

IZA Policy Paper No. 68

**Cooperatives in a Global Economy: Key Economic Issues,  
Recent Trends, and Potential for Development**

Stephen C. Smith  
Jonathan Rothbaum

September 2013

# **Cooperatives in a Global Economy: Key Economic Issues, Recent Trends, and Potential for Development**

**Stephen C. Smith**

*George Washington University  
and IZA*

**Jonathan Rothbaum**

*George Washington University*

Policy Paper No. 68  
September 2013

IZA

P.O. Box 7240  
53072 Bonn  
Germany

Phone: +49-228-3894-0  
Fax: +49-228-3894-180  
E-mail: [iza@iza.org](mailto:iza@iza.org)

The IZA Policy Paper Series publishes work by IZA staff and network members with immediate relevance for policymakers. Any opinions and views on policy expressed are those of the author(s) and not of IZA, which itself takes no institutional policy positions.

The Institute for the Study of Labor (IZA) in Bonn is a local and virtual international research center and a place of communication between science, politics and business. IZA is an independent nonprofit organization supported by Deutsche Post Foundation. The center is associated with the University of Bonn and offers a stimulating research environment through its international network, workshops and conferences, data service, project support, research visits and doctoral program. IZA engages in (i) original and internationally competitive research in all fields of labor economics, (ii) development of policy concepts, and (iii) dissemination of research results and concepts to the interested public.

The papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the corresponding author.

## ABSTRACT

### **Cooperatives in a Global Economy: Key Economic Issues, Recent Trends, and Potential for Development<sup>\*</sup>**

In this paper, we examine major trends and potential for cooperatives in the context of four prominent socio-economic issues: the lack of jobs, economic and social inequality, educational mobility, and the priority need for innovations. We present recent data on the amount and types of job creation in cooperatives. We consider co-ops in light of the recent financial and economic crises. Finally, we offer some observations on cooperatives and innovation, and some perspectives on the outlook going forward.

JEL Classification: O15, P13, J54, J33, J28

Keywords: cooperatives, employment, job creation, economic inequality, social inequality, educational mobility, innovation in cooperatives

Corresponding author:

Stephen C. Smith  
Department of Economics  
George Washington University  
Washington, DC 20052  
USA  
E-mail: [ssmith@gwu.edu](mailto:ssmith@gwu.edu)

---

<sup>\*</sup> This research was presented at the International Conference on Co-operative Economics – Imagine 2012, Quebec, Canada, October 6-7, 2012. Prepared as chapter for Cooperative economics: Towards a socio-ecological economic paradigm, ed. Sonja Novkovic; forthcoming Zed Books. We would like to thank Sonja Novkovic and Tom Webb for helpful discussions. Research support from the Institute for International Economic Policy at GWU is gratefully acknowledged.

# 1 Introduction

There are many challenges facing the world economy, and the cooperative sector can contribute to solutions for a number of these. We examine potential for cooperatives in the context of four prominent socio-economic issues: unemployment, inequality, educational mobility, and innovation. We consider cooperatives in light of the recent financial and economic crises. Finally, we offer some observations on cooperatives and innovation, and some perspectives on the outlook going forward.

Since the beginning of the Great Recession, many developed countries have experienced large increases in unemployment, which have not declined in its aftermath to nearly the degree as after previous recessions. In the United States, the Great Recession has resulted in the deepest labor market downturn in the postwar era (Elsby, Hobijn, and Sahin 2010). Unemployment also rose across Europe during the same period (Arpaia and Curci 2010). Even in countries that have experienced fewer layoffs and job losses, the rate of job growth has not been sufficient. On the other hand, in the developing world, much progress has been made through tools such as microfinance and microenterprise support and formation. However, both in the developed and developing world, individuals prefer stable sources of income, generally provided through regular, stable jobs. The solution to this problem is to find ways to provide stable jobs that provide better wages and a higher quality of life for workers.

Both in the developed and developing world, countries have seen increases in inequality of both income and wealth. In a recent study, inequality increased in 17 of 22 OECD countries between 1985 and 2008, including the United States, the UK, Italy, Japan, Canada, Germany, the Netherlands, and Mexico (OECD 2011). Inequality has increased over the same period in many developing countries as well (Meschi and Vivarelli 2009). However, inequality is not limited to just income and wealth. There is also a problem of social inequality, by which we mean inequality in the access to public services, political expression, and social opportunities. Perhaps most importantly, this includes access to formal and informal educational opportunities. Another central issue in addressing the preceding three problems is fostering innovation. Productive innovation plays an important role in firm survival, and therefore creating and maintaining jobs and in generating economic growth.

Within each of these areas, cooperatives can have an important role to play. In periods of crisis, cooperatives can support job creation and prevent job losses. We will discuss how

cooperatives have contributed to job creation in the recent financial crisis and other periods of economic turmoil. We will also discuss research findings on how cooperatives respond differently to changing economic circumstances than other businesses.

When confronting increasing inequality, the goals and outcomes that cooperatives pursue can help keep economic inequality in check. Cooperatives can be important tools to building social capital and broadening access to services. The democratic decision-making structure of cooperatives gives members skills and experience that foster social capital which can be used in other areas, such as civil society. The organizational structure of cooperatives may also be effective at harnessing the talent, ideas, and insights of members and non-managerial employees. In this way, the daily experiences and observations of workers can often lead to innovations and improvements in efficiency.

However, in order to realize these benefits, there are also a number of challenges that cooperatives face. The issue of entrepreneurship and cooperative formation is one that requires attention. When potential entrepreneurs consider forming a cooperative, they are faced with the problem that if, for example, the cooperative will have 100 members, the entrepreneurs will only receive a small portion of the benefits of forming the cooperative despite incurring much of the organizational and entrepreneurial cost. Therefore, it is important to consider how cooperative entrepreneurs can be supported, with an eye towards the additional non-monetary reasons that individuals could have for forming cooperatives, such as altruism and adherence to cooperative philosophy, in addition to implementing creative reward systems that remain within the spirit of cooperative ideals.

In order to achieve the other objectives of lowering inequality, fostering social capital formation, and increasing innovation, the correct incentives must be in place for cooperative members. This requires the proper institutional framework for cooperatives. The correct institutional framework can be at the cooperative level to help identify their comparative advantages, for example in terms of member feedback and innovation. Then, cooperative institutions must be structured to make the most of these comparative advantages. Cooperatives can also benefit from the institutional environment in which they operate. An important fact about individual cooperatives is that they tend to be small. However, as BRAC founder Fazle Hasan Abed has said, “Small is beautiful, but big is necessary.” Larger organizations can take advantage of economies of scale, for example in marketing and innovation that may be difficult for smaller

organizations to implement or coordinate. An important way that cooperatives can capitalize on these scale economies is through cooperative leagues, which may be associations or networks of many small cooperatives, including consumer, producer, worker, and credit cooperatives; these are examined in Section 3. However, despite the contributions that cooperative leagues can provide, leagues themselves can also be difficult to start. Not all regions and countries with cooperatives have effective cooperative leagues.

In this paper, we will focus primarily how cooperatives can help address the challenges of unemployment and innovation. The rest of the paper is structured as follows. The next section discusses the role for cooperatives during economic crises and periods of high unemployment. In the third section, we discuss how cooperatives can foster innovation. Finally, the last section concludes.

## **2 Cooperatives, Unemployment, and Economic Crises**

### **2.1 Cooperatives and Unemployment**

Cooperatives can have an important role to play in times of economic turmoil and crisis. For example in the late 1970's and early 1980's, another time of very slow job growth, cooperatives experienced a much faster rate of employment growth than the economy as a whole.<sup>1</sup> Estrin (1985) shows that from 1976-1981 the percent growth in cooperative employment in France, Italy, Spain (Mondragon cooperatives), the UK, and in the entire European Economic Community (EEC, precursor to the European Union) was far greater than employment growth in the economy as a whole. Table 2 shows just how large the differences were. In France employment in cooperatives grew 12.1% and in all firms by 1.4%; in Italy, the figures were 86.2% for cooperatives compared to 3.8% for all firms; in Spain, 31% vs. -8.1%; in the UK, 133% compared to -2.0%; and in the EEC as a whole, 76% compared to 2.0%.

In this paper we examine more recent data and research findings to see how cooperative employment growth compared to employment growth in recent years, including during the Great

---

<sup>1</sup>Table 1 presents some data about cooperatives and cooperative employment in select countries. Strikingly, Italy is the country with the largest co-operative sector, approaching six percent of total employment, while some countries, of course, have far less. Table 1 also includes a list of the sources for the cooperative data from each country used in this paper.

Recession. We look at employment growth in the cooperative sector, the economy as a whole, and a variety of subsectors, such as agriculture, industry, and services.

Figure 1 shows employment in Italy from 2007 to 2011 in the cooperative sector as well for the entire economy, broken down by agriculture, industry, and services. Employment in the economy as a whole has stagnated and employment in industry and agriculture declined. However, employment in the cooperative sector grew 8% between 2007 and 2011 (1.9% per year). Services, the only sector that increased employment over the same period, grew by 3.2% (0.7% per year). Therefore, since the beginning of the Great Recession, Italian cooperatives have experienced a much larger percentage increase in employment than the economy as a whole or any subsector.

In a study on how Italian cooperatives and firms respond to shocks from 1994-2002, Pencavel, Pistaferrri, and Schivardi (2006) found that cooperative employment was less volatile, but cooperative wages were more volatile than for other firms. This indicates that during recessions, cooperatives are less likely to lay off workers than conventional firms and more likely to cut wages instead. This evidence is also supported by studies in Spain of the Mondragon cooperative association by Martin (2000) and Smith (2003). In their work they discuss how employment generation is an explicit goal for Mondragon. As a result, Mondragon cooperatives are more flexible with wages and benefits than conventional firms with the goal of preserving employment.

In France, the cooperative sector has also seen more growth in employment recently than the economy as a whole (Figure 2). From 2005, employment in the cooperative sector grew by 8% (1.6% per year) as compared to 1.5% in the economy (0.3% per year). From 2008 to 2010, employment in the economy declined by 1.3% and by 0.7% in the cooperative sector. Pérotin (2006) studied the entry and exit of cooperative firms into the market in France. She found that a 1% increase in unemployment increases cooperative creation by 10%. The formation of cooperatives during times of economic hardship may help explain the employment performance of cooperatives in France (and Italy) over the last few years. Pérotin also finds that firm exit is similar between cooperatives and capitalist firms across the business cycle.

Germany (Figure 3), like Italy, has also experienced fast employment growth in the cooperative sector, especially since the beginning of the Great Recession. Since 2003, worker-owned cooperative employment has increased by 26% (3.4% per year), while total employment increased 8.2% (1.1% per year). From 2008 to 2010, worker-owned cooperatives increased employment 4.9% compared to 0.5% for the economy as a whole. The employment growth in

worker-owned cooperatives in Germany also exceeded the growth rate in industry over both periods.

The picture for Spain (Figure 4) differs slightly from the aforementioned countries. In Spain, employment in cooperatives declined 10.7% (1.9% per year) between 2004 and 2010, as compared to a 2.6% (0.4% per year) increase in total employment. From 2007 to 2010, cooperative employment declined 8%, and total employment declined 9%. However, cooperative employment has not declined at the rate that industrial employment has. From 2007 to 2010, industrial employment declined 28.5% compared to a 9.5% decline in cooperative employment and a 17.4% decline in employment at worker-owned cooperatives (not shown).

Canadian cooperative data is available through 2008. In the pre-recession period from 2000 to 2008 (Figure 5), cooperative employment was relatively stable, growing by 2% (0.2% per year) compared to the growth in total employment of 17% (1.8% per year). Within Canada, Quebec is well-known for having a relatively large cooperative sector. In 2008, 49% of all employees of Canadian non-financial cooperatives worked in Quebec. Figure 6 shows non-financial cooperative employment over time in Quebec. From 2001 to 2009, employment in cooperatives grew 17.8% (2.1% per year) while total employment grew 14.9% (1.4% per year). The Ministère du Développement économique, Innovation et Exportation (MDEIE, Ministry of Economic Development, Innovation, and Export) conducted a study on the survival of cooperative and for-profit firms in the province from 1985 to 2002 (Clément and Bouchard 2008), which included 1,950 cooperatives formed during the period. They found that newly formed cooperatives were more likely to survive in any given year than for-profit businesses (Figure 7). They also broke down the analysis by firm size and showed that the results hold for very small enterprises (fewer than 5 employees, for survival 10 years) and for larger enterprises (5 or more employees, for all years), as shown in Table 3, Panel A. Panel B shows similar information on the survival of new cooperatives in the province of Alberta from 2000 to 2009. Although the number of new cooperatives is very small, they have very high survival rates as well.

We also look at cooperative data from Latin America to understand how employment in cooperatives has changed in a subset of developing countries in recent years. Employment in the cooperative sector in Colombia has grown much faster than overall employment in recent years (Figure 8). Columbian cooperatives in 2010 had more than 2.6 times as many employees as they did in 2000 (10.6% growth per year). Overall employment grew by 35% over the same period

(3.1% per year). In Chile, the cooperative sector has been expanding over time as well, in terms of the number of cooperatives (Figure 9, Panel A). However, Figure 9, Panel B highlights an important point about the cooperative sector and the institutional environment in which it operates. In Chile, the entry of new cooperatives, especially agricultural cooperatives has varied considerably over time as the government changed from democracy to dictatorship and back.

In a study of cooperatives in Uruguay, Burdín and Dean (2009) show that during the 2002 Argentine financial crisis, worker cooperatives decreased employment less than conventional firms. They argue that conventional firms produce a socially inefficient level of lay-offs during recessionary periods due to their “inability to establish credible commitments between owners and workers.” In contrast, cooperatives are more able to adjust wages rather than employment during crises, which Burdín and Dean call a more egalitarian adjustment method. Burdín (2012) looks at cooperative and conventional firm survival in Uruguay. He finds that cooperatives have a 24-38% lower hazard of exit than conventional firms when controlling for other firm characteristics. The study provides econometric support for the aforementioned descriptive work done on cooperative survival in various Canadian provinces.

## **2.2 Cooperatives and Economic Crises**

Financial cooperatives may offer advantages over conventional financial firms as well. Birchall and Ketilson (2009) discuss some of the advantages of financial cooperatives in light of the recent financial crisis. They discuss how the different incentive structure in financial cooperatives, such as not being driven by profits and shareholder interests but instead by more risk-averse members, makes cooperatives less likely to engage in risky behavior such as sub-prime lending. Because financial cooperatives operate in the retail banking market, which is dependent on deposits and not financial markets for funding, they offer more stable returns and less risky investments. Since the 2008 crisis, Birchall and Ketilson cite evidence that financial cooperatives experienced growth along a number of dimensions while the larger financial markets were in turmoil. Data from the United States, Canada, the Netherlands, the UK, and Taiwan reflect this pattern of financial cooperatives increasing their deposits and loan portfolios in the midst of the banking crisis and lending freeze in 2008 and 2009. Finally, financial cooperatives may also have a comparative advantage in developing and marketing new financial instruments specially tailored to the needs of other cooperatives, including worker coops (Waldmann and Smith 1999).

Worker and producer cooperatives can also have benefits during times of economic crises. Birchall and Ketilson (2009) discuss how farming cooperatives grew during the Great Depression. Farm supply cooperative purchases grew from \$76 million in 1924 to \$250 million in 1934. We have also discussed work by Estrin (1985) on how cooperative employment grew during periods of high unemployment. In that paper, Estrin discusses how during periods of economic crisis, cooperative rescues of bankrupt or declining firms can be an important avenue for cooperative formation. He studies rescues in a number of high unemployment periods, including France in the late 1970's and early 1980's where 63% of jobs created by new cooperatives were due to rescues. He also draws attention to work by Jones (1984) on waves of cooperative formation in the US, which peaked during crises in the 1880s and 1930s. Jones found that for those cooperative formations for which data was available, 82% were rescues or buyouts.<sup>2</sup> Further evidence on the benefits of the cooperative sector during times of crises comes from Argentina. Howarth (2007) studied the *empresas recuperadas* cooperative rescue phenomenon in the aftermath of the 2001 Argentine crisis. She cites estimates that 130-200 worker cooperatives formed from failing businesses in the post-crisis period. In 2007, she estimated that 150 rescued cooperatives were still in operation providing indirect and direct livelihoods for over 12,000 workers. This work is supported by the aforementioned econometric study of cooperative formation in France by Pérotin (2006), where she showed that cooperative formation increases as unemployment increases. This evidence from a number of countries in many different time periods shows how cooperatives can be important sources of employment creation and layoff prevention during times of economic downturn and crises.

### **3 Cooperatives and Long Term Growth**

#### **3.1 Cooperatives and Innovation**

In general, there are multiple strategies that firms can follow to get new technology that they need to compete and to grow. For example, firms can develop new patents, or license new technology

---

<sup>2</sup> Half of those 82% were at the initiative of workers, compared to 80% of cooperatives formed from scratch at the initiative of workers.

from another company. Cooperatives can and do pursue these strategies, but in addition, cooperatives have comparative advantages in certain types of innovation.

Smith (1994) discusses these comparative advantages. They include smaller size innovations that are contributed by individual members. For worker cooperatives, observations that the workers make in the course of their daily work, whether in the context of building craft products, working on an assembly line, or service work, may be more likely to be mentioned, recorded, and built upon by the cooperative. In this way the cooperative can introduce improvements and new methods of production and organization with the more direct line of communication that their management structure facilitates. This is clearly a comparative advantage of cooperatives over conventional firms.

Because monitoring effort and work quality can be costly, producing goods that require high quality or effort can be expensive. Conventional firms may have difficulty in monitoring and incentivizing high quality work. Cooperatives may therefore have benefits in specializing in quality or artistic versions of goods within a broader sector, as their incentive structure is better suited to worker engagement and effort. At least indirect and anecdotal evidence suggests that this is the case, for example in Italy (S. C. Smith 1994).

In the consumer cooperative sector, once again, cooperatives have a special advantage in member suggestions. Members have more incentive to suggest and develop new ideas that may benefit them. They have more encouragement to experiment and to learn from experimentation, and perhaps most importantly, members have an institutionalized built-in voice to get their ideas a “fair and open hearing.” Cooperatives that build on these special advantages may be successful – almost certainly, more successful than those that do not. This could be a fruitful and valuable area for further research on cooperative innovation.

Cooperatives in the agricultural sector have also had an important and well documented history of innovation. Deller et al. (2009) discuss how agricultural cooperatives pioneered the organic and natural food movement in the US in the 1970s. Drivas and Giannakas (2006) study how agricultural cooperative product innovation effects the agri-food system. There are many examples of agricultural cooperatives that drive innovation, including Ocean Spray (cranberry juice blends and “craisins”), Land O’Lakes (no-fat sour cream, spreadable butter, and flavor preserving food packaging), Limagrain (new vegetable varieties and improvements in vegetable and wheat varieties), and Cebeco (improved seeds) among many others. Drivas and Giannakas

construct a model that shows that cooperative involvement in a market where those cooperatives introduce quality and input innovations can increase the innovation activity in the market and enhance welfare, when compared to a market with no cooperatives.

Groupings of cooperatives into leagues often provide services that may have high fixed costs or network effects, thereby helping achieve economies of scale and scope for the cooperative sector, even while individual coops tend to remain small (often intentionally). Such services can help coops to remain on the cutting edge in their industries. Various types of leagues are found among most types of cooperatives, including consumer coops that jointly source goods, worker coops that share marketing activities, agricultural cooperatives that share infrastructure, and credit unions that share credit card and service centers.<sup>3</sup>

Cooperatives leagues can also have important direct roles to play in innovation. A well-known example is the Mondragon system of cooperatives in Spain. They have formed research and development technology centers to study such sectors as machine tools, metallurgy, appliances, the automotive sector, and packaging. The Mondragon R&D arm had a budget of €61.5 million in 2011, up from €49.6 million in 2007 (Mondragon Informe Annual, 2007, 2011). Lopez, Lopez, and Larrañaga (2009) state that in 2005, new products (fewer than 5 years old) accounted for 19% of total sales in the Mondragon cooperative network. In Italy, the Institute for Cooperative Innovation (ICIE) is also very involved with technology transfer to their member co-ops, including energy-efficient construction in the construction sector, pollution and cultural heritage sites, and high-performance construction materials (S. C. Smith 2001).

Given the importance of cooperative leagues for innovation, the question becomes how and why they form. We often observe worker cooperatives in particular clustering together in a single region. So how does one understand that? On the one hand, formal and informal cooperative leagues help provide the scale economies that make cooperatives viable: scale economies for innovation and scale economies for production sales. But on the other hand, you cannot have leagues easily unless you have cooperatives to start and help maintain them, so the result can be a classic chicken-and-egg problem: which comes first? The cooperatives can be supported by the

---

<sup>3</sup> Credit union leagues can help support credit union formation and provide services that may have high fixed costs or network effects such as credit card processing, ATM networks, and shared service centers; so their roles are analogous to functions of other types of cooperative leagues.

leagues, but the leagues need the cooperatives to operate. So even if cooperatives can be successful, and contributions to this volume present many cases in which they can be very successful, there is no reason to believe that just because they can be efficient, they will appear “magically” on their own if there are not an adequate number of cooperatives around them in a league to help facilitate (S. C. Smith 2001; Joshi and Smith 2008). Similar arguments should apply to cooperatives in other sectors as well, such as consumer sectors and agricultural sectors, and this constitutes an important frontier for empirical research on cooperatives.

### **3.2 Participation of Women, Competitiveness, and Productivity**

Another area where cooperatives may have a role to play is in fomenting the inclusion of women in the decision-making process of the firm. Evidence from a variety of countries suggests that increasing the role of women in leadership positions in firms can have a positive impact on firm profit, including in Australia (Ali, Kulik, and Metz 2011; Adams, Gray, and Nowland 2011), Denmark (N. Smith, Smith, and Verner 2006), Spain (Campbell and Mínguez-Vera 2007; Campbell and Mínguez-Vera 2009), and the United States (Carter, Simkins, and Simpson 2003; R. C. Anderson et al. 2011; Peni 2012). Moreover, female CEOs were shown to positively affect microfinance institution (MFI) performance in a study of over 278 MFIs in 60 countries (Mersland and Strøm 2009).

In addition to the direct effects of women decision-makers on firms, studies show that when women control income or assets child health and education outcomes improve. Studies have also shown that the involvement of women in the political process can affect policy priorities and improve the aspirations and educational attainment of girls (Duflo 2011). Employment and income generated outside of the home can play an especially important role in women’s empowerment (S. Anderson and Eswaran 2009).

The social mission of cooperatives gives them a comparative advantage relative to firms in utilizing the productive capacity of women, at least in principle. Therefore, cooperatives have an integral role to play in each of these aforementioned dimensions. They can help place women in positions of leadership in firms, provide women with income and assets that they control, and generate out-of-home employment for women. In each of these ways, cooperatives can contribute to growth and empowerment of women both in the short and long term.

## 4 Conclusion

In this paper we have discussed how cooperatives can generate employment, especially in times of economic crisis. We have also discussed the comparative advantages that cooperatives and cooperative leagues have in generating innovation and how cooperatives can help empower women and foster economic development. We would like to close by discussing questions and areas of research into cooperatives that can help us understand how cooperatives can continue growing, creating employment, and innovating into the future.

When studying cooperatives, one should take into account that it is not just whether a firm is a cooperative or a conventional firm, but what kind of cooperative may be at least as important. We can learn a lot by looking at different kinds of cooperative patterns. First, is the cooperative part of a league or not? There are a lot of benefits to being in a league. While cooperatives that are not in leagues can be, and in some cases are, quite successful, we still need to better understand how and why the performance of league member and non-league member cooperatives differs.

How innovative are cooperatives? There may be innovative and non-innovative cooperative styles of management and operation. It may be possible to continue to be successful without innovating; but innovation can be, and is increasingly likely to be, of great importance for continued cooperative survival and successful new cooperative entry. Further study of innovative cooperatives is a clear research priority.

What forms does internal governance take? Types of internal cooperative governance can matter; and the existing evidence shows that this is very important in worker cooperatives. It seems reasonable to conjecture that it is very important in other forms of cooperatives as well. But this is another important research priority.

Finding ways of encouraging employment and investment is also important. There are differences across cooperatives and across cooperative leagues.

And last, but certainly not least, there are new issues concerning environmental sustainability coming to the fore. This is an exciting new area for cooperatives of all kinds going forward, and an obvious area for further research.

## References

- Adams, Renée, Stephen Gray, and John Nowland. 2011. "Does Gender Matter in the Boardroom? Evidence from the Market Reaction to Mandatory New Director Announcements." *SSRN Working Paper*: 1–55.
- Ali, Muhammad, Carol T. Kulik, and Isabel Metz. 2011. "The Gender Diversity–performance Relationship in Services and Manufacturing Organizations." *The International Journal of Human Resource Management* 22 (7): 1464–1485.
- Anderson, Ronald C., David M. Reeb, Arun Upadhyay, and Wanli Zhao. 2011. "The Economics of Director Heterogeneity." *Financial Management* 40 (1): 5–38.
- Anderson, Siwan, and Mukesh Eswaran. 2009. "What Determines Female Autonomy? Evidence from Bangladesh." *Journal of Development Economics* 90 (2): 179–191.
- Arpaia, Alfonso, and Nicola Curci. 2010. "EU Labour Market Behavior During the Great Recession." *European Commission, Directorate General for Economic and Financial Affairs Economic Paper* 405.
- Birchall, Johnston, and Lou Hammond Ketilson. 2009. *Resilience of the Cooperative Business Model in Times of Crisis Sustainable Enterprise Programme*. International Labor Organization.
- Burdín, Gabriel. 2012. "Does Workers' Control Affect Firm Survival? Evidence from Uruguay."
- Burdín, Gabriel, and Andrés Dean. 2009. "New Evidence on Wages and Employment in Worker Cooperatives Compared with Capitalist Firms." *Journal of Comparative Economics* 37 (4): 517–533.
- Campbell, Kevin, and Antonio Mínguez-Vera. 2007. "Gender Diversity in the Boardroom and Firm Financial Performance." *Journal of Business Ethics* 83 (3): 435–451.
- . 2009. "Female Board Appointments and Firm Valuation: Short and Long-term Effects." *Journal of Management & Governance* 14 (1): 37–59.
- Carter, David A., Betty J. Simkins, and W. Gary Simpson. 2003. "Corporate Governance, Board Diversity, and Firm Value." *The Financial Review* 38 (1): 33–53.
- Censis. 2012. "Primo Rapporto Sulla Cooperazione in Italia: Sintesi". Rome, Italy.
- Clément, Michel, and Caroline Bouchard. 2008. *Taux de Survie Des Coopératives Au Québec*. Ministère du Développement économique, Innovation et Exportation Québec, Direction des Coopératives.

Confederación Empresarial Española (CEPES). 2012. "The Social Economy in Spain". Madrid, Spain.

"Co-operatives in Canada." *Rural and Co-Operatives Secretariat*.

Co-operatives UK. "The UK Co-operative Economy."

Deller, Steven, Ann Hoyt, Brent Hueth, and Reka Sundaram-Stukel. 2009. "Research on the Economic Impact of Cooperatives". Madison, Wisconsin: University of Wisconsin Center for Cooperatives.

Drivas, Kyriakos, and Konstantinos Giannakas. 2006. "The Effect of Cooperatives on Product Innovation in the Agri-food System." *American Agricultural Economics Association Annual Meeting*.

Duflo, Esther. 2011. "Women's Empowerment and Economic Development." *NBER Working Paper 17702*.

Elsby, Michael W., Bart Hobijn, and Aysegul Sahin. 2010. "The Labor Market in the Great Recession." *National Bureau of Economic Research Working Paper 15979*.

"Estadísticas y Cifras Del Sector Cooperativo." 2006. *Departamento de Cooperativas, Ministerio de Economía, Fomento, y Turismo de Chile*.

Estrin, Saul. 1985. "The Role of Producer Co-operatives in Employment Creation." *Economic Analysis and Workers' Management* 19 (4): 345–384.

"Evolución de Las Principales Variables: Sector Cooperativo Colombiano." 2012. *Confederación de Cooperatives de Colombia*.

"Évolution Des Coopératives Non Financières Par Secteur D'Activité." 2011. *Ministère Du Développement Économique, Innovation et Exportation Quebec, Direction Des Coopératives*.

"Geschäftsbericht." *Deutscher Genossenschafts- Und Raiffeisenverband (DGRV) (2003-2008)*.

Howarth, Melanie. 2007. *Worker Co-operatives and the Phenomenon of Empresas Recuperadas in Argentina: An Analysis of Their Potential for Replication*. Co-operative College.

"Informe Annual." 2011. *Corporación Mondragon*.

Jones, Derek C. 1984. "American Producer Cooperatives and Employee-owned Firms: A Historical Perspective." *Worker Cooperatives in America*: 37–56.

Joshi, Sumit, and Stephen C. Smith. 2008. "Endogenous Formation of Coops and Cooperative Leagues." *Journal of Economic Behavior & Organization* 68 (1): 217–233.

- Lopez, Urko, Sain Lopez, and Iñaki Larrañaga. 2009. "Innovation in Industrial Cooperatives : Special Features and Potential of the Mondragon Model." *International Journal of Technology Management and Sustainable Development* 8 (1): 39–56. doi:10.1386/ijtm8.1.39/1.
- Martin, Terence Henry. 2000. *The Impact of Worker Ownership on Firm-Level Performance: A Comparative Study*. PhD Dissertation, Yale University.
- Mersland, Roy, and R. Øystein Strøm. 2009. "Performance and Governance in Microfinance Institutions." *Journal of Banking & Finance* 33 (4): 662–669.
- Meschi, Elena, and Marco Vivarelli. 2009. "Trade and Income Inequality in Developing Countries." *World Development* 37 (2): 287–302.
- OECD. 2011. "An Overview of Growing Income Inequalities in OECD Countries: Main Findings." In *Divided We Stand: Why Inequality Keeps Rising*, 21–45. OECD Publishing.
- . 2012. *OECD Stat*. <http://stats.oecd.org/>.
- Pencavel, John, Luigi Pistaferri, and Fabiano Schivardi. 2006. "Wages, Employment, and Capital in Capitalist and Worker-owned Firms." *Industrial and Labor Relations* 60 (1): 23–44.
- Peni, Emilia. 2012. "CEO and Chairperson Characteristics and Firm Performance." *Journal of Management & Governance*.
- Pérotin, Virginie. 2006. "Entry, Exit, and the Business Cycle: Are Cooperatives Different?" *Journal of Comparative Economics* 34 (2): 295–316.
- Smith, Nina, Valdemar Smith, and Mette Verner. 2006. "Do Women in Top Management Affect Firm performance? A Panel Study of 2,500 Danish Firms." *International Journal of Productivity and Performance Management* 55 (7): 569–593.
- Smith, Stephen C. 1994. "Innovation and Market Strategy in Italian Industrial Cooperatives: Econometric Evidence on Organizational Comparative Advantage." *Journal of Economic Behavior & Organization* 23 (3): 303–320.
- . 2001. "Blooming Together or Wilting Alone?" *UNU-WIDER Discussion Paper No. 2001/27*.
- . 2003. "Network Externalities and Cooperative Networks: A Comparative Case Study of Mondragon and La Lega with Implications for Developing and Transitional Countries." In *Ownership and Governance of Enterprises: Recent Innovative Developments*, edited by Laixiang Sun, 202–241. New York: Palgrave Macmillan.
- "Social Economy Statistics." 2012. *Institut National de La Statistique et Des Études Économiques*. [http://www.insee.fr/fr/themes/detail.asp?ref\\_id=eco-sociale](http://www.insee.fr/fr/themes/detail.asp?ref_id=eco-sociale).

Stringham, Richard, and Celia Lee. 2011. "Co-op Survival Rates in Alberta." *The BC-Alberta Social Economy Research Alliance*.

Waldmann, Robert J., and Stephen C. Smith. 1999. "Investment and Supply Effects of Industry-indexed Bonds: The Labor Managed Firm." *Economic Systems* 23 (3): 245–268.

## Tables

**Table 1: Cooperatives in Select Countries**

<b>Country</b>	<b>Year</b>	<b>Type</b>	<b>Employees</b>	<b>% of Total Employment</b>
Canada	2008	Worker	8,651	0.05%
		Non-Financial Cooperatives	87,963	0.5%
Chile	2005	Non-Financial Cooperatives	34,679	0.6%
Colombia	2009	Cooperative Sector	137,888	0.7%
France	2009	Worker	39,471	0.1%
		Cooperative Sector	306,596	1.1%
Germany	2009	Worker	514,000	1.3%
Italy	2009	Cooperative Sector	1,252,378	5.5%
Spain	2010	Worker	84,062	0.04%
		Cooperative Sector	380,286	2.1%
UK	2009	Worker	2,056	0.007%
US	2006	Worker	2,380	0.001%
		Agricultural Producer	72,930	0.05%
Uruguay	2005	Worker	5,170	0.4%

Sources: General employment data: OECD Stat Extracts  
 Canada: Rural and Co-Operatives Secretariat, Co-operatives in Canada reports  
 Chile: Departamento de Cooperativas, Ministerio de Economía, Fomento, y Turismo  
 Colombia: Confederación de Cooperativas de Colombia  
 France: Worker cooperative data provided upon request by Les Scop.  
 Sector data from the Institut national de la statistique et des études économiques (INSEE)  
 Germany: German Cooperative Association (DGRV) Geschäftsbericht reports  
 Italy: Census Report on Cooperatives in Italy  
 Spain: Spanish Cooperative Association (CEPES) Social Economy reports  
 UK: Co-operatives UK Co-operative Reviews and UK Co-operative Economy reports  
 US: University of Wisconsin Center for Cooperatives report  
 Uruguay: Burdín and Dean(2009)

**Table 2: Cooperatives and Job Creation 1976-1981**

<b>Country</b>	<b>Increase in Employment 1976-1981</b>	
	<b>Cooperatives</b>	<b>All Firms</b>
France	12.1%	1.4%
Italy	86.2%	3.8%
Spain (Mondragon)*	31%	-8.1%
UK	133%	-2.0%
EEC	76%	2.0%

\* 1975-1980

\*\* 1981 EEC member countries

Sources: General employment data: OECD Stat Extracts

Cooperative data: Estrin (1985)

**Table 3: Cooperative Survival in Select Canadian Provinces**

**A. Quebec**

# of Employees	Survival Probability (%) up to X Years		
	3 Years	5 Years	10 Years
<b>&lt; 5 Employees</b>			
Cooperatives	73.9	62.4	52.4
For-Profit Firms	74.3	63.0	38.2
<b>5+ Employees</b>			
Cooperatives	74.3	63.0	38.2
For-Profit Firms	60.2	50.6	33.8

Source: Taux de survie des coopératives au Québecreport, 2008

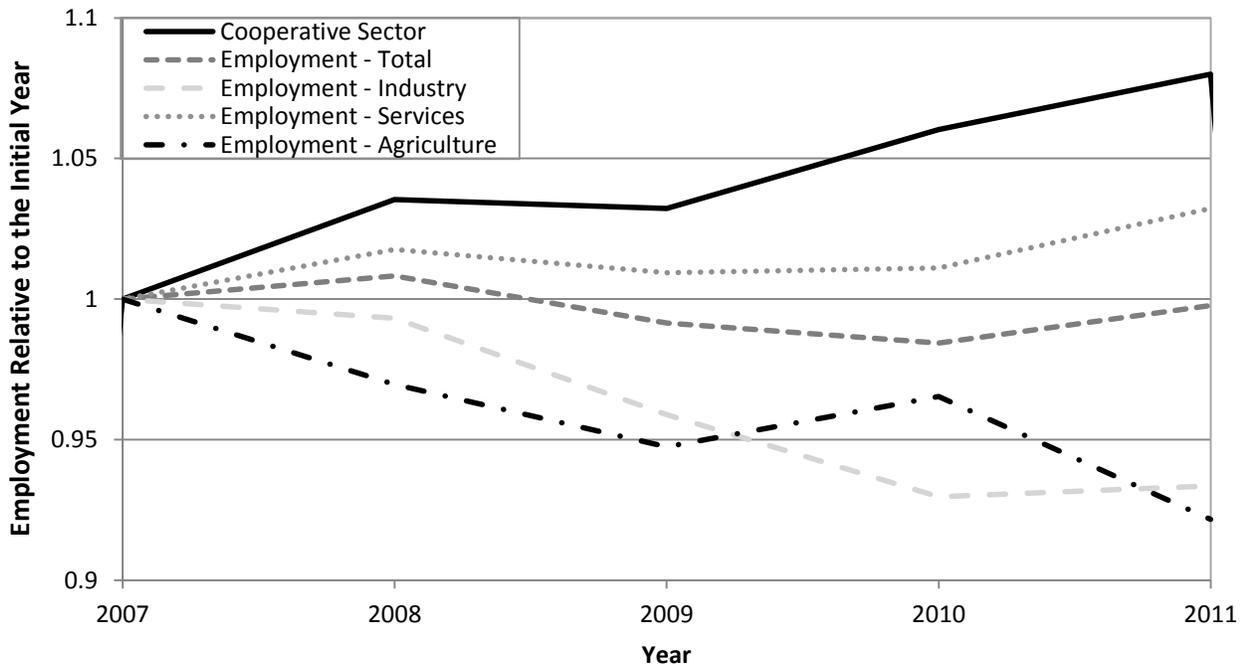
**B. Alberta**

Year Incorporated	Survival at 5 Years (%)	# of Firms	Survival at X Years (%)			
			1	2	3	# of Firms
2000	90.9	11				
2001	90.9	11				
2002	89.5	19				
2003	90.0	10				
2004	91.7	12				
Year Incorporated	Survival at X Years (%)			# of Firms		
2005	100	84.6	84.6	13		
2006	85.7	78.6	78.6	14		
2007	93.8	87.5	--	16		
2008	100	--	--	7		

Source: Stringham and Lee, 2011

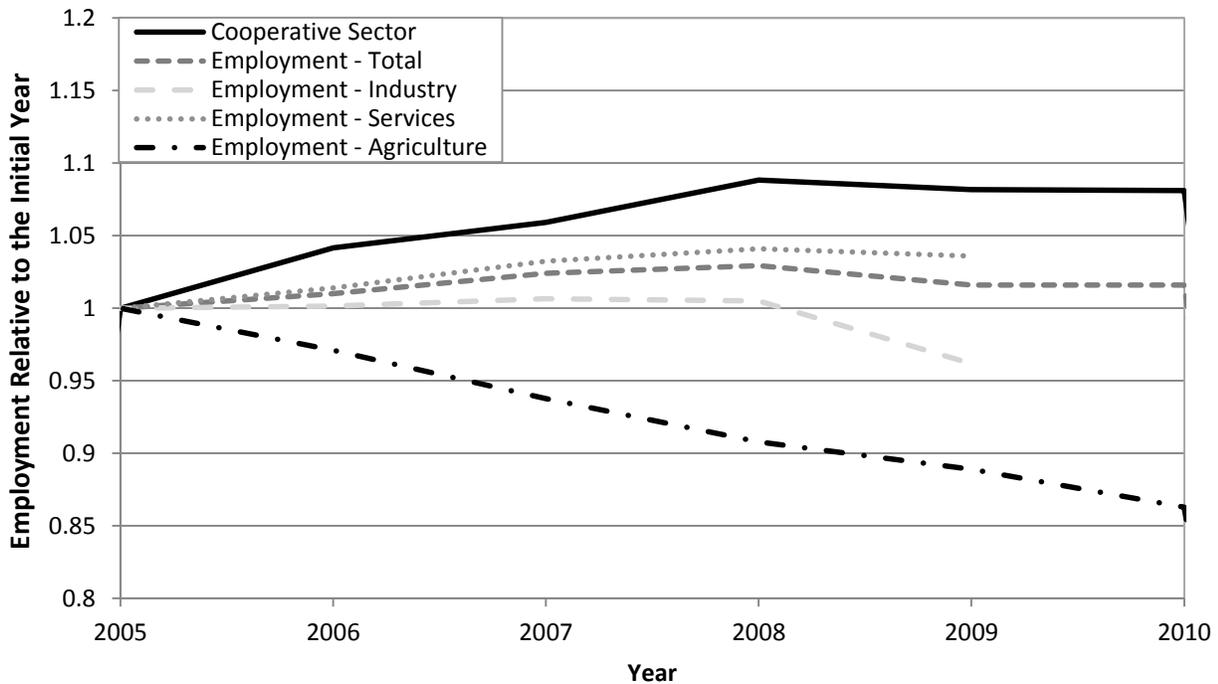
# Figures

**Figure 1: Employment in Cooperative Sector and the Economy – Italy**



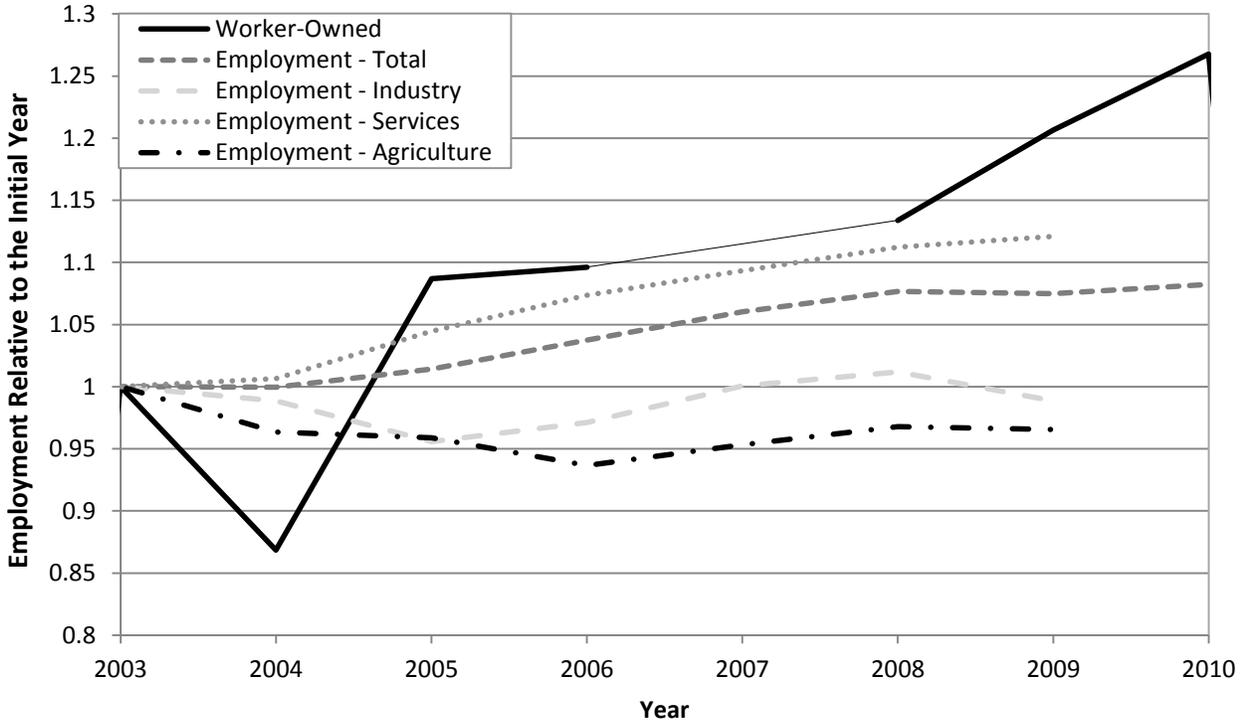
Sources: General employment data: OECD Stat Extracts  
 Cooperative data: Census Report on Cooperatives in Italy

**Figure 2: Employment in Cooperative Sector and the Economy – France**



Sources: General employment data: OECD Stat Extracts  
 Cooperative data: Institut national de la statistique et des études économiques (INSEE)

**Figure 3: Employment in Cooperative Sector and the Economy – Germany**

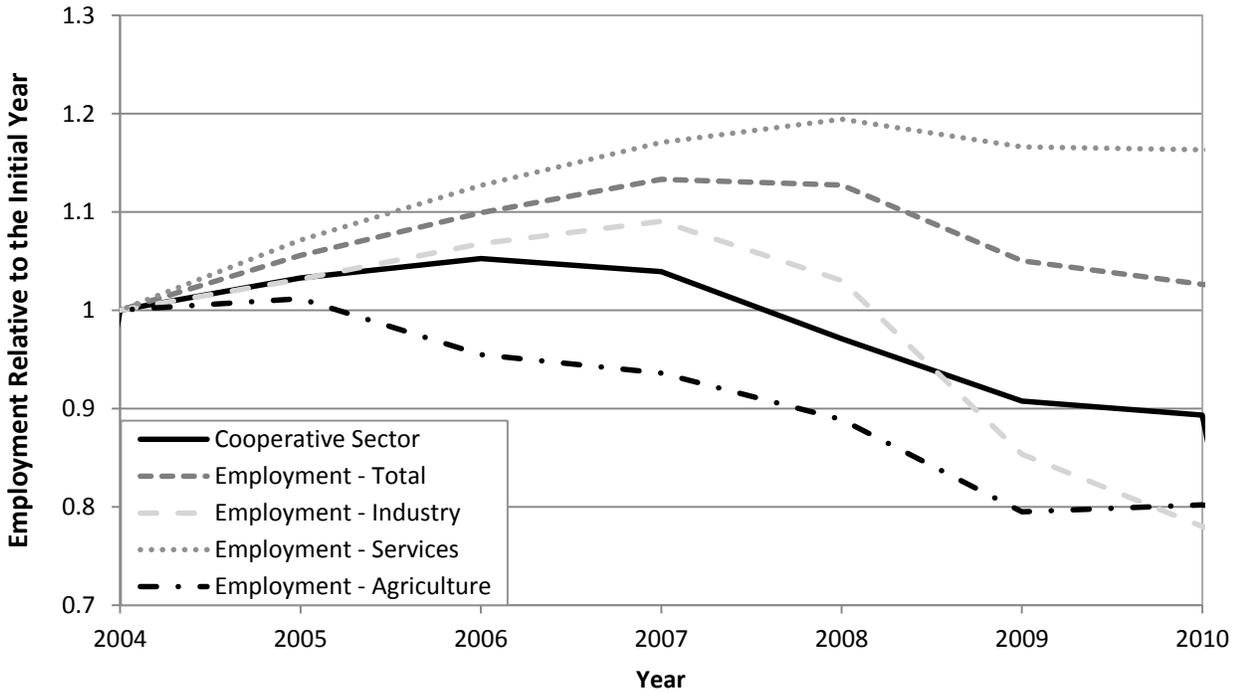


Note: 2007 cooperative data was not available in the DGRV reports

Sources: General employment data: OECD Stat Extracts

Cooperative data: German Cooperative Association (DGRV)

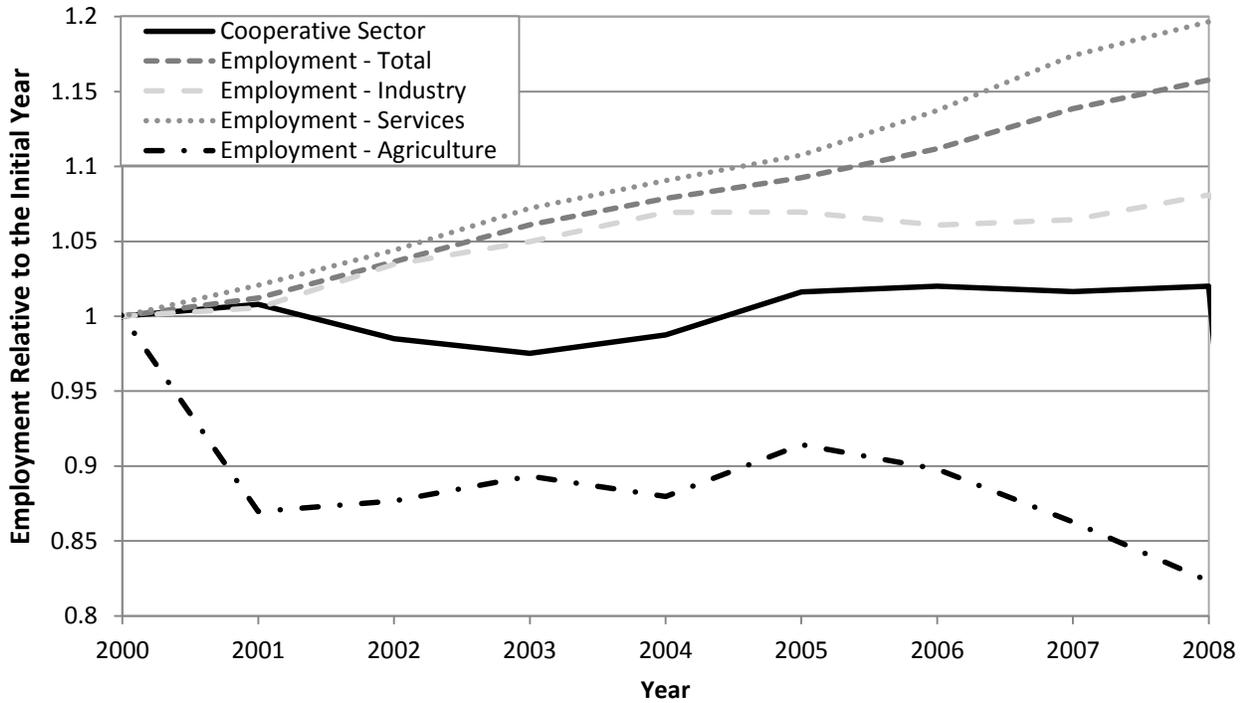
**Figure 4: Employment in Cooperative Sector and the Economy – Spain**



Sources: General employment data: OECD Stat Extracts

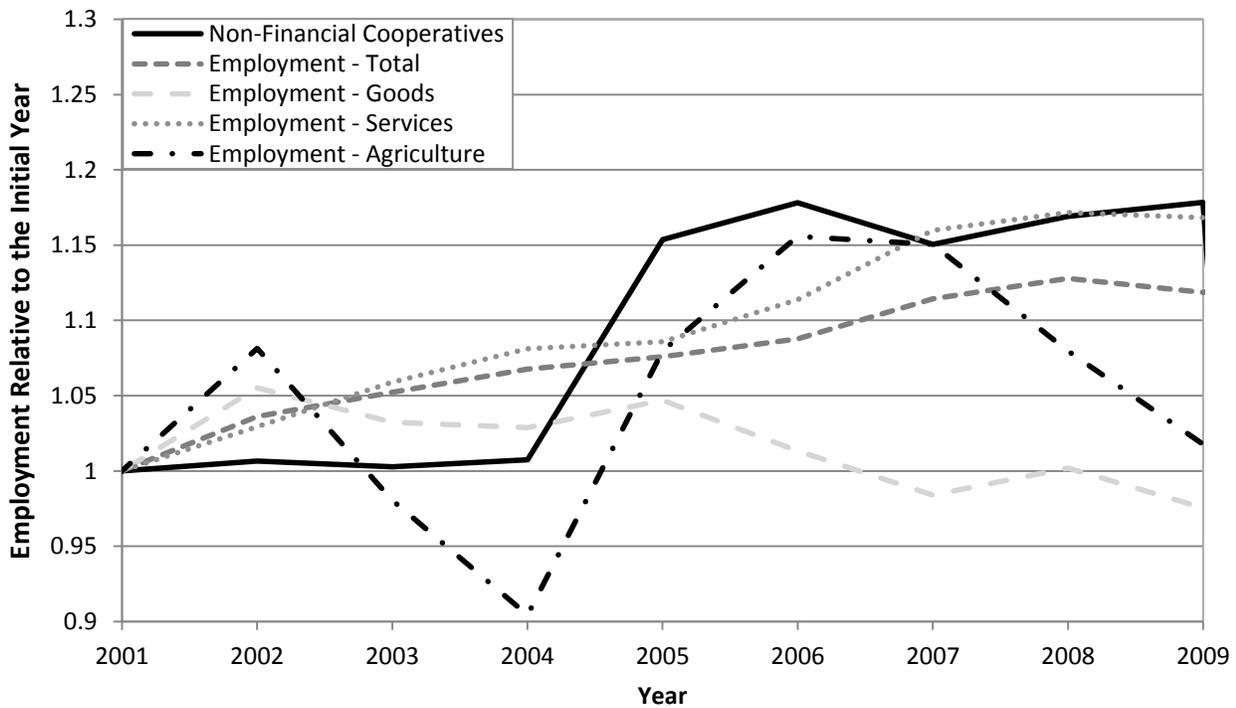
Cooperative data: Spanish Cooperative Association (CEPES) Social Economy reports

**Figure 5: Employment in Cooperative Sector and the Economy – Canada**



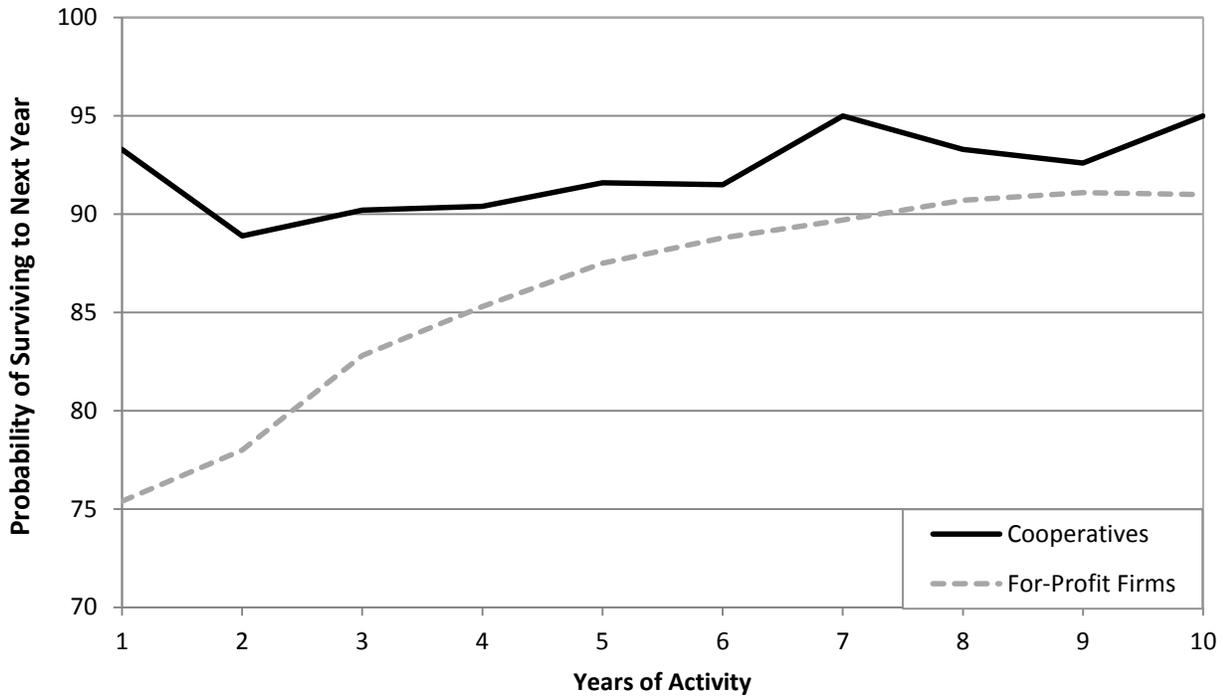
Sources: General employment data: OECD Stat Extracts  
 Cooperative data: Rural and Co-Operatives Secretariat, Co-operatives in Canada reports

**Figure 6: Employment in Cooperative Sector and the Economy – Quebec, Canada**



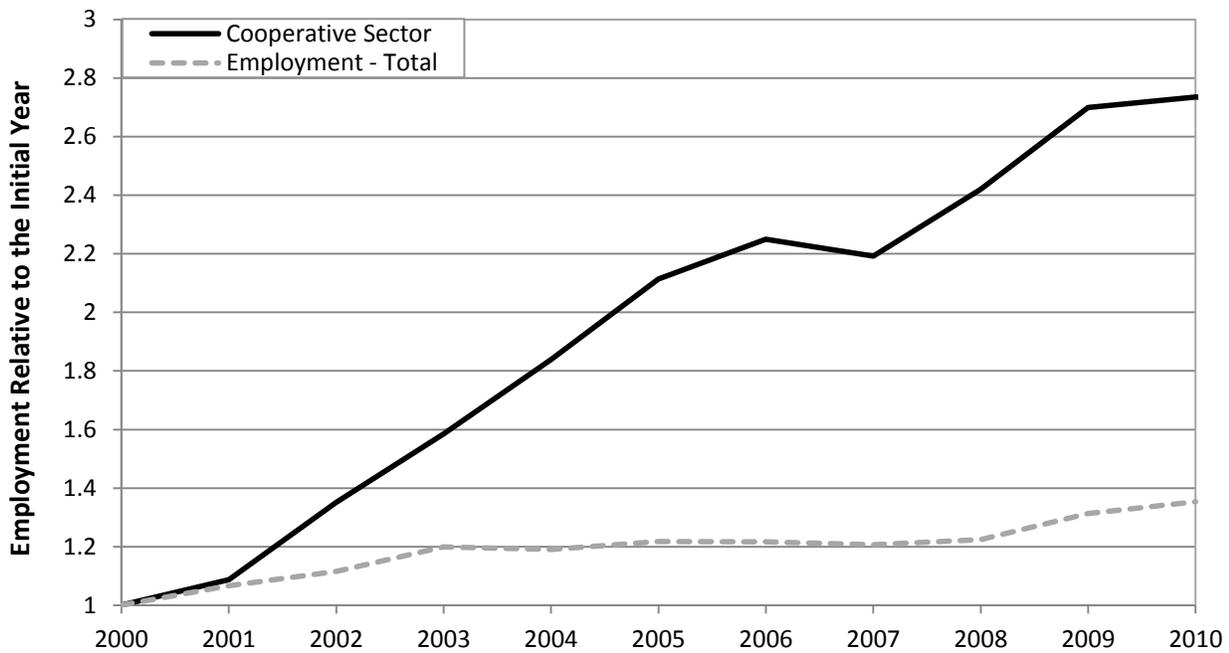
Sources: General employment data: Insitut de la Statistique Québec  
 Cooperative data: Ministère du Développement économique, Innovation et Exportation Québec

**Figure 7: Survival of Cooperatives and For-Profit Firms in Quebec, Canada**



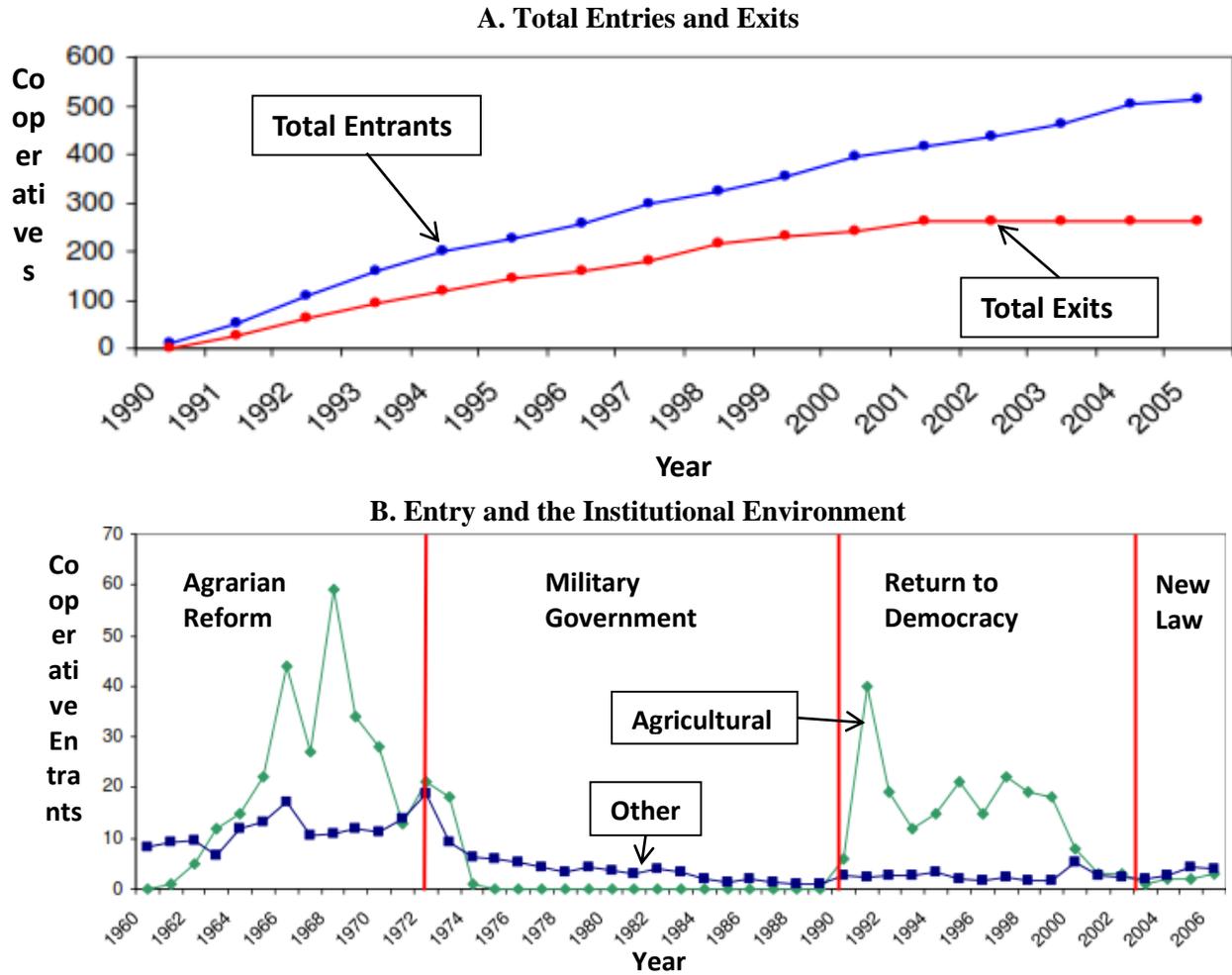
Sources: General employment data: Insitut de la Statistique Québec  
 Cooperative data: Ministère du Développement économique, Innovation et Exportation Québec

**Figure 8: Employment in Cooperative Sector and the Economy – Colombia**



Sources: General employment data: World Bank World Development Indicators  
 Cooperative data: Confederación de Cooperativas de Colombia (Confecoop)

**Figure 9: Cooperative Entry and Exit in Chile**



Source: Departamento de Cooperativas, Chilean Government (Decoop)