



# EXPLORING THE CO-OPERATIVE ECONOMY

A LOOK AT THE AGRICULTURE  
AND FOOD INDUSTRIES SECTOR



*The importance of the World Co-operative Monitor cannot be overstated. Not only is it a crucial tool which we can use to raise the profile of co-operatives to policy-makers and industry professionals, but it also provides an incredibly useful starting point for researchers and academics alike.*

Dame Pauline Green,  
President of the International Co-operative Alliance

## WHAT IS THE WORLD CO-OPERATIVE MONITOR

The World Co-operative Monitor is an International Co-operative Alliance initiative with the scientific support of the European Research Institute on Cooperative and Social Enterprises (EURICSE). It is designed to monitor and demonstrate the economic and social impact of co-operatives and mutual organizations worldwide.

**World Co-operative Monitor accomplishments to date:**  
Published reports over the last 4 years using available economic data from country and sector lists, research centers, existing databases and surveys directly contributed by co-operatives in order to rank the largest co-operatives.



### GOALS

.....  
Work towards an improved methodology for data collection and analysis of co-operatives worldwide  
.....

Compile a database of economic and social data to give visibility to both the economic and social impact of the world's co-operatives



### HOW?

.....  
Co-operatives can complete the survey online at [www.monitor.coop](http://www.monitor.coop)  
.....

Create national or regional observatories on co-operatives based on the World Co-operative Monitor methodology



### WHY?

.....  
Increase the global visibility of your co-operative and the overall movement  
.....

.....  
Ensure more accurate data  
.....

.....  
Build a robust database that can inform future research on the impact and scale of cooperatives

*Read the World Co-operative Monitor report and submit your data at [www.monitor.coop](http://www.monitor.coop)*

[www.ica.coop](http://www.ica.coop) | [www.euricse.coop](http://www.euricse.coop)

The International Co-operative Alliance is a non-profit international association established in 1895 to advance the co-operative social enterprise model. Euricse is a research institute that promotes knowledge development and innovation for the field of cooperatives, social enterprises and other nonprofit organizations that produce goods and services.

# THE CO-OPERATIVE AGRICULTURE AND FOOD INDUSTRIES SECTOR\*

\*provisional data from forthcoming "Exploring the Co-operative Economy Report 2015"

## Data sources:

AMADEUS - Bureau van Dijk Amadeus database

COGECA - European agri-cooperatives

EURICSE - European Research Institute on Cooperative and Social Enterprises

NCB - National Cooperative Bank

NCR - Dutch Council for Cooperatives

NZ.COOP - Cooperative Business NZ

PELLEROV - Pellervo Society

WCM - World Co-operative Monitor questionnaire

## THE 30 LARGEST CO-OPERATIVES IN THE AGRICULTURE AND FOOD INDUSTRIES SECTOR BY TURNOVER - 2013\*

RANK 2013	ORGANISATION	COUNTRY	TURNOVER (BILLION USD)	SOURCE
1	NH NONGHYUP (NACF)	Republic of Korea	55.05	WCM
2	ZEN-NOH	Japan	48.37	WCM
3	CHS INC.	United States of America	44.48	NCB
4	BAY WA	Germany	22.02	COGECA
5	FRIESLANDCAMPINA	Netherlands	15.79	NCR
6	FONTERRA COOPERATIVE GROUP	New Zealand	15.29	NZ.COOP
7	LAND O'LAKES, INC.	United States of America	14.24	NCB
8	ARLA FOODS	Denmark	13.65	COGECA
9	DAIRY FARMERS OF AMERICA	United States of America	12.90	NCB
10	DLG	Denmark	10.96	COGECA
11	SUEDZUCKER	Germany	10.87	EURICSE
12	DANISH CROWN	Denmark	10.83	COGECA
13	AGRAVIS	Germany	10.36	COGECA
14	GROWMARK, INC.	United States of America	10.17	NCB
15	VION FOOD	Netherlands	9.71	COGECA
16	INVIVO	France	8.47	COGECA
17	KERRY GROUP	Ireland	8.06	COGECA
18	DMK	Germany	7.33	COGECA
19	FENACO GENOSSENSCHAFT	Switzerland	6.94	AMADEUS
20	METSÄ GROUP	Finland	6.81	PELLEROV
21	TEREOS	France	6.48	COGECA
22	TERRENA	France	6.44	COGECA
23	SODIAAL	France	6.37	COGECA
24	COPERSUCAR	Brazil	6.25	EURICSE
25	FLORAHOLLAND	Netherlands	6.18	NCR
26	VIVESCIA	France	5.81	COGECA
27	AG PROCESSING INC.	United States of America	5.67	NCB
28	AGRIAL	France	5.38	COGECA
29	LANTMÄNNEN	Sweden	5.18	COGECA
30	AXÉRÉAL	France	5.12	COGECA

## THE TOP 3 IN 2013:

### NH NONGHYUP (NACF)

#### Members

**2,431,353**

individual members of member co-operatives

#### Personnel

**almost 80,000**

#### Country

**Republic of Korea**

### ZEN-NOH

#### Members

**1,032**

co-operative unions  
(including 156 secondary unions)

#### Personnel

**over 8,000**

#### Country

**Japan**

### CHS INC.

#### Members

**625,000**

producers, mainly throughout 1,100 member co-operatives

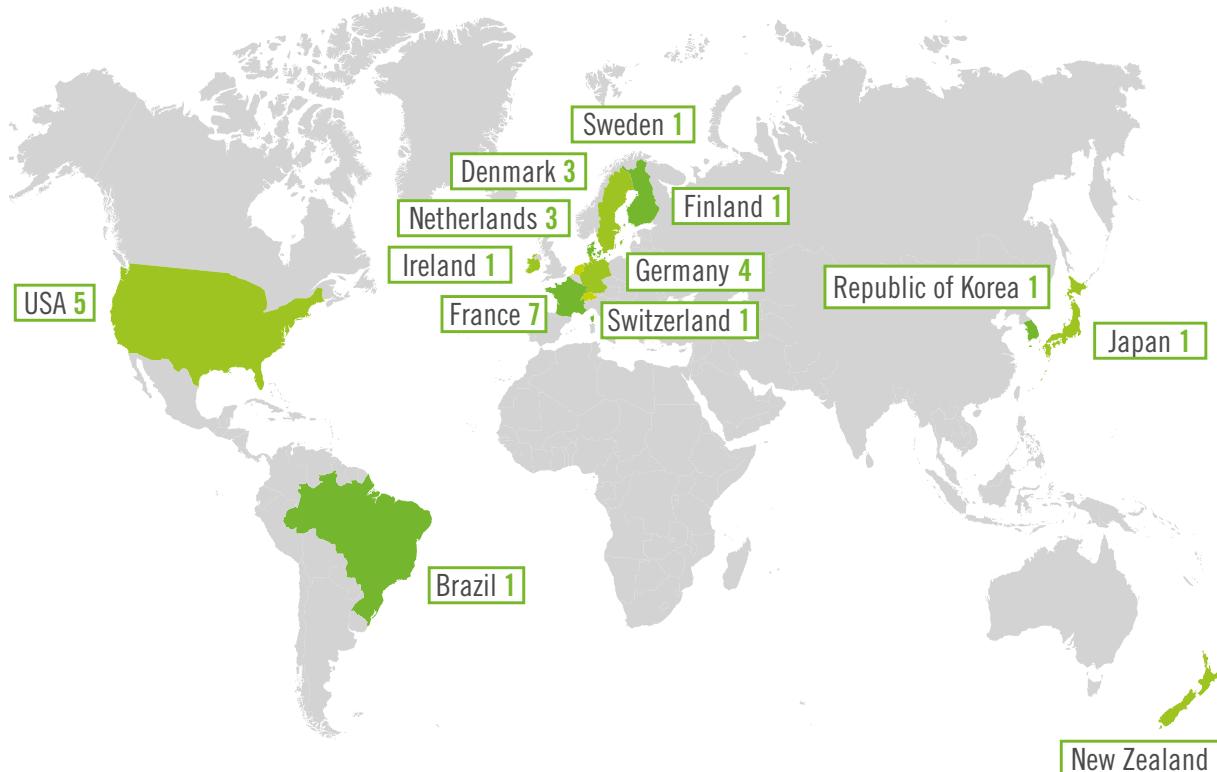
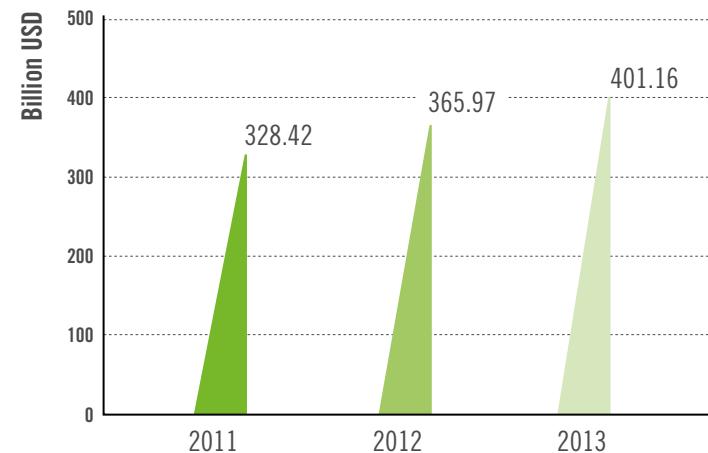
#### Personnel

**over 11,000**

#### Country

**USA**

## TOP 30 GROWTH OVER LAST 3 YEARS



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WITH ROBUST AND COMPREHENSIVE  
DATA ABOUT CO-OPERATIVES  
**WE CAN LEARN MORE**  
ABOUT THEIR IMPACT AND PERFORMANCE  
**THROUGH IN-DEPTH RESEARCH**  
**AND STUDIES.**

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**THE THREE RESEARCH EXCERPTS**  
PRESENTED HERE - CONDUCTED  
BY EURICSE AND OTHERS - DEMONSTRATE  
THE KINDS OF STUDIES THAT CAN BE  
UNDERTAKEN TO IMPROVE OUR KNOWLEDGE  
OF THE IMPACT AND PERFORMANCE  
OF CO-OPERATIVES IN THE AGRICULTURAL SECTOR.

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## WHAT IS THE ECONOMIC IMPACT OF ITALIAN AGRICULTURAL COOPERATIVES?

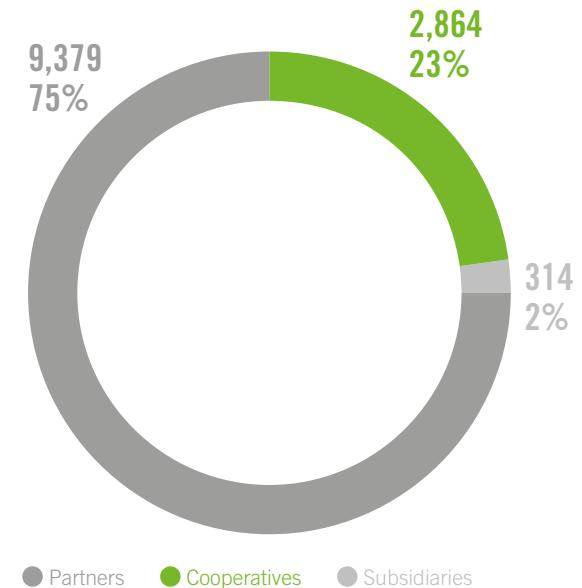
Summary and excerpts from: Fontanari E., Borzaga C. (forthcoming). Quanto vale la cooperazione agricola italiana? in "Economia cooperativa. Rilevanza, evoluzione e nuove frontiere della cooperazione italiana - 3° Rapporto Euricse" (Euricse report on Italian cooperation), Euricse.

Determining the economic impact of agricultural cooperatives is challenging in two respects. First, the economic impact of the agricultural sector is generally underestimated because the value of production in the fields is usually the only aspect considered, leaving aside the fact that agricultural production in itself puts into action a series of activities (transformation, distribution, sales, etc. of agricultural products) that, statistically, are classified in other sectors, but that would not exist without agricultural production. Second, within the agricultural sector, the role of cooperatives is often overlooked. One way to address these limitations and evaluate both the role of the agricultural sector and the impact of cooperatives on its performance is to look at the overall impact on the gross domestic product of the cooperative component of the agricultural sector. This research represents a first attempt to evaluate this contribution in Italy through the use of input/output techniques (previously tested by the authors) on economic data from 2012 from Italian agricultural cooperatives and a portion of their subsidiaries (the economic and financial data used were extracted from the Aida – Bureau van Dijk database and the data on gross

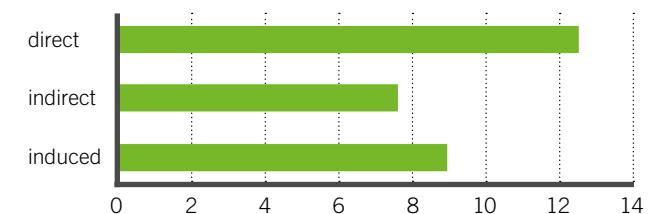
agriculture production are sourced from the Osservatorio Cooperazione Agricola, 2015).

The first step was to reconstruct the overall value added including all of the transformation and commercialization activities that are directly managed by agricultural cooperatives and their subsidiaries. Then using the input/output matrix the indirect and induced values were calculated both in terms of economic impact and jobs (full-time equivalents "FTE"). The findings reveal that the **total value added directly generated by Italian agricultural cooperatives in 2012 is 12,557 million Euro** instead of 9,379 million Euro as would be traditionally calculated. **Once the indirect and induced impacts are also taken into account, the contribution to value added amounts to 29,199 million Euro.** In terms of jobs, the research finds that in 2012, in addition to the 350,860 FTE in member farms (including employees, owners, and family collaborators) and 55,074 FTE in agriculture cooperatives and their subsidiaries, an additional 300,000 FTE can be counted through calculating the indirect and induced effects, for a **total of over 700,000 FTE supported by cooperative agriculture in Italy.**

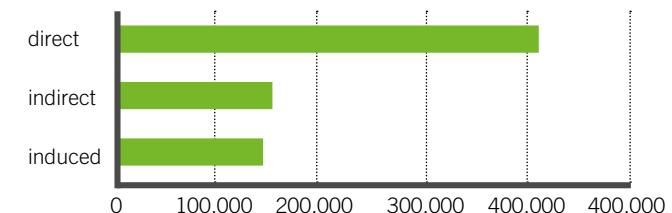
Added value directly generated by agricultural cooperatives by type of economic actor (in millions of Euro). Year 2012



Total added value of the Italian agricultural cooperative sector by type of effect (in billions of Euro). Year 2012



Total FTE generated by agricultural cooperation in Italy by type of effect and sector (in thousands). Year 2012



Source: elaboration of data from Aida, Istat and Osservatorio Cooperazione Agricola.

## RESEARCH EXCERPTS

# IMPACT OF AGRICULTURAL COOPERATIVES ON SMALLHOLDERS' TECHNICAL EFFICIENCY: EMPIRICAL EVIDENCE FROM ETHIOPIA

Summary and excerpts from: Abate, G.T., Francesconi, G.N. and Getnet, K. (2014). Impact of agricultural cooperatives on smallholders' technical efficiency: Empirical evidence from Ethiopia. *Annals of Public and Cooperative Economics*, 85: 257–286. doi: 10.1111/apce.12035

Enhancing productivity and commercialization among smallholder farmers is widely perceived as a key strategy for rural development, poverty reduction, and food security in Sub-Saharan Africa. For productivity gains to be achieved, smallholder farmers need to have better access to technology and improve their technical efficiency. Considerable public development programs or private initiatives are channeled through cooperatives in order to overcome prohibitive transaction and coordination costs. However, it is still empirically unclear and highly contested whether these collective organizations can deliver and live up to their promises. This paper evaluates the **impact of Ethiopian agricultural cooperatives on smallholders' technical efficiency using household survey data and propensity score matching to compare the average difference in technical efficiency between cooperative member farmers and similar independent farmers** at the *kebeles* level (the smallest rural administrative unit in Ethiopia). The data used is from the “Ethiopia Agricultural Marketing Household Survey”, jointly carried out by the Ethiopian Development Research Institute (EDRI), Ethiopian Institute of Agricultural Research (EIAR) and International Food Policy Research Institute (IFPRI) between June and August 2008.

This survey provided data on all the variables of interest except village level variables, which were then obtained separately from the Central Statistical Authority (CSA).

The results show that agricultural cooperatives are effective in providing support services that significantly contribute to members' technical efficiency. **On average, farmers belonging to agricultural cooperatives are more efficient than are independent farmers.** The results suggest that member households are in a better position to obtain maximum possible outputs from a given set of inputs used, by about 5 percentage points, in line with the expectation that agricultural cooperatives likely make productive technologies accessible and provide embedded support services (i.e., training, information and extension linkages). According to the findings, increased participation in agricultural cooperatives should further enhance efficiency gains among smallholder farmers. This analysis has important policy implications as it suggests that besides their progressive role in input and output marketing, agricultural cooperatives in Ethiopia are effective in providing embedded supportive services, significantly contributing to members' technical efficiency.

## SAMPLE

**1,638** farm households

**34%** members of agricultural cooperatives

**66%** independent farm households

## MEMBERS VS. NON MEMBERS OF AGRICULTURE COOPERATIVES

	Member (mean)	Non member (mean)
Households (HH) size	6.50	6.18
Age of household head	45.76	44.09
Number of farm plots held	6.37	5.14
Improved seed used by HHs (kg)	7.46	1.70
Fertilizer used by HHs (kg/ha)	96.39	22.41
Value of crop produced	3423.40	2266.40
Distance to all weather road (minutes)	55.10	76.63
Distance to nearest market (minutes)	67.21	75.63

## HOW MUCH DOES INEFFICIENCY IMPACT OUTPUT?



**70% VARIATION IN OUTPUT DUE TO TECHNICAL INEFFICIENCY.**

## INEFFICIENCY IS LINKED WITH:

**NUMBER OF PLOTS**

**DIVERSIFICATION OF CROPS**

**GENDER OF HOUSEHOLD HEAD AND**

**MEMBERSHIP IN AGRICULTURAL COOPERATIVES**

## INFORMING MEASUREMENT OF COOPERATIVE PERFORMANCE

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Summary and excerpts from: Franken, Jason R.V. and Cook, Michael L. (2015). Informing Measurement of Cooperative Performance in Windsperger, J., Cliquet, G., Ehrmann, T., Hendrikse, G. (eds.) *Interfirm Networks: Franchising, Cooperatives and Strategic Alliances*, Springer. DOI 10.1007/978-3-319-10184-2\_11

Cooperatives are prominent organizational forms in agricultural markets, and as such, their economic performance is of longstanding interest to economists, policy-makers, and industry stakeholders. Researchers commonly apply readily available financial measures to evaluate cooperative performance in the context of profit maximizing investor owned firms (IOF), much to the neglect of the dual objectives of cooperatives (i.e. profitability and member benefits) identified in the theoretical literature. In this study, the **authors advance a more inclusive approach to assess cooperative performance, incorporating several aspects of performance** consistent with these dual objectives. They investigate the concept of cooperative performance using both survey and accounting data from agricultural cooperatives in the United States. The data is derived from a 2010 survey of board chairs for the top 1,000 U.S. cooperatives, which constitutes over 90% of U.S. agricultural cooperative business volume, and financial ratios – return on assets (ROA), return on equity (ROE), and extra-value index (EVI) – obtained from the U.S. Department of Agriculture (USDA) Cooperative Statistics database. Combining 460 surveys received with available accounting data results in a sample of 367 agricultural cooperatives.

Using factor analytic methods previously tested by Heir and Thompson, the authors assess the correspondence among financial ratios and board chairs' perceptions of overall profitability and other performance attributes to gain insight into any tradeoffs that may exist and the extent to which profitability facilitates achievement of other cooperative objectives. Results suggest that it is useful to conceptualize cooperative performance as a (higher order) latent construct comprising or reflecting performance in other areas in addition to financial performance. The results of the study show a significant relation among various aspects of cooperative performance (financial performance and other aspects like competitive position, ability to achieve vision, and patron satisfaction), with the strength of those relations varying by cooperative type (i.e. marketing, supply, service, or multipurpose agricultural cooperatives). Even so, the **authors suggest a global measure of overall cooperative performance may be derived**, which may prove beneficial in studies attempting to relate performance to various characteristics of cooperatives, such as their governance attributes.

## SURVEY SAMPLE

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42%  
SUPPLY COOPERATIVES

2%  
SERVICE COOPERATIVES

56%  
MARKETING COOPERATIVES