

# AmaPat—Innovation, Ownership and Financials for European Firms

## Key Personnel

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## Type of Data

Matched government and  
commercial data

## Availability of Data Set

Upon request

## Activity Measured

1979 through 2005

## Number of Observations

Four million European firms; 15,000  
patenting firms; 10,000 publishing  
firms; 100,000 business groups

KAUFFMAN  
Symposium on  
Entrepreneurship  
and Innovation  
Data

## OVERVIEW

AmaPat is a unique comprehensive dataset combining detailed information on ownership structure (including novel measures of business group structure), corporate innovation (measured by patents and academic publications), and financial reports. AmaPat covers approximately four million private and public firms, 100,000 business groups, 15,000 patenting firms and 10,000 publishing firms.

## PROCEDURES FOR ACCESSING THE DATA SET

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## METHODOLOGY

We combine data from four main sources: (1) ownership data on business groups from Amadeus, (2) information on patents from the EPO and the USPTO, (3) academic publication data from Thomson Scientific Web of Science, and (4) accounting data from Amadeus and Compustat.

**(1) Business groups**—A business group is an organizational form in which at least two legally independent firms are controlled by the same ultimate owner. Data on direct ownership links is obtained from the ownership database by BvD. To infer group structure from approximately one million direct ownership links, we developed a sophisticated and robust algorithm that recursively constructs the ownership chains.

**(2) Patents**—To generate a firm-level measure of innovation, we focus on patents data that captures technological advances by firms (European firms are not required to report R&D expenditures). We constructed a unique novel database of European firm patents by matching all granted patent applications from the EPO and USPTO to the complete list of Amadeus firms (about eight million firm names) for 1979-2005.

**(3) Academic publications**—An alternative measure of innovation is publication in academic journals. To measure the publication activity of our sample firms, we developed a new dataset on publications in academic journals. We matched our sample to the world's largest source of information on academic publications, Thomson's ISI Web of Science, which covers about twenty-five million publications in hundreds of international journals in "hard" sciences.

**(4) Accounting**—Accounting information is obtained from the Amadeus database by BvD. The source of the accounting information is the Company Register House in each of the twelve countries included in our sample. The key advantage of these data is their large coverage of firms and unique accounting information on private firms with a wide size distribution. We use historical firm data to control for entry and exit of firms during our sample period.

## UNDERUTILIZED TOPICS

1. Pattern of ownership structures across Europe and the structure of business groups
2. Innovation and ownership structures
3. Returns to basic and applied corporate research

## FUTURE

The plan is to use AmaPat for several key academic papers. The first, "Innovation in Business Groups," studies the implications of business group affiliation for innovation. The leading hypothesis is that internal capital markets in business groups stimulate the scale and novelty of innovation (as measured by patents and academic publications). The second paper, "What Do We Know About the Structure of Business Groups?" examines the different incentives of forming business groups across countries and industries in Europe and the financial implications of such incentives. The third paper, "Returns to Basic and Applied Research: Evidence from Firm-level Panel Data on Patents and Academic Publications," examines the correlation of firm size with the firms' incentives to invest in basic and applied research. We proxy for basic research using data on academic publications, where patents data are used to proxy for applied research.