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Capitalism in Green Disguise: The Political Economy of Organic Farming in the European Union

Charalampos Konstantinidis

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Abstract

Organic farming is often presented as the success story of Rural Development policies in the European Union, having grown from a marginal activity to covering more than 5% of European agricultural land. Even though organic farming is often thought of as small-scale farming, I show that organic farms in Europe display characteristics associated with capitalist agriculture. Organic farms are larger and more mechanized than conventional farms. Furthermore, organic farms are associated with wage-labor and use less labor per hectare than their conventional counterparts, casting doubt on the efficacy of organic farming in increasing labor demand in marginalized communities and acting as an effective tool for keeping rural residents in the countryside. These results present us with evidence of the "conventionalization" of organic farming, and with another instance of "green-washing" of capitalist structures of production.

1. Introduction

In his piece, "A future for small farms? Biodiversity and sustainable agriculture", James Boyce argues that small farmers provide a "crucial public good: the conservation of agricultural biodiversity" (Boyce, 2006). Boyce claims that there is need for agricultural policies that will not only reduce rural poverty but will also recognize the contributions made by small farmers in environmental protection and further farmers' positive environmental role.

When reading the official documents of the European Union, one gets the impression that such goals are not as unrealistic or outside the policy agenda as they seem prima facie. Through the EU Common Agricultural Policy's (CAP) agri-environmental measures, European farmers receive support for contributing to objectives as diverse as maintaining biodiversity, improving soil, water and air quality, preserving agricultural landscapes, and contributing to climate stability and food security (Cooper et al., 2009; European Network for Rural Development, 2010). This is an impressive discursive change for a policy that was considered predisposed, if not synonymous, to the imposition of capitalist relations in agriculture (Redclift, 1987; Panitsidis, 1992; Liodakis, 1994; Marsden, 2003).

The objective of this paper is to examine whether the discursive change reflects real change in support of small farms. To do so, I examine the rise of organic farming in the European Union. Over the past 20 years and under the auspices of the revised Common Agricultural Policy, organic farming has grown from a marginal activity to a common feature of European agriculture. In 2011, 5% of European Utilized Agricultural Area is cultivated under organic methods; in certain regions the share of agricultural land under organic methods is as high as 40%. This increase in the visibility of organic methods of production is seen as evidence of a process of repeasantization of the European economy (van der Ploeg, 2009).

The structure of this paper is as follows: The second section presents the theoretical predictions regarding the disappearance of the peasantry. The third section traces the history of the CAP and the tension permeating the CAP around the support of capitalist or small/peasant/family farms. In particular, I am interested in how the rise of Rural Development policies, and of organic farming, in particular is seen as contributing to the support for small/peasant/family farms rather than for capitalist structures of production. The fourth section presents empirical evidence which refutes the claim that organic farming in Europe is small-scale farming. I show that organic farms are larger than their conventional counterparts, and are more likely to display characteristics that are associated with capitalist rather than with peasant farming: they employ less labor per unit of land and they are more mechanized than their conventional counterparts, while they are more likely to be corporate enterprises. The fifth sections discusses these results and presents certain reasons, including access to the market or to technical support and other institutional barriers which may tip the scale towards large capitalist farms in their transition to organic methods. The sixth section concludes.

2. Capitalist relations in agriculture: Theoretical predictions

The question of capitalist penetration in agriculture has produced some of the most heated debates of the Marxist tradition. Most of the agrarian debates of the 20th century, such as the Indian mode of production debates or the Nairobi debates, take place in the developing world (Thorner, 1969; Patnaik, 1971; Thorner, 1982; Kitching, 1980; Githinji and Cullenberg, 2003). Underlying these debates is the notion that Europe, the core of capitalism, is further advanced in the (linear) process of capitalist development. However, wage labor was not a dominant feature of European agriculture when these theoretical confrontations took place, and although rising, it is still not to this day.

The literature on agrarian transition is divided around the question of the development of capitalism in agriculture and the presence of the peasantry. The first line is defined by the seminal authors of the Marxian tradition (Marx, Lenin, Kautsky) and predicts the disappearance of the peasantry and the development of capitalist structures in agriculture. For Marx, the peasant smallholding, where the cultivator is also the owner of the land and the instruments of labor and which arose out of the dissolution of feudal estates in Europe was only a transitional form towards capitalist farming. The destruction of the rural domestic industry, the depletion of soil fertility, and the usurpation of communal lands make it impossible for the peasant to compete with large-scale agriculture in a context of decreasing agricultural prices (because of increased productivity due to technological advances), even though the peasant keeps for himself a wage that only secures his physical existence at the bare minimum (Marx, 1967, 1981).

Although Marx's work contains scattered remarks on agriculture, it is hardly a systematic analysis of the penetration of agriculture by capitalism. Karl Kautsky seeks to remedy this gap with the publishing of the Agrarfrage ("The Agrarian Question") in 1899. In his work, Kautsky presents his clear support for the large farm, as opposed to the Narodnik position of supporting the small peasant. His basic position is one of the technological superiority of the large farm. Technological improvements cannot be introduced unless the farm size is larger than a minimum threshold. Additionally, savings can occur in large farms, through the use of specialized labor (among which, managerial and educated labor). Similarly, credit and commercial considerations point to the superiority of large farms (Kautsky, 1998a, b).

As in Kautsky's analysis, Lenin in his Development of Capitalism in Russia, examines the differentiation between rural bourgeoisie and rural proletariat. Leinin finds that self-employed/small-scale peasants who constitute more than half of the rural population in Russia are usually worse-off than agricultural wage laborers (Lenin, 1974, 129-190). According to Lenin, isolated passages in Marx do not warrant the Narodnik praise of small-scale production, as both Marx and Engels salute the historical role of capitalism (Lenin, 1974, 328-334). Finally Lenin makes it clear that communal arrangements of land tenure can only delay but not stop capitalist development in agriculture.

"If we are told that we are running ahead in making such an assertion, our reply will be the following. Whoever wants to depict some living phenomenon in its development is inevitably and necessarily confronted with the dilemma of either running ahead or lagging behind. There is no middle course. And if all the facts show that the character of the social evolution is precisely such that this evolution has already gone very far (see Chapter II), and if, furthermore, precise reference is made to the circumstances and institutions that retard this evolution (excessively high taxes, social-estate exclusiveness of the peasantry, lack of full freedom in the purchase and sale of land, and in movement and settlement), then there is nothing wrong in such running ahead." - Lenin, on the development of capitalism in agriculture (Lenin, 1974, 329)

The second line of thought, which can be considered as a continuation of Chayanov, rejects the teleology of a linear process towards capitalist agriculture. Instead it seeks to understand the integration of agriculture in capitalism, allowing for the central feature of agriculture (farming) to follow a different model than the large-scale model of industrial capitalism.

A.V. Chayanov is the most well-known critic of the thesis of the inevitability of the capitalist organization of agriculture. In his major work Theory of Peasant Economy (1966), Chayanov criticizes the Marxist analysis of agriculture and argues that categories (such as rent or capital) are not suitable for the analysis of agriculture, since agriculture is a sphere dominated by unpaid labor performed by peasant family members . Since the family farm does not pay wages, it can operate under conditions that would have been impossible for a capitalist farm

(Chayanov, 1966, 86-89). The peasant household will often push labor intensity beyond its optimal levels in order to increase the gross income of the family, even at the cost of declining revenue per labor unit. Similarly, the peasant household might pay higher rents for land than what would be reasonable for a capitalist farm, or make investment decisions which do not maximize its rate of return, such as growing less productive crops which may not display irregularities of labor demand over different seasons. All these factors show that it is the self-exploitation of the peasant that explains the viability and the stability of the peasant form, despite facing competition from the more efficient capitalist sector (Chayanov, 1966, 86-89; 189-236).

Costas Vergopoulos furthers Chayanov's claims to argue that family ownership in agriculture is indicative of "disformed capitalism". In an attempt to reconcile Marxism with the empirical reality of the persistence of peasants farms in Western Europe, Vergopoulos seeks to analyze the role of agriculture within the "social apparatus of capitalism". According to Vergopoulos, the rationality of the capitalist system is guaranteed at the expense of the rationality of the organization of production in agriculture. Thus, industrial capital supports family farming in order to block the development of agricultural capitalism. The State, beyond breaking up latifundia through land reforms and promoting intensive farming in small farms (which increases the mass of surplus), has always promoted the transfer of surplus outside agriculture: Indebtedness has systematically transferred surplus from farms to finance capital. At the same time, the relatively small number of cases of land repossession points to a systemic preference of peasant indebtedness over capitalist agriculture (Vergopoulos and Amin, 1975, 21).

Richard Lewontin in a recent article echoes Vergopoulos' analysis of the articulation of peasant farming within capitalism. According to Lewontin, one needs to separate farming from agriculture: for a variety of reasons, which include the difficulty of supervising the farming process and its unpredictability, the low liquidity of farm land, the limits to the turnover time for farming, and the limits to economies of scale, farming has not been organized along capitalist lines. Thus, capital has stayed away from farming, a process organized around large number of independent petty producers, and has focused instead on other agricultural processes (e.g. input provision, processing, distribution) (Lewontin, 2000).

3 European agriculture and the role of policy

3.1 Wage labor in European agriculture

It is in this context that we need to examine the changes in European agriculture, and the tension between capitalist and peasant relations in farming. Eric Hobsbawm writes in the "Age of Extremes" that "the most dramatic and far-reaching social change of the second half of this century, and the one which cuts us off for ever from the world of the past, is the death

of the peasantry" (Hobsbawm, 1996, 289). Prior to WWII, the only two industrial countries in which agricultural population comprised less than 20% were Great Britain and Belgium. By the early 1980s most European countries did not employ more than 10% of their population in agriculture: the peasant population had fallen even in traditional peasant strongholds, such as Greece (Hobsbawm, 1996, 289-291).

Table 1: Percent of wage labor in European agriculture, 1973-2007

	1973	1979	1990	1993	1995	1997	2000	2003	2005	2007
Austria		9	7	8	9	10	11	12	13	15
Belgium	10	9	12	13	14	13	15	18	15	16
Bulgaria							10	10	13	15
Cyprus							20	22	27	27
Czech Rep.							78	74	76	72
Denmark	18	21	26	27	27	30	32	35	36	39
Estonia					54	38	26	39	38	41
Finland		3	4	4	9	9	15	18	17	18
France	17	17	19	21	23	25	29	31	32	33
Germany				31	31	33	34	35	37	36
Greece			9	12	14	13	16	20	19	19
Hungary					23	19	21	21	22	24
Ireland			10	9	10	9	9	9	5	9
Italy			36	35	33	30	31	29	34	36
Latvia						16	13	14	14	18
Lithuania						32	21	21	23	26
Luxembourg	5	5	10	11	12	13	14	15	18	16
Malta			4	4	7	7	6	7	10	10
Netherlands			27	29	30	31	34	37	38	40
Poland						7	6	6	6	6
Portugal		15	12	12	13	14	13	14	15	17
Romania						10	6	10	9	10
Slovakia					62	56	56	59	57	56
Slovenia					6	6	6	8	9	8
Spain			28	26	28	31	39	38	37	39
Sweden	25	26	29	28	28	26	27	29	30	30
UK	46	45	40	38	38	37	34	32	33	32

Source: Eurostat

The consolidation of farms and the creation of larger farms meant an increased presence of wage labor, as the family could not provide the labor power required to manage the larger farms. This is especially the case in Europe, which has been experiencing declining birth rates over the past 50 years. While in the original countries of the EEC less than 14% of agricultural

labor was performed by non-family wage labor (Djurfeldt, 1981, 167-168), table 1 shows a general increase in the presence of wage labor in agriculture over the last 40 years. Thus in 2007 more than 40% of agricultural labor was performed by agricultural wage-workers in several countries (72% in the Czech Republic, 56% in Slovakia, 41% in Estonia, 40% in the Netherlands, etc.). Although growing in general, wage-labor still accounts for less than one fifth of agricultural labor in several European countries such as Austria (15%), Belgium (16%) or Portugal (17%). Thus, the transition to capitalist farming is far from complete .

3.2 European policy: from the 'Mansholt plan' to Rural Development

The role of the State is a crucial part of an explanation to the changes in the structural characteristics of European agriculture, or the lack thereof. This analysis becomes more pertinent since the Common Agricultural Policy has historically been a central piece of European policy. Its foundation was laid out in the Treaty of Rome, the inaugural document of the European Economic Community, in 1957, with the explicit objectives of increasing agricultural productivity and assuring the availability of supplies (European Union, 2006; Konstantinidis, 2013). These objectives would be accomplished by significant payments to agricultural producers, embracing the productivist logic of the early era of industrial agriculture. The significance of the CAP is further established by the fact that despite its decrease in the relative weight in the EU budget over the last 30 years, the CAP is still receiving more than 44% of the EU budget . Naturally, one should inquire which structures of production are favored by these policies.

The fact that the disappearance of the peasantry had not been fully realized in Europe 70 years after Lenin and Kautsky's writings is revealed by the 'Mansholt plan', the first reform of the CAP, proposed in 1968 by Sicco Mansholt, the first Commissioner for Agriculture (1958-1972), The 'Mansholt plan' at- tempted to "modernize" European agriculture and to "improve its competitiveness", by actively reducing the ratio of population employed in agriculture and consolidating farms into large holdings, with minimum size requirements of 80-120 hectares of arable land or 40-60 dairy cows. These new farms would be able to take advantage of economies of scale, introducing modern technology and methods of farming (Kommission, 1968, 1-27; Lynggaard, 2006, 87-89). According to European policy makers these reforms would allow the agricultural community to participate in the welfare boom enjoyed by the rest of society and curb surplus production, which reinforced the downward trends of agricultural prices and incomes and put additional pressure on taxpayers to support farmers (Lynggaard, 2006).

The 'Mansholt plan' did not fare well. The modernization envisioned by Mansholt stipulated that by 1980 five million hectares of land be retired from agriculture and transferred to other uses, and five million people leave agriculture through early retirement or retraining. Hence,

the plan faced significant opposition from farmer organizations, and Mansholt himself was given the unflattering nickname “peasant killer” (Ingersent,1990; Ingersent and Rayner, 1999). Furthermore, the plan’s support for a type of ’modern farm’ went against the ideal of the small-scale- or family-farm in the South and the North of the EEC respectively. Advocating for the reduction of the people employed in agriculture seemed politically costly, in the absence of a comprehensive employment plan in other sectors, and hence could not adopted in its initial form, but as watered-down ’social-structural directives’ in 1972 (Lynggaard, 2006). This attempt to essentially create capitalist structures in agricultural production is considered to this day one of the most controversial and failed attempts of European policy making (Ingersent and Rayner, 1999; Marsden, 2003; Garzon, 2006).

Whereas the Mansholt plan promoted openly the creation of ‘modern’ capitalist farms in the European countryside, this objective is not openly stated in the more recent versions of the CAP. Instead, we see that the European Commission presents the CAP as a policy that contributes to environmental protection and deters rural depopulation . As such, the CAP appears to be a policy that allows small farmers to continue farming and to prosper. The following passage from an official publication of the European Commission illustrates the discursive change in the CAP, from active support for modern capitalist structures to claims that it seeks to retain family farms in the European countryside:

Q: Does the CAP encourage intensive farming?

A: No. In fact, the CAP rewards extensive production systems. We are not interested in industrialised farming for Europe. There is a place in our model for small as well as large farms. If we got rid of the CAP tomorrow, the only way for many of our farmers to survive would be to intensify their production. Under the reformed CAP, however, the incentive is not to produce more, but to produce in a sustainable and environmentally-friendly way.'' (European Commission, 2009).

The inclusion of environmental considerations into European agricultural policy was the outcome of a long and complex process. In 1973 the Council adopted the first of so far six Environmental Action Plans, which set out the environmental objectives of the EEC. The "intensive use of certain types of fertilizer and the misuse of pesticides" were, for the first time, viewed as a source of pollution, and hence, the suggestion was made that "the dangerous effects of such practices should be lessened" (Council of the European Communities, 1973). The linkage between environmental concerns and the intensive methods of agriculture, which were promoted by the Common Agricultural Policy, was established for the first time in the 1980s. By 1985, the European Commission would explicitly acknowledge that modern agricultural techniques were responsible for the extinction of species and for the destruction of valuable ecosystems, while increasing the risks of ground and surface water pollution

(European Commission, 1985, 50, as quoted in Lynggaard, 2006, 107). The legitimacy of the CAP was further challenged by the fact that the main culprits of environmental degradation (large arable farms) were receiving the lion's share of European payments for agricultural support (Buller et al. 2000; Garzon, 2006).

Furthermore with the expansion of the EEC to include the UK, Ireland, and Denmark, agricultural policy changed so as to address imbalances between different regions, in a similar way to existing British territorial policies. Hence, in 1975 Directive 268 defined certain agricultural regions as "mountainous" or "less-favored" areas (LFAs), calling for special direct payments to allow the continuation of farming (Shucksmith et al, 2005, 26-27). The LFA designation marked a significant change in the nature of the CAP, as it allowed for policies addressing regional imbalances to be pursued through agricultural policy. In subsequent years, the scope of the LFA policies was increased with the accession of new Member States, so as to include regions

- With permanent handicaps (as indicated by altitude, poor soils, climate, steep slopes)
- Experiencing depopulation or low population density
- Lacking infrastructure, needing support for supplementary non-agricultural activities (tourism, local crafts etc.) (ibid., 36-37).

The first major reform of the CAP took place in 1992, ending what some authors called ``thirty years of immobility'' (Garzon, 2006). According to the MacSharry reform of the CAP (named after then commissioner Raymond MacSharry), the agri-environmental schemes, set up by some Member States (e.g. Germany, Denmark) on their own initiative and under the pressure of their national environmental lobbies, became ``accompanying measures'' to the more traditional price support policies of the CAP. This meant that every country was now required to design and implement measures for environmental protection in its respective territory, apart from and parallel to its support for agriculture (Shucksmith et al., 2005). At the same time, the MacSharry reforms reduced the price/market support policies as a step towards the ``decoupling'' of support from production (Scrieciu, 2011). In 1999, with the ``Agenda 2000'' reform of the CAP, Rural Development was explicitly designated as the Second Pillar of Agricultural Policy (the First Pillar being traditional price supports). This allows the European Commission to entertain the vision that the CAP has moved from the support of industrial agriculture and productivism towards environmental protection and support for rural development . There is hardly anything more striking than the following quote from an official document of the European Commission:``Were we to represent Europe by a colour, that colour would undoubtedly be green'' (European Commission, 1992, 7).

3.3 Organic farming

Organic farming occupies a central position among the different tools of rural development, as it seems capable of addressing different problems with the CAP. Starting in the 1980s, organic farming was viewed as a solution to intensive agricultural production and its effects on groundwater pollution or acid rain in various European countries (e.g. the Netherlands, the UK, Denmark) (Lynggaard, 2006, 134-135). Furthermore, organic farming was viewed as way to reduce the use of energy and agro-chemicals, and to restore economic and ecological balance, with favorable implications for human health (ibid., 113).

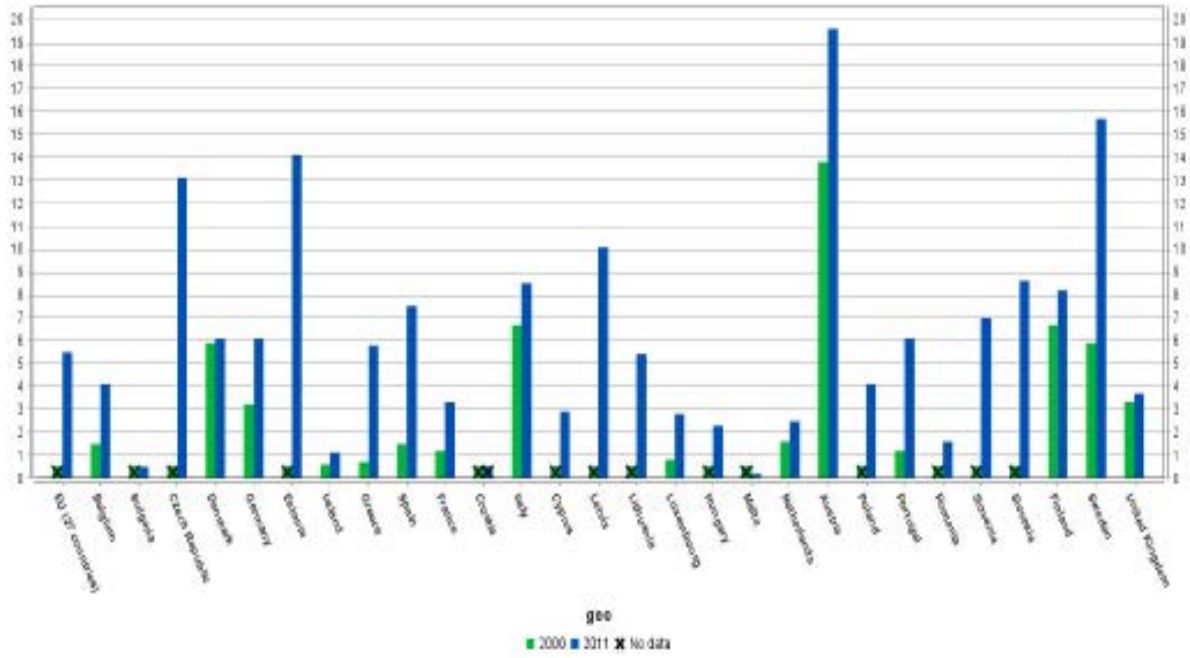
Beyond conferring environmental benefits by banishing the use of pesticides and synthetic fertilizer, organic farming is purported to assist the social and economic goals of the European Commission by keeping small farmers in the countryside and revitalizing regions which were plagued by urbanization (Shucksmith et al, 2005; Lynggaard, 2006). The European's Parliament Committee on Agriculture thereby directly linked organic farming to the support and protection of small-scale farming (ibid.) As the following quote from the European Commission's website on Rural Development illustrates, the European Commission directly connects organic farming to small farms and job creation.

"The very nature of organic farming means that it contributes to creating job opportunities, large rural populations and rural wealth. Factors contributing to this include:

- Organic farms tend to be smaller and more diversified than non-organic farms, which by comparison tend on the whole to be larger and more intensive [sic] managed
- The often high labour intensiveness created by restrictions on inputs and emphasis on physical and mechanical production''

Thus, every EU country has been supporting farmers who decide to switch from conventional to organic farming. This support includes payments to farmers for potential income losses from the transition to organic farming, and in most countries for maintaining their agricultural holdings under the organic regulations even after the initial conversion period (Stolze and Lampkin, 2009, Sanders, 2011). Under these policies, organic land as a share of agricultural area increased significantly in most European countries. Figure 1 displays the changes of organic area for every EU country for the period 2000-2011. One notices the growth in organic area in both countries with tradition in organic farming, such as Austria or Sweden, and also in other countries without a similar tradition, such as Greece or Portugal. Particularly impressive is the rise of organic farming in certain Eastern European countries such as the Czech Republic, Estonia or Latvia, in all three of which organic farming has surpassed 10% of utilized agricultural area.

Figure 1: Organic area in the EU - 2000 to 2011 (Source: Eurostat)



4. Establishing capitalist organic

4.1 Farm size

The empirical reality disproves the rhetoric that connects organic farms to small size. Table 2 shows the evolution of average farm size for organic and conventional farms during the period 2000-2010. At the EU-27 level, the average farm size for organic farms is 47 hectares, whereas the average farm size for conventional farms is only 13.8 ha. In 2010, average organic farm size is greater than average conventional farm size for every EU country with the exception of Luxembourg. For certain countries the difference is astonishing: in Hungary, for example, the average organic farm size is 347 hectares, as compared to a 8 hectares for conventional farms; in Portugal, the average organic farm size is 109 hectares as opposed to 12 hectares for conventional farms, and in Sweden, the average organic farm size is 98 hectares as opposed to 40 hectares for conventional farms. One also notices that average organic farm size has been generally going up over the 2000-2010 period; in several cases, such as Spain or Italy, average organic farm size has also been growing faster than average conventional farm size. Furthermore, one notices that in certain cases, such as Greece or Latvia, average organic farm size was very similar or even below average conventional farm size at the beginning of the period in question; however, by the end of the period, organic farm size is on average 3-4 times higher than average conventional farm size .

Table 2: Average farm size (in ha)

	2000		2003		2005		2007		2010	
	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org
EU-27							12.3	40.4	13.8	47
EU-25					15.7	42.4	16.4	40.6	19.2	46.9
EU-15	18.4	33.4	19.3	40.1	20.5	39.8	21.2	38	23.1	41.2
Austria	16.7	20.0	18.4	21.3	18.7	22.9	18.9	22.3	18.6	22.8
Belgium	22.4	43.0	25.2	43.8	26.7	45.3	28.4	52.9	31.3	56.5
Bulgaria			4.4		5.1	64.3	6.2	84.7	12	82.4
Cyprus			3.5	5.6	3.3	6.2	3.6	8.0	3	7.9
Czech Rep.			75.7	402.6	79.7	398.6	84.5	334.6	147	227.5
Denmark	45.3	56	54.2	63.3	52.0	61.5	59.2	68.3	61.9	80.8
Estonia			21.1	86.6	28.9	70.2	37.4	73.3	45.4	92.7
Finland	27.1	31.4	29.7	34.2	31.8	36.3	33.3	39.7	35.4	44.8
France	41.9	46.9	45.1	56.5	48.5	60.2	52.0	59.8	54	55.3
Germany	36.0	51.1	40.8	55.2	43.2	56.4	45.2	58.5	55.6	60.2
Greece	4.4	4.8	4.7	11.7	4.7	12.9	4.5	10.7	4.6	14
Hungary	4.6	68.8	5.4	197.6	5.7	193.0	6.5	350.3	7.6	346.7
Ireland	31.5	26.8	31.7	29.3	31.8	34.2	32.2	38.3	35.7	36.9
Italy	5.8	18.0	6.4	19.6	7.0	21.5	7.2	24.3	7.4	27.5
Latvia	10.3	7.6	11.6	36.3	13.0	64.8	15.7	44.8	20	64.3
Lithuania			9.1	90.6	10.9	41.7	11.1	71.0	12.9	85.3
Luxembourg	45.3	51.5	52.3	52.8	52.6	58.2	56.8	63.8	59.7	56.7
Malta			1.0		0.9		0.9		0.9	
Netherlands	19.9	30.7	23.0	58.4	23.7	40.4	24.7	42.8	25.8	38.1
Poland					5.9	23.0	6.4	25.4	9.4	31.6
Portugal	9.0	145.8	10.0	157.7	10.9	172.0	12.1	127.1	11.7	109.2
Romania			3.1		3.3	143.2	3.5	19.0	3.4	70.6
Slovakia	29.7	854.8	28.6	1402	26.7	737.4	26.5	588.1	70.9	607.1
Slovenia	5.6	8.6			6.2	13.9	6.3	15.9	6.2	15.4
Spain	20.1	40.1	21.7	67.8	22.6	55.2	23.3	57.9	23.5	55.3
Sweden	36.0	51.4	44.7	50.8	40.3	89.9	40.6	97.4	39.9	97.8
UK	66.6	222.1	56.1	187.6	54.4	177.9	52.7	154.0	82.4	171.1

Table 3: Average farm size (in ha), by type of farming activity - 2010

Country	Field crop		Permanent crop		Grazing		Horticulture		Granivorous		Mixed crop		Mixed livestock		Mixed crop-livestock	
	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org
Austria	26.1	33.3	8.2	17.6	15.9	20.7	3.9	9.2	24.3	20.8	35.6	38.6	13.8	16.9	19.3	30.0
Belgium	34.1	82	15.3	17.3	34.3	63.9	7.7	12.2	17.9	24.3	42.9	47.5	40.9	61.3	47.4	80.8
Bulgaria	58.4	150.3	2.1	25.2	3.3	33	1.2	85	1.0		5.6	48	0.8		2.7	158
Cyprus	12.4	30.7	1.2	4.2	12.9	19	4.5	2	1.5		5.0	10	2.7		2.8	3
Czech Rep.	154.6	191.2	12.6	43.3	75.8	224.8	14.6		57.1		236.3	312	329.1	290	339.4	376.1
Germany	71.1	62.3	9.1	16.7	47.6	60.3	7.2	13.7	53.5	37.8	45.5	51	67.5	100.3	102.3	88.7
Denmark	56.8	54.3	27.5	25.5	55.2	105.6	21.1	47.6	139.3	78.4	87.2	86.8	115.5	61.8	67.9	81
Estonia	54.5	86.8	8.1	15.6	77.8	116.7	8.7	12	22.0		10.3	20.2	37.4	33.5	34.8	66.6
Greece	8.1	24.9	2.1	6.6	14.7	36.8	2.9	6.6	1.8	12.4	5.9	16.2	5.5	19.7	6.6	22.9
Spain	47.9	100.5	8.4	25.2	41.4	117.2	7.3	14.5	18.2	56.1	28.2	77.8	39.4	129.7	37.8	112.7
Finland	32.3	34.6	8.2	12.8	41.2	60.6	12.5	15.1	62.6	67.5	32.1	25.7	86.1	76	66.8	55.1
France	75.6	63.4	14.9	24.0	59.3	80.3	8.2	9.0	33.6	29.6	40.9	27.9	64.9	76.1	76.6	65.5
Hungary	22.6	278.2	1.6	34.1	16.8	892.8	2.9	68.5	0.7	41.5	8.2	184.9	8.0	833	8.9	701.3
Ireland	59.4	52.4	24		32.6	35.9	14.2	10	24.4		26.1	33	34.6	21.5	56.5	47.8
Italy	12.3	39.7	2.8	13.1	24.5	64.7	3.8	11.6	18.9	28.4	7.0	25.2	17.7	44.7	13.7	41
Lithuania	21.0	111.6	6.9	29.2	14.3	78.0	3.2	8	9.6		3.9	40.9	6.5	39.5	12.2	74.3
Luxemburg	32.9		4.4		75.9	76.7	15		68		49		69		71.2	54
Latvia	25.0	108.5	11.3	20.3	19.9	61.5	14.3	18	7.5	25.7	18.1	28	13.2	36.7	21.9	56.1
Netherlands	37.9	43.8	12.4	6.8	28.0	52.0	9.2	12.9	11.5	9.1	46.9	52.3	30.1	32.5	41.9	35.7
Poland	9.2	48.2	5.2	28.5	13.9	33.9	5.4	32.5	10.1	31.4	6.4	27.2	9.6	14.4	10.0	19.8
Portugal	19.4	35	5.2	28.1	32.9	268.3	2.9	8	4.7	0	5.8	15.7	7.4	96	9.4	236.8
Romania	8.2	397.7	1.8		4	12.9	1.7		0.4		2.8		2.3	44	2.3	229
Sweden	37.6	88.2	10.5	9.5	38.5	99.7	21.3	25.3	89.0	78.8	84.3	65.9	73.6	137.3	86.8	129.6
Slovenia	4.9	12.3	2.5	5.9	8.7	17.6	4.2	5	13.7		3.2	9	5.3	10.5	5.6	13.3
Slovakia	75.6	753.2	21.1	55	77.7	522.6	29.2		8.5		86.2		40.7	481	90.4	780.7
UK	104.1	180.1	30.7	30.5	75.5	171	18.1	22.3	30.4	89.1	81.3	101.5	40.8	137.4	124.7	250.0

There are obvious criticisms against the use of average measures to capture the developments taking place in agriculture . In the specific case of organic farming, a common criticism by agricultural officials against the numbers presented in table 2 is to treat them as a statistical artifact, consequence of the inclusion of pastures into the agricultural statistics . Table 3 deals with this criticism by displaying the average farm size for organic and conventional farms in different European countries in 2010, disaggregated by different types of farming activities (specialist field crop production, specialist permanent crop production, specialist horticulture, specialist grazing livestock, specialist granivores, mixed cropping, mixed livestock, and mixed crops-livestock). Even though it is true that organic farms that engage in specialist grazing are larger on average than their conventional counterparts, we notice that the average farm size of organic farms is greater than the average farm size for conventional farms in most European countries for all other agricultural activities.

Table 4 presents the relative share of organic farms, both in terms of area and in terms of the number of holdings in each farm size. The table illustrates a well-known fact, the unequal distribution of agricultural land in Europe. Thus, we see that 47% of farms in Europe operate on below 2 hectares. Despite the size of this group, these farms account for only 2.4% of agricultural land in Europe. At the same time, farms with land size above 100 hectares, which constitute 2.7% of European agricultural holdings, control over 50% of European utilized agricultural area.

How do organic farms fit into this picture? First, of all we notice that organic farms are significantly underrepresented among small farms and overrepresented among larger farms. We notice that only 0.6% of organic farms are below 2 hectares. While 67% of farms in the European Union are below 5 ha, only 13\% of organic farms fall under the same category. At the same time, 6% of European farms are greater than 50 hectares, as opposed to approximately 23% of organic farms. The distribution of organic land among different classes of farms is quite similar to that of all agricultural land, with approximately 72% of organic land being controlled by farms that are greater than 50 hectares, as opposed to 67% for all land in general. Thus, comparing the distribution of farms and land for both organic and all farms, we notice that the majority land is controlled in both cases by a small percentage of farms. However, whereas the median European farm is between 2 and 5 hectares, the median organic farm is between 20 and 30 hectares.

Table 4: Share of Area and Holdings, by land size - 2010 (EU-27)

	% Area		% Holdings	
	All	Organic	All	Organic
Below 2 ha	2.4	0.2	46.9	0.6
2-4.99 ha	4.4	1.1	20.1	12.4
5-9.99 ha	5.3	3.0	10.9	16.6
10-19.9 ha	7.4	6.9	7.5	19.6
20-29.9 ha	5.4	6.1	3.1	10.6
30-49.9 ha	8.9	10.7	3.3	11.8
50-99.9 ha	16.9	19.6	3.3	12.0
Over 100 ha	50.1	52.0	2.7	10.6

Source: Eurostat

Table 5: Share of Area and Holdings for farms above 100 ha - 2010 (different countries)

	% Area		% Holdings	
	All	Organic	All	Organic
Austria	18.4	13.0	1.9	2.2
Belgium	24.6	30.1	5.3	13.3
Bulgaria	82.4	14.9	1.5	7.7
Cyprus	16.7	0	0.3	0
Czech Republic	88.6	87.3	19.3	35.7
Germany	55.1	55.7	11.2	12.8
Denmark	66.1	72.0	19.2	25.7
Estonia	73.2	74.1	8.7	24.8
Greece	7.2	13.5	0.2	1.3
Spain	55.1	51.8	5.2	14.8
Finland	24.6	31.6	6.0	9.5
France	59.1	47.8	18.3	16.1
Hungary	64.7	84.8	1.3	42.4
Ireland	23.0	3.2	3.4	1.8
Italy	26.2	31.1	1.0	5.1
Latvia	41.6	63.6	1.9	22.9
Luxemburg	50.4	31.9	20.0	14.3
Lithuania	47.0	56.5	3.1	14.7
Malta	0	0	0	0
Netherlands	18.3	14.8	3.1	5.3
Poland	21.6	35.2	0.6	6.5
Portugal	57.7	68.4	2.0	21.1
Romania	48.9	82.1	0.4	15.1
Sweden	51.8	64.8	11.2	29.4
Slovenia	6.8	11.4	0.1	1.4
Slovakia	91.1	98.2	9.1	82.1
UK	72.0	78.9	21.0	44.6

Table 5 looks specifically at farms that operate on an area greater than 100 hectares. Here we see that in most countries organic farms are overrepresented among large farms - e.g. in the UK 21% of farms are above 100 hectares; for organic farms this percentage rises to 44.6%. Furthermore, whereas farms above 100 hectares control 72% of the UK agricultural area, approximately 79% of organic land belongs to farms above 100 hectares. Again, the pattern of organic holdings being overrepresented among large farms is persistent across different countries and striking in some of them: e.g. in Slovakia four out of five organic farms are above 100 hectares, while the proportion of farms above 100 hectares is around 9% in general; in Hungary, where only 1.3% of total farms are above 100 hectares, 42% of organic farms are above 100 hectares.

Table 6: Percent of farms renting land

	2000		2003		2005		2007	
	Conv	Org	Conv	Org	Conv	Org	Conv	Org
EU-27							16.9	42.1
EU-25					22.6	42.4	23.6	42.5
EU-15	24.9	37.2	27.5	46.3	22.6	42.4	23.6	42.5

Finally, table 6 presents the share of farms that have tenant arrangements over land. We notice that organic farms are more likely than conventional farms to be renting at least portion of the land they operate on: in 2007, approximately 42% of organic farms in the EU-27 were renting land, as opposed to 17% for conventional farms. Interestingly, comparing the share of organic farms that were renting land in 2000 and in 2007 reveals that this figure has gone up for organic farms in the EU-15 (where comparisons are possible) from 37% in 2000 to 43% in 2007, while the same variable has dropped marginally from 25% to 24% for conventional farms. Thus, organic farms have experienced a degree of dynamism (revealed by the ability to pay rent) that is not necessarily shared by conventional farms.

4.2 Labor use and mechanization

Land is not a sufficient measure in order to decipher how the CAP is transforming European agriculture. Furthermore, farm size measured in terms of land is not the correct category in order to classify a farm as capitalist. If we want to name the class process taking place in a farm, we would need to examine the concrete ways in which value is produced and appropriated: in capitalist farms, wage workers would produce not just value, but also surplus value which would be appropriated by the capitalist (Marx, 1967, 1981; Resnick and Wolff, 1987). Furthermore, another common characteristic of capitalist farms as opposed to peasant farms would be the economizing on the labor power applied to every unit of land. Peasant

farms, on the other hand, which are not paying for labor would be expected to apply more labor per hectare than capitalist farms (Chayanov, 1966; Vergopoulos and Amin, 1975).

If organic farms are larger farms in terms of land size, we should probably expect to see them use more labor, even if we don't take into account the common assumption that organic methods of production are more labor-intensive than conventional methods (Altieri, 1987). Table 7 displays how many units of full-time labor power (measured in Annual Work Units) are, on average expended in conventional and organic agricultural holdings in Europe . It is certainly difficult to draw general conclusions for diverse economies by looking at the average number of workers per farm. What we notice though is that the average labor per farm is almost universally higher for organic farms than for conventional farms. In certain countries, such as Hungary or Slovakia, the average number of full-time workers in organic farms is so high that we should consider (just by looking at this table alone) the fact that such high labor requirements can only be satisfied by recourse to wage-labor.

Table 7: Average labor (annual full time equivalent), by type of farm

	2000		2003		2005		2007		2010	
	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org
EU-27							0.78	1.32	0.74	1.34
EU-25					0.89	1.44	0.89	1.32	0.91	1.33
EU-15	0.84	1.12	0.89	1.30	0.90	1.37	0.88	1.23	0.82	1.22
Austria	0.88	1.12	0.97	1.18	0.93	1.13	0.95	1.1	0.72	0.85
Belgium	1.17	1.56	1.27	1.74	1.29	1.55	1.30	1.42	1.34	1.65
Bulgaria			1.15		1.12	2	0.95	3	1.05	3.71
Cyprus			0.64	1.1	0.56	1.38	0.60	1.14	0.43	0.87
Czech Rep.			3.37	6.4	3.33	6.22	3.36	5.73	4.63	3.80
Denmark	1.1	1.23	1.2	1.23	1.13	1.14	1.2	1.26	1.20	1.39
Estonia			0.99	1.97	1.28	1.59	1.33	1.59	1.24	1.51
Finland	1.21	1.16	1.23	1.14	1.11	1.10	0.99	1.03	0.86	0.94
France	1.28	1.87	1.33	1.90	1.34	1.90	1.35	1.92	1.33	1.91
Germany	1.26	1.66	1.56	1.77	1.51	1.66	1.49	1.68	1.63	1.69
Greece	0.63	0.74	0.62	1.02	0.61	1.02	0.56	0.84	0.51	0.85
Hungary			0.65	6.91	0.63	6.91	0.62	9.52	0.69	6.8
Ireland	1.16	1.06	1.16	1.15	1.12	1.12	1.13	1.16	1.16	1.26
Italy	0.53	0.91	0.67	1.08	0.70	1.30	0.69	1.11	0.51	1
Latvia	1.01	1.06	1.07	1.86	1.03	2.86	0.94	1.76	0.98	1.93
Lithuania			0.79	5.64	0.85	1.77	0.76	1.89	0.71	1.98
Luxembourg	1.55	2	1.58	1.75	1.58	1.80	1.59	2.20	1.60	2
Malta			0.41		0.37		0.38		0.39	
Netherlands	1.91	2.06	2.02	2.89	1.95	2.48	1.95	2.97	1.95	2.26
Poland				0.89	1.77	0.92	1.57		1.24	1.37
Portugal	1.14	2.34	1.16	2.08	1.14	2.35	1.14	2.29	1.10	1.97
Romania			0.56		0.57	2.29	0.52	0.87	0.39	2.34
Slovakia	1.85	20	1.58	21.8	1.38	15.6	1.24	12.2	2.1	11
Slovenia	1.20	1.36			1.16	1.45	1.06	1.36	0.95	1.30
Spain	0.66	0.83	0.70	1.06	0.74	1.16	0.75	1.04	0.72	1.30
Sweden	0.86	1.08	0.98	1.05	0.88	1.41	0.85	1.47	0.72	1.25
UK	1.43	2.90	1.17	3.06	1.10	2.49	1.04	2.45	1.31	2.15

Source: Eurostat

Table 8: Labor intensity per hectare, by type of farm

	2000		2003		2005		2007		2010	
	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org
EU-27							0.064	0.033	0.054	0.028
EU-25					0.057	0.034	0.054	0.033	0.047	0.028
EU-15	0.045	0.034	0.046	0.032	0.044	0.034	0.042	0.032	0.035	0.029
Austria	0.052	0.056	0.053	0.055	0.050	0.049	0.050	0.049	0.039	0.037
Belgium	0.052	0.042	0.050	0.041	0.048	0.037	0.046	0.026	0.043	0.029
Bulgaria			0.26		0.22		0.15	0.11	0.087	0.045
Cyprus			0.18	0.20	0.17	0.22	0.17	0.14	0.14	0.11
Czech Rep.			0.043	0.016	0.040	0.015	0.038	0.017	0.031	0.017
Denmark	0.024	0.022	0.022	0.019	0.022	0.019	0.020	0.019	0.019	0.017
Estonia			0.046	0.024	0.043	0.023	0.035	0.022	0.027	0.016
Finland	0.044	0.037	0.041	0.034	0.035	0.030	0.030	0.026	0.024	0.021
France	0.031	0.040	0.030	0.034	0.028	0.031	0.026	0.032	0.025	0.037
Germany	0.035	0.033	0.038	0.032	0.035	0.029	0.033	0.029	0.029	0.028
Greece	0.14	0.16	0.13	0.087	0.13	0.079	0.12	0.079	0.11	0.061
Hungary			0.12	0.035	0.11	0.032	0.092	0.028	0.091	0.02
Ireland	0.037	0.040	0.037	0.039	0.035	0.033	0.035	0.030	0.033	0.034
Italy	0.092	0.050	0.10	0.055	0.097	0.060	0.092	0.046	0.068	0.036
Latvia	0.10	0.14	0.092	0.052	0.079	0.044	0.059	0.039	0.049	0.03
Lithuania			0.087	0.065	0.077	0.042	0.067	0.027	0.055	0.023
Luxembourg	0.034	0.039	0.030	0.033	0.030	0.031	0.028	0.034	0.027	0.035
Malta			0.41		0.39		0.41		0.42	
Netherlands	0.095	0.067	0.086	0.050	0.082	0.062	0.079	0.072	0.076	0.059
Poland			0.15		0.15	0.077	0.14	0.062	0.13	0.044
Portugal	0.12	0.016	0.11	0.013	0.10	0.014	0.091	0.018	0.094	0.018
Romania			0.18		0.17	0.017	0.15	0.057	0.11	0.033
Slovakia	0.061	0.027	0.054	0.020	0.051	0.021	0.045	0.020	0.030	0.018
Slovenia	0.21	0.16	0.19		0.19	0.11	0.16	0.085	0.15	0.084
Spain	0.033	0.021	0.032	0.016	0.032	0.021	0.032	0.018	0.031	0.023
Sweden	0.023	0.021	0.022	0.021	0.021	0.016	0.020	0.015	0.018	0.013
UK	0.021	0.013	0.021	0.016	0.020	0.014	0.020	0.016	0.016	0.013

Source: Eurostat

Organic farms are frequently assumed to have higher labor requirements than conventional farms for every unit of land : the reason is that organic farmers cannot use pesticide to combat pest, hence having to resort to more labor-intensive processes such as weeding. Subsequently one should expect organic farms to generate positive employment effects. Surprisingly table 8 shows that on average organic farms in Europe are less labor-intensive than their conventional

counterparts. At the EU-27 level, organic farms utilize approximately half the labor per hectare as compared to their conventional counterparts (0.028 as opposed to 0.054 full-time workers per hectare, or a full-time worker for every 35.7 hectares of organic land as opposed to a full-time worker for every 18.5 hectares for conventional holdings). Again, countries like Greece or Latvia are particularly interesting, as in their cases, the labor intensity per hectare was initially higher for organic farms rather than for conventional farms. By the end of the 2000-2010 period, this is no longer the case .

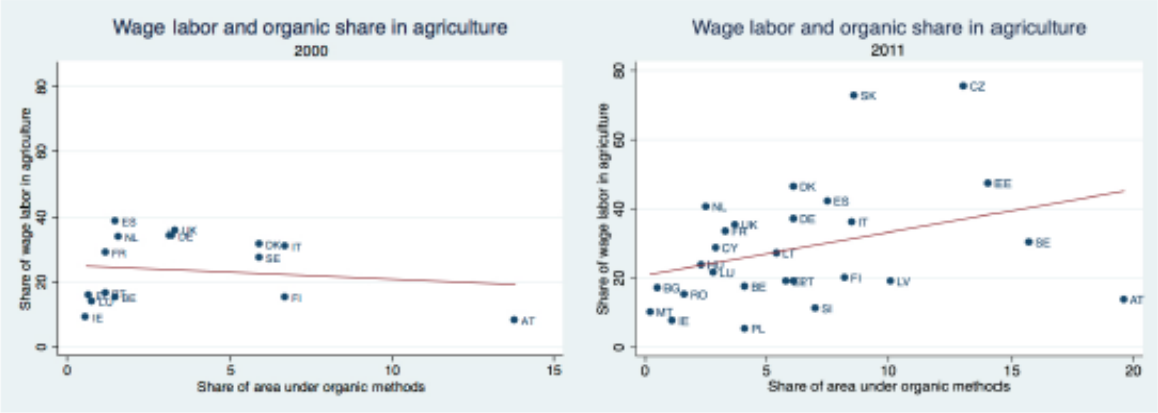
How do organic farms manage to display such a pattern? Using regional data for the use of machinery by different types of farms for 2005 we observe that organic farms utilize capital at a higher frequency than conventional farms. As table 9 shows, organic farms are more likely to have tractors and irrigation equipment, as well as to be in possession of their own cultivators and combine harvesters. The average percentage of organic farms that possess tractors or similar equipment is 91%, as opposed to 76% for conventional farms across different European regions. 27% of organic farms have irrigation equipment as opposed to 20% for their conventional counterparts. 32% of organic farms (on average) are in possession of their own cultivators, as opposed to 26% for their conventional counterparts, whereas 15% of organic farms own combine harvesters, as opposed to 11% for conventional farms .

One may raise the objection that the reason for the difference in the share of organic farms that are mechanized may be organic farms' being disproportionately concentrated in activities that require the use of such machinery. In fact, specialist permanent crops, such as vineyards, olives, and fruit production are overrepresented in organic production as compared to conventional production. If these production processes were to demand a higher degree of mechanization, then we may mistakenly associate organic farming with mechanization. Thus, table 9 also includes the relevant comparisons for the two most common types of farming, specialist field crops (which includes specialist cereals, oilseed and protein crops, as well as field crops such as tobacco or cotton) and specialist grazing livestock, which includes dairy farms, cattle rearing, sheep, goats and other grazing livestock. We notice that in both cases, organic farms are more mechanized than conventional farms along all four dimensions that are present in our data.

Table 9: Mechanization for organic and conventional farms, 2005

		Conventional (SD)	Organic (SD)	Difference (SE)
All activities	Tractors, etc.	76.0 (22.6)	90.7 (27.3)	14.7*** (1.0)
	Irrigation equipment	19.9 (24.1)	26.7 (33.6)	6.8*** (0.8)
	Own cultivators	26.0 (22.9)	32.3 (34.6)	6.3*** (1.0)
	Own combine harvesters	10.6 (13.4)	14.6 (24.4)	4.0*** (0.7)
Field crops	Tractors, etc.	87.1 (18.7)	90.7 (29.4)	3.6** (1.7)
	Irrigation equipment	22.2 (25.7)	27.1 (39.3)	4.9*** (1.6)
	Own cultivators	22.4 (22.2)	22.5 (35.4)	0.1 (1.8)
	Own combine harvesters	19.9 (18.3)	24.8 (34.1)	4.9*** (1.8)
Specialist grazing livestock	Tractors, etc.	78.1 (21.9)	93.4 (31.7)	15.3*** (1.6)
	Irrigation equipment	9.0 (15.3)	9.5 (24.1)	0.5 (0.9)
	Own cultivators	26.8 (24.8)	28.8 (38.2)	2.1* (1.3)
	Own combine harvesters	8.5 (13.2)	9.7 (22.3)	1.1* (0.8)

Figure 2: Relationship between wage labor and organic share



(a) 2000 (b) 2011

Figure 2 shows the development of the relationship between wage labor (as a share of total agricultural labor) and organic share of agriculture over time. The first part on the left shows the existence of a (weak) negative relationship between the share of wage labor in agriculture (on the vertical axis) and the share of utilized agricultural area that is cultivated under organic methods of production (on the horizontal axis) in 2000. In 2011, this relationship has been replaced by a positive correlation between wage labor and organic farming, i.e. countries in which wage labor is more common in agriculture appear generally to also have a higher share of their agricultural area under organic methods. Thus, organic farming is generally more visible in regions where wage-labor is common.

4.3 Environmental dimensions of capitalist organic

The previous sections illustrate that organic farms in Europe are larger than conventional farms. Additionally, contrary to the usual assumption of higher labor intensity, organic farms appear to use less labor per hectare than their conventional counterparts. This is enabled by the use of machinery, which takes place to a higher degree than for conventional farms. The higher use of machinery and the lower use of labor are characteristics associated with capitalist rather than with peasant farming: so is wage labor, which appears to be positively correlated with the organic share of agriculture. Although capitalist is not a legal category, one would probably expect capitalist structures of production to be more likely to be incorporated than non-capitalist ones. As one notices in table 10 which displays the percent of corporate farms in different countries for conventional and for organic farms, organic farms are more likely to be incorporated than their conventional counterparts: thus, 6.1% of organic farms at the EU-27 are incorporated as opposed to only 2.4% for conventional farms. The pattern of the corporate legal form being more likely for organic than for conventional farms is present in 22 out of the 26 countries for which comparable data exists.

Table 10: Percent of corporate farms

	2000		2003		2005		2007		2010	
	Conv	Org	Conv	Org	Conv	Org	Conv	Org	Conv	Org
EU-27							1.9	5.2	2.4	6.1
EU-25					2.4	5.4	2.5	5.2	3.2	6.0
EU-15	2.7	4	2.9	4.7	3.5	5.3	3.7	5.2	4.4	6.2
Austria	2.5	0.4	2.2	0.6	2.4	0.9	2.7	1.2	2.9	0.8
Belgium	3.9	8.6	6.1	11.3	6.8	14.5	7.8	14.3	9.9	12.9
Bulgaria			0.6		0.6	33.3	0.7	18.2	1.4	35.3
Cyprus			1.0	10	0.9	7.7	1.1	4.8	1.1	9.7
Czech Rep.			5.9	23.5	6.4	26.7	7.1	26.7	12.8	22.4
Germany	1.0	3.6	1.1	4.5	1.2	3.7	1.3	4.0	1.6	4.2
Denmark	0.8	2.3	1.3	3.5	0.7	2.0	2.0	3.8	4.6	7.1
Estonia			2.1	7.1	3.0	10.4	5.9	14.0	8.0	22.6
Greece	0.1	0	0.1	1.6	0.1	1.0	0.1	0.3	0.1	0.5
Spain	4.0	7.2	4.4	9.0	4.7	7.8	5.3	10.6	6.0	11.0
Finland	1.0	1.6	1.4	1.6	1.4	1.2	1.5	2.5	2.0	2.4
France	12.1	18.4	14.1	21.3	16.3	22.6	18.8	24.0	21.6	27.4
Hungary	0.9	6.0	1.0	17.5	1.1	19.5	1.2	40.8	1.6	23.1
Ireland	0.1	0.6	0.1	0	0.1	0	0.1	0	0.2	1.1
Italy	0.7	1.5	0.7	1.5	1.6	3.6	0.9	3.1	1.0	2.6
Lithuania			0.2	8.3	0.2	2.5	0.2	2.9	0.3	3.2
Luxembourg	2.1	0	1.2	0	1.7	0	1.8	0	2.3	16.7
Latvia	0.2	0.1	0.1	0	0.1	0	0.1	0	0.1	0
Netherlands	4.3	7.0	4.0	8.8	4.9	10.1	5.1	9.5	5.8	8.2
Poland					0.1	1.3	0.2	1.3	0.3	0
Portugal	1.6	14.8	1.8	15.6	2.1	15.9	2.3	16.8	2.5	23.5
Romania			0.5		0.4	22.2	0.4	2.4	0.8	12.7
Sweden	6.6	7.8	7.4	6.8	6.5	13.9	6.1	15.0	7.0	13.0
Slovenia	0.1	0			0.1	0	0.2	0	0.3	1.1
Slovakia	2.3	66.7	2.2	83.3	2.6	85.7	2.8	63.2	8.7	63.3
UK	2.9	7.7	3.5	9.1	4.4	10	5.4	12.5	3.9	5.4

Table 11: Specialist vs mixed farms

	2000				2010			
	Conventional		Organic		Conventional		Organic	
	Specialist	Mixed	Specialist	Mixed	Specialist	Mixed	Specialist	Mixed
Austria	84	16	95	5	89	11	92	8
Belgium	72	28	77	23	78	22	83	17
Bulgaria					92	7	82	18
Cyprus					84	16	86	14
Czech Rep.					52	48	84	16
Denmark	74	26	84	16	76	24	80	20
Estonia					83	12	89	11
Finland	89	11	84	16	93	7	95	5
France	79	21	79	21	83	17	82	18
Germany	67	33	67	33	76	23	79	21
Greece	79	21	75	25	82	18	78	22
Hungary	62	38	49	51	78	22	61	39
Ireland	95	5	94	6	97	3	91	8
Italy	82	17	76	24	89	11	84	16
Latvia	48	52	42	58	77	19	77	23
Lithuania					70	29	80	20
Luxembourg	79	21	63	0	90	10	68	0
Malta					73	20		
Netherlands	89	11	88	12	92	8	86	14
Poland					64	35	76	24
Portugal	62	38	37	63	77	22	79	20
Romania					74	23	86	6
Slovakia	47	53	39	40	65	35		15
Slovenia	67	33	77	21	77	23	82	18
Spain	73	19	64	27	87	13	72	28
Sweden	82	18	77	23	89	10	87	13
UK	90	10	87	13	92	8	83	17

Source: Eurostat.

Specialist activities include field crops, horticulture, permanent crops, grazing, and granivorous.

Mixed activities include mixed cropping, mixed livestock, and mixed cropping-livestock activities.

All these elements point to the capitalist organization of organic farming. A further element that is associated with the industrial character of European organic agriculture is the presence of monocultures. Organic farming is often associated with the implementation of agro-ecological principles, such as crop rotation, nitrogen fixing through cover crops, polycultures or integrated crop-livestock systems (Altieri, 1987; Sonnino et al. 2008). However, as table 11 shows European organic farms are not very different from conventional farms in that specialist farming systems are more common than mixed farming systems. One notices that in several countries (e.g. Sweden, Italy) the extent of specialist systems has increased for organic farms

over the last 10 years, and that in 13 countries specialist methods are more predominant in organic land than what they are in land cultivated under conventional methods.

5. Discussion

The preceding sections present us with a rather clear refutation of the association between ``small'' and ``organic'' in Europe. Organic farms in Europe appear to have characteristics that are associated with capitalist rather than with peasant structures. They operate on significantly larger holdings in terms of land size and are more mechanized than their conventional counterparts. Furthermore, they employ less labor per hectare than conventional farms. Since the labor requirements per farm are larger, they usually employ wage-labor rather than family labor or other forms traditionally associated with peasant agriculture. This takes place during a period of stated policy support for small or family farms; ironically, organic farming is often presented as a ``success story'' for combating rural depopulation and environmental degradation.

This phenomenon can be explained, consistently with Marxist literature, as a case of concentration and centralization of capital (Panitisidis, 1992; Liodakis, 1994l Economakis, 2000; Tolios, 2009). These authors claim that the CAP, despite its assertions to the contrary, attempts to facilitate the penetration of capital in the agricultural sector, a phenomenon predicted by Kautsky and Lenin. Consequently, even if they assert the protection of the family farm as their political priority, all policies falling under the CAP ultimately support capitalist structures and attempt to create these, when they don't exist. Hence, the support for organic farms should be considered an avenue for the further intrusion of capital in the agricultural sector, a very welcome development in a context of falling profit rates and declining legitimacy for capital .

Another way, which is consistent with the literature on development and which avoids attributing bad intentions to those designing and implementing the CAP would be to think in terms of technology adoption and diffusion . Drawing lessons from the Green Revolution, one could argue that, for reasons of higher income, access to credit, political power, education, and ability to take risks, large farmers are more likely to differentiate partly or to transition wholly to organic production earlier than small farmers. However this explanation does not address the fact that the number of organic farmers has not been increasing in Europe as fast as organic land. In fact, in many European countries, the number of organic farmers has stagnated or even decreased since the late 1990s (Konstantinidis, 2012).

Institutional biases, such as minimum land requirements for a holding to be certified as organic, might exclude smaller farmers from switching to organic production. In the absence of strong farmers' associations or local food networks, small organic farmers cannot establish their position as easily as larger ones. Thus, if farmers do not associate with other organic farmers,

they still have to pay high interest rates to banks, and high procurement prices to input providers, while their access to markets is not guaranteed as a result of their small volume of production . To give an example of the latter, Greek organic farmers often resort to selling their organic production as conventional, because the small number of organic merchants in the country do not want to deal with small volumes of products (Konstantinidis, 2012). Furthermore, certification is more expensive for smaller farms in comparison to larger ones, allowing them to retain a smaller part of the subsidy they receive. Larger farms are also more likely to be able to afford the services of agronomists specialized in tackling production problems associated with organic farming. In the absence of the technical (and even psychological) support provided by the community of other organic farmers, small producers are likely to be discouraged and to exit production .

These results challenge the idea that small farms, which theoretically should be presented with fewer problems than larger farms for the transition to (certified) organic processes, actually take advantage of the new policies. Hence, it becomes difficult to articulate the claim that the discrepancy between organic and conventional farms is a temporary phenomenon, happening for reasons advanced by the adoption/diffusion framework, which would be ameliorated over time with the growing appearance of organic methods. The same institutional factors allow larger farms to generate super-profits and also to receive surplus transfers in the form of pecuniary transfers for the provision of environmental services. This explains the change in the profile of organic farmers: whereas the first explicitly organic farmers in most European countries were smaller farmers, often without previous farming background, entering organic farming out of idealistic motivations, the more recent recruits to organic farming appear to be larger and profit-driven (Padel, 2001; Schermer, 2003, 2008; Bartel-Kratochvil and Schermer, 2008; Konstantinidis, 2012; Herre, 2013). Thus, the organic sector develops forms of production which deviate more and more from the social and environmental ideals of the more radical segments of the organic movement. Hence, the creation of large farms which specialize in monocultures and sell in distant markets, but abstain from using chemicals and pesticides, can be considered evidence of the ``conventionalization'' of organic farming in Europe, a phenomenon that has been clearly documented for the US, most prominently by Julie Guthman (Buck et al. 1997; Guthman, 1998, 2004), but whose presence in European agriculture has been rejected by a series of authors (Michelsen, 2001; Campbell and Liepins, 2001, Kaltoft, 2001).

6. Conclusions

This paper shows that the rise of organic agriculture in Europe is not associated with elements of peasant agriculture, but rather with capitalist forms of organization of production. Organic farms are larger in terms of farm size and more mechanized than conventional farms, disproving the association between small-scale farming and organic methods, which is often

held as an axiomatic truth. Furthermore, organic farms use labor less intensively than conventional farms, casting doubt on the efficacy of organic farming in increasing labor demand in marginalized communities and acting as an effective tool for keeping rural residents in the countryside.

The problem, however, does not lie in organic farming per se. Agricultural policies have failed to recognize the significance of strong agricultural cooperatives and other effective forms of farmers' associations. The latter would empower small farmers, helping them to avoid paying large rents to certifiers, finance and input providers and merchants, while providing them with the economic and technical support to compete effectively against larger-scale farms. At the same time, these forms of organization could effectively enforce high standards in the treatment of labor, while allowing us to move towards more ecologically and socially sustainable methods of production.

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Food Sovereignty:
A Critical Dialogue

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FOOD SOVEREIGNTY: A CRITICAL DIALOGUE INTERNATIONAL CONFERENCE PAPER SERIES

A fundamentally contested concept, food sovereignty has — as a political project and campaign, an alternative, a social movement, and an analytical framework — barged into global agrarian discourse over the last two decades. Since then, it has inspired and mobilized diverse publics: workers, scholars and public intellectuals, farmers and peasant movements, NGOs and human rights activists in the North and global South. The term has become a challenging subject for social science research, and has been interpreted and reinterpreted in a variety of ways by various groups and individuals. Indeed, it is a concept that is broadly defined as the right of peoples to democratically control or determine the shape of their food system, and to produce sufficient and healthy food in culturally appropriate and ecologically sustainable ways in and near their territory. As such it spans issues such as food politics, agroecology, land reform, biofuels, genetically modified organisms (GMOs), urban gardening, the patenting of life forms, labor migration, the feeding of volatile cities, ecological sustainability, and subsistence rights.

Sponsored by the Program in Agrarian Studies at Yale University and the Journal of Peasant Studies, and co-organized by Food First, Initiatives in Critical Agrarian Studies (ICAS) and the International Institute of Social Studies (ISS) in The Hague, as well as the Amsterdam-based Transnational Institute (TNI), the conference "Food Sovereignty: A Critical Dialogue" will be held at Yale University on September 14–15, 2013. The event will bring together leading scholars and political activists who are advocates of and sympathetic to the idea of food sovereignty, as well as those who are skeptical to the concept of food sovereignty to foster a critical and productive dialogue on the issue. The purpose of the meeting is to examine what food sovereignty might mean, how it might be variously construed, and what policies (e.g. of land use, commodity policy, and food subsidies) it implies. Moreover, such a dialogue aims at exploring whether the subject of food sovereignty has an "intellectual future" in critical agrarian studies and, if so, on what terms.

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