, which do not fall in this category. We will work on the extension of the above measure to the case of continuous distributions. We shall also develop econometric techniques specific to the measurement of polarization. We shall estimate the degree of polarization of the income distribution of current and future member states of the European Union as well as other OECD states. If possible, we will extend the data set to include developing countries. We will contrast the polarization measures with standard indicators of inequality. [**J-Y. Duclos, Laval (Canada), Esteban and Ray**]

Furthermore, in many important cases the basis of polarization are social as well as economic. We wish to develop measures of income-based social polarization where individual identification to a particular group depends of a mix of income and a second characteristic defining a social cleavage in this particular society. [**J-Y. Duclos, Esteban, Ray and Reynal-Querol**]

1.2 Social Exclusion and Discrimination

The existence of polarization often reveals that some social groups are excluded and, intentionally or unintentionally, discriminated against. The excluded fraction of the population appears to face income and social opportunities significantly inferior to the rest of the society. Our research here has two goals. The first concerns definition and measurement issues: we will develop a rigorous metric of social exclusion and perform an empirical analysis of the phenomenon. The second aim is declined in two levels: a micro level, looking at the individual patterns that typically conduce to social exclusion; a macro level, which analyses the social and economic effects of social exclusion. We shall also provide a panoramic summary of the literature on the measurement of social exclusion. [**d'Ambrosio and Peragine**]

1.3 Polarization and Social and Income Mobility.

On an intuitive basis, a polarized society seems to go hand in hand with a lack of income and social mobility. The existence of clusters suggests that it might be difficult to jump from one cluster to next. There should obviously be a connection between polarization and mobility.

The research task concerns the understanding of the connections between polarization and mobility. So far, the analysis of mobility has taken as exogenously given the 'transition mapping' connecting future to present income. We plan to develop an *endogenous* theory of mobility in which the individual attempt at moving ahead depends on the current shape of the income distribution. We expect to provide a model linking polarization and mobility. [**Dardanoni, Esteban and Ray**]

2. Understanding conflict

Coordinator: T. Gilboa

Objectives

- ? Modelling conflict
- ? Group Formation
- ? Social and economic structure and conflict
- ? Conflict and groups in a multidimensional world
- ? Social and economic consequences of conflict

Description of work

2.1. Modeling conflict

There is significant work to be done in developing plausible and rich theoretical models of conflict. How groups interact in a non-cooperative manner and the possible outcomes. Such models are essential ingredients in applied work, providing hypotheses to be tested. In Esteban and Ray (1999) there are restrictive assumptions relating the effort committed by the parties and the ex-ante probabilities of success. Further, allowing for a fix cost to moving to conflict should be explored. This might explain the existence of ‘latent’ groups in conflicts.

Another line of research is to extend the previous model to allow for groups to have differences in income. In contrast with Esteban and Ray (1999), we wish the outcome of conflict be influenced by ‘money’ as well as ‘effort’. We expect to obtain new insights.

From an applied perspective, it seems useful to develop the model in such a way that equilibria could be computed. In Esteban and Ray (1999) we show that when the utility-cost function of effort is quadratic, the equilibrium level of conflict is the (square root of) *eigenvalue* of a matrix combining group preferences and population sizes. This gives an easily computable solution. We will try to develop the corresponding algorithm. We can then test the relationship between group preferences and size with the level of conflict.

The interaction between individual and group behavior should be studied in more depth. The possibility of free-riding by individual members of large groups has already been stressed by Olson (1965). The question has been formally addressed in Esteban and Ray (2001). Yet, the issue is far from settled and requires further analysis.

Most of the literature examines conflict with complete information. All parties know their relative strength and are thus able to compute which will be the equilibrium outcome. In such circumstances it is hard to see any reason stopping the contending groups to reach a beneficial agreement. In most – if not all – cases conflict takes place among parties that fail to rightly estimate their relative strength. Thus, asymmetric information about the characteristics and strength of the other groups, is an indispensable assumption for any theory of conflict aiming at realistic predictions. These lines remains unexplored. **[Esteban, Klijn, Gates, Moene, Ponsati, Powell, Ray and Skaperdas]**

2.2. Group formation

There are relevant cases of conflict taking place at the individual level. This is the case when two individuals or firms go into costly litigation with uncertain outcome, instead of reaching a pre-trial agreement. Societal conflict, however, takes place among groups. Thus, a theory of group formation and cohesion is essential to the understanding of social conflict. This issue poses a number of questions.

In the first place, there is the question of group belonging or, in other words, of group identity. We are interested in internal identity conflicts. Those are conflict as to the characterization of the identity of a group. Questions of the form ‘Who is a Black?’, ‘Who is a Jew?’, ‘Who is a Sikh?’ are given significantly different answers under circumstances of such internal identity conflicts. Formal models have been developed of such conflicts and their fair resolution. Results have been applied to several real cases. Our intention is to continue developing the models and investigate their properties and then apply them to various real cases of much interest and importance. It is believed that the proposed methods of resolution, being utterly fair, can contribute to real resolution of some conflicts. **[Coles, Gates and Ray]**

In a situation of conflict, it is an important question to understand how individuals can get persuaded that, among many alternative characteristics, there is a fundamental one that becomes the leading social cleavage. Often, the arguments leading to such persuasion can be considered mere rhetoric. The social sciences, and economics in particular, have largely neglected the analysis of the topic of debates, the way they are managed, and used to resolve conflicts. With the notable exception of Glaezer and Rubinstein (2001), very few papers address the act of public debates. Moreover, the use of rhetorical devices has received practically no attention in the theoretical literature, which typically models the act of persuasion merely as the supply of new information. By contrast, we argue that much of the art of rhetoric has to do with changing people’s minds without providing them with new information. We intend to study the use of analogies in rhetoric in general, and in the context of debates in particular. **[Aragones, Gilboa, Postlewaite and Schmeidler].**

The analysis of Olson’s tenet that large groups are more ineffective than smaller ones naturally leads to wonder about the logic of individuals joining one group rather than another. This issue can be addressed using the approach developed in Esteban and Ray (2001). The aim is to develop a theoretical model in which group sizes are endogenously determined, allowing for individual choice over the group they wish to join. **[Esteban and Ray]**

The issue of group formation and individual identity is at the heart of the social fabric of modern political constructs. Individuals are characterized by their socio-economic status, their ethnicities, languages, religions, and so forth. Whereas the theoretical literature in economics has so far focussed mainly on the aspect of income, it is becoming evident that inequality and polarization are particularly acute problems when they correlate with variables other than income. The team intends to construct formal models that will be able to address these issues theoretically and empirically. Specifically, we point out to similarity between the problem of group formation to the problem of concept formation, which has been

studied in the psychology and artificial intelligence literature. We hope to draw on the tools developed in these domains in order to construct better models that might identify acute cases of polarization. **[Gilboa, Ray, Schmeidler and Tirole]** Often, the basis for group belonging are characteristics such as ethnicity or religion.

This poses specific problems concerning the role played by income and identity sentiments in the formation of groups and the eventual conflict among them.

[Alesina, Gates, La Ferrara and Robinson]

Polarization and conflict are often a consequence of the clash of heterogeneous cultural identities. It is therefore important to study how such cultural identities are formed in modern social environments. The study of identity formation requires modeling various social institutions such as families and schools, as well as various social interactions agents participate repeatedly in, e.g., with friends, peers, relatives, all of which contribute to the process of formation of culture and beliefs and their transmission in the population. We also aim at studying empirically the models we develop, for instance with regards to the formation and the transmission of religious and ethical beliefs, as well as ethnic identities.

[Bisin] We shall also produce a panoramic summary of the literature on identity and group formation.

In some instances, the relevant issue in understanding the pattern of conflict is the formation of alliances among groups. This is obviously the case in international conflict and in domestic political competition among parties. This also applies to firms competing in an oligopolistic market. More significantly, such alliances among groups are implicit in the political speech when defining the essential social cleavage. When defining that ‘us’ is ‘blacks’, rather than ‘poor blacks’ or ‘female poor blacks’, we are implicitly defining an alliance among groups that might not have fully coincidental interests. This happens when the gain in size effectiveness exceeds the loss felt in the pursuing of a common end, different from each one’s ideal. We plan to study when such coalitions will be formed.

[Esteban, Powell, Ray and Skaperdas]

A particularly relevant case of conflict of interests is the provision of a public good. We shall develop a model of endogenous preference formation in the context of the provision of a public good as a source of group identity. Additionally, we wish to study group formation in a world of heterogeneous public goods. **[Besley and Esteban]**

2.3. Social and Economic Structure and Conflict

In a comprehensive cross-country empirical study Muller and Seligson [1987] find strong evidence supporting that income inequality is an important precondition for mass political violence. Political scientists working on inequality and conflict, such as Midlarsky [1988], Muller, Seligson and Fu [1989], and Lichbach (1989) have already manifested their reservations with respect to the standard notions of inequality as an appropriate tool for conflict analysis. We plan to investigate instead the role of *polarization* in explaining social conflict. This task requires a previous computation of the degree of income polarization across countries, using the Esteban and Ray (1994) measure. To this effect we shall use the Deininger and Squire data set. **[de Soysa, Moene, Reynal]**

2.4. Conflict and Groups in a Multidimensional World

The analysis of group formation in conflict highlights an important trade-off. Broad definitions of group may permit the formation of large players. Yet, this broadness will drive to higher internal heterogeneity. Existing work (e.g., Alesina and La Ferrara 2000, La Ferrara 2002) shows that racial or income heterogeneity can reduce individual propensity to join groups in which members interact to a significant extent. We intend to study interactions between individuals of different types within groups when preferences depend on the composition of the group, and to explore how heterogeneity affects the actions taken and the policies demanded by these groups. [Alesina and La Ferrara]

At another level, we observe that often conflict takes place on the basis of individual characteristics such as ethnicity or religion. In the economics literature the study of ethnic conflict and how this phenomenon can affect economic growth has not attracted much attention. Low investment, low level of education, high population growth, high levels of political instability, are examples of the major answers provided to explain why some economies grow slowly. We shall focus here on the role of social cleavages in slowing growth. When trying to show the importance of social cleavages in the economic process and in social conflict there are at least two important aspects that have to be addressed. First it is necessary to clarify the concept of social diversity in order to select the variables that capture social cleavage. That is ethnic diversity and social classes. Second, we need to justify the use of a particular index of fragmentation or polarization. Following Horowitz (1985) the inclusive conception of ethnicity covers differences identified by skin colour, language, religion or some other attribute of common origin. We want to analyse the different dimensions of the concept of social cleavage in order to provide a detailed account of the relative explanatory power of each of those dimensions on conflict and economic growth. We shall cover essentially two issues:

- ? the elaboration of a database of social cleavages: ethnic (religious, language, race) and social classes (income distribution data set) within countries; and
- ? the importance of social polarization in explaining social conflict (civil wars, revolutions, coups, riots,...). We shall use a theoretically based index of polarization. [Reynal]

2.5. Social and Economic Consequences of Conflict

Part of the literature analyses the effects of income inequality on macroeconomic performance, as reflected in rates of economic growth and investment. Much of this analysis is empirical, using data on the performance of a broad group of countries. Many theories have been constructed to assess the macroeconomic relations between inequality and economic growth. Although these theories try to model the effects of inequality on investment and economic growth, empirically the net effects of inequality is ambiguous. We shall empirically analyse the role of income polarization, rather than income inequality, in explaining economic development. [Reynal]

Recent empirical studies have highlighted the importance of natural resource endowments in affecting the likelihood of civil war (e.g., Collier and Hoeffler 2002). Other studies posit a negative relationship between political instability and investment, also at the cross country level. We plan to analyze the relationship between civil war and private investment at the microeconomic level using data on daily stock prices of mining companies that hold concessions in conflict areas

in Africa. By combining detailed data on civil conflict coded from press agencies with stock market data, we hope to get a sense of how investors perceive the risks associated with ongoing conflict. [La Ferrara]

3. Promoting agreements in the shadow of conflict

Coordinator: J-P. Azam

Objectives

- ? Right and might in agreements
- ? Mediation in conflicts
- ? Institutional arrangements to lessen conflict
- ? Political systems and conflict of interests

Description of work

3.1. Right and Might in Agreements

The existence of opposing interests in a society does not necessarily drive to conflict. Most of the time we observe that cooperation is possible. Yet, the sharing of the benefits of this cooperation, and even what is achievable by cooperating, might depend on the degree of polarization of such opposed interests. It is standard to approach the theory of agreements on the basis of ethical arguments on what should be a 'fair' sharing of the benefits from cooperation. This is in contrast with a more realistic approach that takes of board the popular saying that 'might is right' and tries to identify agreements that are acceptable to the parties (at least partly responding to their relative power). The idea of 'viable fairness' seems to deserve some thinking. The point is not only interesting from a conceptual point of view, but mostly from a practical standpoint. Indeed, there is a major concern for actual conflict resolution and this entails being able to find viable agreements. We wish to approach this issue from two sides.

Firstly, we wish to elaborate theoretically on the effects of social inequality on cooperation in two and N-person social dilemmas. To investigate experimentally the behaviour of subjects in these asymmetric dilemmas and to apply the results on cooperation between corporate actors in collective good problems such as trade unions or European countries.

An understudied topic in the theoretical and experimental literature on social dilemmas is whether and how social inequality in the form of differential interests in collective goods, or differential resources that can be invested affects the extent to which collective goods are produced, and how the benefits are allocated. Theoretical arguments have been put forward that cooperation is hampered by inequality, e.g., because of bargaining problems on the amount each party has to contribute but also that cooperation may be enhanced by inequality, e.g., by reducing the coordination costs, leading to the fascinating phenomenon of the 'exploitation of the strong by the weak' (Olson and Zeckhauser 1966).

Solving a collective good problem in polarized groups might be particularly difficult since the incentives for contribution may differ between the groups. For one group the contribution might be more expensive while the benefits from the collective good are small. Social networks can help to solve such social dilemma

problems (Buskens 2002, Buskens and Weesie 2000). Similarly, social networks can contribute to sanctions or rewards between the different polarized groups and, consequently, mitigate the social dilemma problem between the groups that arises from the differential incentives related to the collective good. We expect that the extent to which the collective good will be produced depends on the level of polarization (Esteban and Ray 1994) and the structure of the social network.

To test initial hypotheses, data on asymmetric 'one shot' social dilemmas (among others, so-called Prisoner's Dilemmas and Chicken Games) are available in Hin95Exp, a collection of experiments conducted as a part of a national household survey. Additional data on asymmetric social dilemmas will be collected using standard experimental procedures for dilemmas with two or more persons.

The theory developed can be applied to social partnership between employers' and employee peak organizations, to collective decisions on whether or not trade unions go on strike, and whether or not countries agree on collective good types of decisions. In a growing European community this might become an especially strong issue since the 'richer' countries probably have to invest a relatively large amount on several policies to be implemented in the 'poorer' countries. Using expert research related hypotheses will be tested on the behaviour of corporate actors (cf. Torenvlied 2000). **[Buskens, Torenvlied and Weesie]**

A second approach to the understanding of the terms that might make an agreement viable is more abstract. We wish to investigate the role of the differential position of the players (for instance, relative power) in the terms of the agreements and on the very possibility of cooperation. As pointed out earlier, when the structure of the non-cooperative game is public knowledge, it is difficult to imagine what can stop players from reaching an agreement. That such a (Hobbesian) solution exists has been proven by Esteban and Sákovics (1998). Yet, the existence of asymmetric information might render full cooperation unfeasible. Some degree of conflict might be unavoidable as a way of revealing information on the true power of the players. This information can then be used to set the terms of an agreement. We shall study the solution to bargaining problems with asymmetric information in the spirit of Esteban and Sákovics (1998), where we make full use of the disagreement function. **[Esteban, Klijn, Ponsati and Powell]**

3.2. Mediation in conflicts

Bilateral conflicts very seldom are an isolated affair. Bystanders suffer in a stalemate and enjoy benefits when agreement is reached. There are stakeholders, third parties interested in the resolution of the conflict, yet unable to impose an agreement upon the contenders. In this circumstances, governments and other public institutions often find themselves under pressure to intervene to ease conflicts. Although the role of third parties in promoting agreement and efficiency in bargaining is a widely accepted fact, there is no widely accepted theory of why and how this positive role is played. In fact, very little research has been carried out on the role of third parties in settling disputes. When a third party intervenes in a bilateral negotiation, its role may be that of a Facilitator, a Mediator or an Arbitrator. Our research will develop three major projects examining each of these roles:

- 1) In order to address the role of Facilitators we will study negotiations with the intervention of presence of stakeholders, examining how the potential contributions of resources by the stakeholder may or may not facilitate agreements.
- 2) To analyse the role of Mediators in the bargaining process, we will inquire how negotiations are affected by the intervention of a third party that cannot impose an agreement but can only filter the transmission of information between confronted parties.
- 3) We will develop a theory of Arbitration, discussing how the option of an arbitrated agreement affects negotiated outcomes. [Ponsati]

3.3. Institutional Arrangements to Lessen Conflict

Peace does not fall from heaven in societies divided by ethnicity, religion, or social fragmentation. Theoretical work on this issue, as well as some preliminary empirical work, points to credible redistribution as a crucial ingredient in a successful peace-keeping policy, along with some forms of deterrence. What makes the promise by the government of future redistribution credible is the mainstay of this team research program for the years to come. The approach will combine theoretical analysis with case studies, and econometric investigation. This research is bound to shed some useful light on the design of the aid policy that the EU should adopt towards developing countries, Africa in particular, by bringing out the potential impact on foreign aid and on the conditionality on redistribution and credibility.

As far as theory is concerned, has produced a simple model that brings out the potential effects of the lack of credible commitment on the part of the government and of asymmetric information in triggering the outbreak of civil war. I plan to pursue this line of inquiry by enriching the analysis of the combined dynamics of credibility of the government promises and of the relative fighting efficiency of the regular army and the potential rebels, in order to investigate the strategic choice between fighting now and postponing violence.

The team is planning to develop two case studies on Côte d'Ivoire and Chad, using the so-called 'analytic narrative' methodology. These two countries have many common features, like a north-south divide between poor Muslims and richer and more educated Christian southerners. Nevertheless, the former has witnessed only recently some political violence, whilst the latter has suffered from civil war almost all the time since 1965. Documenting in detail the institutional and political factors that entailed a credible redistribution in the former, and did not operate in the latter will be the aim of this exercise.

Lastly, some recent empirical work has provided a useful crop of results regarding the determinants of the outbreak of civil war and political violence in the world, distinguishing carefully the economic and socio-political factors (Collier and Hoeffler 1998, 2002; Hegre et al. 2001). However, this literature lacks the theoretical underpinnings that would allow the correct identification and interpretation of the empirical results. We are planning to perform some structural econometrics based on an explicit contract-theoretic framework, in order to identify some properties of the profit functions of the rebel organizations and of the government. [Azam, de Soysa, Gates, Gleditsch, Hegre]

3.4. **Political Systems and Conflict of Interests**

Are political systems able to mitigate the potential for conflict caused by income inequality and polarized social structures? Some political scientists and sociologists argue that democracy is likely to reduce the probability of conflict, while others (Hegre et al., 2001, Bussmann and Schneider 2003) argue that semi-democracies and politically unstable regimes are particularly vulnerable to conflict. Both schools of thought agree, however, that polarization does not necessarily cause conflict because the political system may alleviate the potential for conflict. According to the conventional wisdom in comparative politics, political structures can provide incentives that lead governments to compromise between the different societal groups. Yet, this strand of research has up to now completely neglected that political structures are largely endogenous to the social fabric of a country. A further problem is that most studies do not distinguish between different constitutional arrangements. In our proposed research project, we will particularly examine whether ‘fragmented’ political structures as exhibited by bicameralism, coalition governments and decentralized decision making offer the necessary incentive for governments to compromise between conflicting societal groups. As political economics has shown repeatedly, the beneficial impact of fragmented political systems, however, does not come without economic costs. For instance, governments in democratic countries that have to rely upon fragmented political systems are known to overinvest in public goods such as social security systems. Thus, political fragmentation increases the public sector and the government share of the economy. These inefficiencies might increase the level of instability within a country in the long run.

This line of argument leads to the following hypotheses that we will develop formally and then test:

- Polarization increases the likelihood that power-sharing mechanisms are established that, in turn, are able to mitigate the level of social conflict and political instability.
- Polarization increases government spending in countries. The public overinvestment increases in the long term the likelihood of redistributive conflicts.

Our project falls into two analytical modules. The first subproject will analyse how political institutions influence the negative impact that polarization has on the level of social conflict in a state. The second study examines how polarization in interaction with political structures influences the provision of public goods. We will examine these two interrelated research questions for the developing and for the developed world separately. In the latter domain, we will particularly focus on the EU countries and also examine how current and future member states react to the redistribution of resources that will most likely follow from the Eastern enlargement. **[Hartmann, Martin, Plümper and Schneider]**. In the former domain, we analyse countries, in which the fragile equilibrium of political support, rent-seeking and social stability comes under stress. This subproject will thus clearly allow us to test the impact of economic and social factors on the occurrence of civil conflict **[Bussmann, Plümper and Schneider]**.

We will develop a formal model that blends innovations from neo-institutionalist research and recent examinations on polarization and income distribution. Our formal model will particularly explore how power-sharing mechanisms are self-selected and affect the level of social conflict in the developed and the developing world as well as the provision of public goods. To test the model, we use pooled

data sets and apply fixed and random effect OLS models on government spending as well as pooled (ordered, if necessary) logit and probit models on the event of social conflict and political destabilization. With the exception of generally accepted geographical income polarization measures all necessary information is freely available in widely used and freely distributed datasets.

An independent line of research looks at the relationship between social structure and conflict, as conditioned by the degree of *inclusiveness* of the political system. We plan to develop a theoretical model explaining the social stability of political systems. We shall explore different degrees of farfetchedness by social groups and the decision to rebel against a particular political system. We conjecture that the key issue is the degree of inclusiveness. We shall study the empirical relation between social polarization, political inclusiveness and conflict. **[Esteban and Reynal]**

4. Channelling conflict in a democracy

Coordinator: D. Stasavage

Objectives

- ? Stability of democracies and economic development
- ? Political parties and conflict of interests
- ? The working of democratic institutions

Description of work

4.1. Stability of democracies and economic development

Democracy is not capable of coping with all sorts of conflict of interests. Democracy can be a fairly unstable system for countries with a particular social structure. It has been argued that democracy can even become a growth engine itself. We shall take the opposite line of causality. We will investigate whether democracy necessitates a minimum level of development to survive.

We are also interested in investigating the ability of democracy to work under different configurations of voter's preferences. Specifically, we wish to study how democracy performs under high ideological polarization. Using data from regional governments we will examine the effect of voters' ideological polarization on political and economic outcomes. In particular we will investigate whether politicians are less accountable and whether policies are less efficient when the electorate is highly polarized. We also intend to consider the effect of polarization on information acquisition and on electoral turnout. **[Bandeira, Hegre and Larcinese]**

4.2. Political Parties and Conflict of Interests

Democracy is a particular mechanism for resolving opposing interests. Political parties are the mediators between private interests and the political decision-makers.

We plan to study the relationship between inequality, political representation and policy choices when political competition is multidimensional. Traditional political economy models of redistribution à la Meltzer and Richards (1981) predict that rising inequality should be associated with a poorer median voter demanding more redistributive policies. However, empirical evidence by Perotti (1996) fails to find a significant relationship between inequality and redistribution in a cross section of countries. One of the reasons underlying this finding may be that political competition is not unidimensional, but multidimensional, and that the emergence of a 'second dimension' (say, ethnic or religious conflict) interacts with the left-right dichotomy to affect redistributive policies. The empirical part will employ panel data from Indian states to test how the rise of Hindu nationalism has affected the willingness and ability of Indian State governments to implement redistributive policies. **[Besley, Burgess and La Ferrara]**

We will also extend existing models of party formation in a legislative bargaining context to investigate when the presence of a second dimension of political conflict (religion, foreign policy, etc.) produces more centrist outcomes on an economic policy dimension. The goal will be to develop propositions that can be tested with existing cross-country datasets. This is the case for the Polity database (Jagers and Gurr, 1995), the Polyarchy data (Vanhanen 2000) and the World Bank database on political institutions (see Keefer et al. 2001). **[Stasavage]**

4.3. The Working of Democratic Institutions

Recent years has witnessed a proliferation of rational choice models for the analysis of voting behavior. Papers such as Myerson (1993) and Feddersen and Pesendorfer (1996) assume that voters take the trouble to participate in election because of their rational calculation of their expected impact, taking into account both their preferences and the probability that their ballot will be decisive. By contrast, many people feel that this view is somewhat idealized, and that many voters are not motivated by rational calculations of the impact of their ballot. Itzhak Gilboa and Andrew Weiss suggest an alternative model, according to which voters vote in order to satisfy their own need of making a statement. In this project, the team proposes to study a model that will explain why people vote, and why, at the same time, they make other statements such as volunteering for a political candidate, supporting various associations and organizations, and so forth. **[Gilboa, Tirole and Weiss]**

Inequality of resources and polarization of interests can severely interfere with the working of the political process. This is specially so when individuals or groups need to lobby in order to transmit to the government the intensity of their feelings with respect to some particular issue. Indeed, costly lobbying can convey useful information for policy decision making. However, the fact that the opportunity cost of resources devoted to lobbying may significantly vary across individuals may introduce noise killing any information revelation in the process. We wish to pursue the research line initiated in Esteban and Ray (2000) and thoroughly examine the impact of polarization on the efficiency of the political process. **[Esteban and Ray]**

A particularly relevant instance of this general problem is the study of the role of the media in the working of a democracy. This will involve investigating the possibility that the government influences media coverage and thus limits the

political monitoring role of the media. We plan to use extensive cross-country data to identify which institutional features make the media more susceptible to political influence and what the effects of the influence are on political outcomes. **[Besley, Hegre and Prat]** We shall produce a panoramic summary of the literature on the role of democratic institutions in providing political stability.