Comparative Analysis of Factor Markets for Agriculture across the Member States

245123-FP7-KBBE-2009-3

WORKING PAPER

No. 33, January 2013

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Agricultural Credit Market Institutions
A Comparison of Selected European Countries

ABSTRACT

In this paper, we describe and compare the institutional framework of the agricultural credit markets in selected European countries. The institutions can be both formal (rules, regulations, authorities and actors) and informal (norms, values and relations). They also interact and in a situation where the formal institutions are weak, the informal ones increase in importance. The study is based on a questionnaire sent to agricultural financial experts in selected countries.

The case studies show that credit regulations are typically general, with no specific regulations for the agricultural credit market. On the other hand, several countries support agricultural credit in various forms, implying that the governments do not perceive the general credit market to function in the case of agricultural firms. In a risk assessment, the most frequent reasons for rejecting a loan application are all linked to economic performance and the situation of the farmer. Personal characteristics, such as educational level or lack of experience, were generally perceived as less influential. Another interesting point when it comes to risk assessment is that in some countries the importance of asset-based lending compared with cash flow-based lending seems to differ when concerning a first-time applicant and when there is an application to extend a loan. To get an idea of the availability of credit, the loan-to-value (LTV) ratio was calculated, and it showed remarkably low values for Poland and Slovakia. For all the countries, the calculated value was lower than what the financial experts would have expected. This might imply credit rationing in agriculture in some of the countries studied. At the same time, the financial experts all judged the possibility of an agricultural firm obtaining a loan as higher than that for other small rural firms, implying that the latter are also credit-rationed.

Available for free downloading from the Factor Markets (www.factormarkets.eu) and CEPS (www.ceps.eu) websites

ISBN 978-94-6138-254-2

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1. Introduction

The fundament of the credit market is trust. The creditor needs to trust that the loans will be repaid; the debtor, on the other hand, needs to trust the creditor to make funds available on time. Surrounding this market of trust is an institutional framework with formal and informal institutions. Formal institutions are for instance rules and regulations, including monitoring by the state and law enforcement. Examples of informal institutions are behaviour, norms and relations. The formal and informal institutions are connected. When the formal institutions like law enforcement are slow or weak, banks will not have the trust to invest, and the importance of relations with informal creditors (family and friends) increases. Social capital (involvement and trust at a local level) has been shown to influence the way people act in the credit market: whether they use checks or cash, and whether they use formal or informal creditors (Guiso et al., 2004). It also influences the behaviour of banks – high social endowment reduces the interest rates (Andriani, 2010).

There will always be some level of uncertainty in the credit market, as the promise to give out money for the promise of a return in the future is of course uncertain. Uncertainty, together with agency problems (adverse selection and asymmetric information) can cause inefficiencies in the market, leading to credit rationing. Although it can be argued that these problems are present in any sector, agency problems are more prevalent in agricultural firms than in comparable firms in other sectors due to the organisational structure of the firms. Proprietary farms have no or little obligation of public disclosure of their financial situation. It is thus more difficult for a bank to judge the financial performance of the sector and of the individual firms in agriculture. Credit rationing means that firms cannot get credit to the extent they need it, as creditors will not provide enough capital to satisfy the market even though the market is in equilibrium (Stiglitz and Weiss, 1983). A recent study has shown that the risk of credit rationing is somewhat higher in agriculture than in other sectors, measured as the "probability of receiving a loan" (Weber and Musshoff, 2012). Although once they receive loans, they are not volume-rationed. All in all, this leads to the agricultural firms being under-capitalised and shows inefficiencies in the agricultural credit market.

For an efficient credit market it is important that the institutional framework functions well to overcome uncertainty and agency problems. In this study, we look at the formal and informal institutions and how they work in the case study countries. We look at the following formal institutions: rules and regulations, credit market actors (type of creditor and volume) and government support – indicating a formal response to inefficiencies in the market. The informal institutions are important, since uncertainties can be diminished with the help of relations, shared or known norms and values. We also see how these are connected when looking at the risk assessment factors.

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This working paper aims at describing and comparing the agricultural credit market institutions in the case study countries. The main source of information has been a questionnaire put to the teams of the consortium, who then contacted experts in the financial sectors. The timing of the survey made it difficult to carry out; during this period the banks were under severe criticism for being too generous when providing loans and not sufficiently considering the financial situation of the loan recipients. Since the theme of the questionnaire is in part the reasoning applied in risk assessment, the topic turned out to be highly sensitive in some countries. It is thus a subjective and only partial picture that emerges from this material. Nevertheless, all the partners handed in completed questionnaires, though not everyone had managed to answer all of the questions. For a further description of the survey and questionnaire, see appendices 1 and 2.

The working paper starts with the formal institutions as they are described in the questionnaires: the regulations of the credit market, government support and main creditors. Then the informal institutions are described through the functioning of the credit market, and finally the availability of credit (hinting at credit constraints). This shows how the functioning of the market influences the availability of credit in the case study countries. Finally, we draw some conclusions from the study.

2. Financial markets in the case study country – Results of the questionnaire

2.1 Regulation of the credit market

The capital market in every country is governed by a set of regulations. It is often within the jurisdiction of the central bank (e.g. Riksbanken of Sweden) to set up the rules and regulations for the smooth functioning of the nation's capital market. The central bank might also monitor whether the rules and regulations are followed, but monitoring can be carried out by other authorities, such as the financial supervisory authorities in Sweden and Finland. Apart from the rules and regulations set within a country, financial institutions are also subject to a set of international rules, regulations and maybe recommendations. An important international guideline is the Basel framework, which sets international standards for regulating credit markets and rests on three pillars (BIS, 2006). The first pillar specifies how to calculate the minimum requirements for capital and how to judge credit risks, operational risks and market risks. The second pillar outlines how to build up a supervisory process and why this is important. The third pillar deals with market discipline. The framework has been developed by the Basel Committee on Banking Supervision, which consists of representatives from central banks or other supervisory authorities from different countries.

Most of the case study countries in the questionnaire have general credit market regulations and regulators, but only a few have regulations specific to agriculture (see Table 1). In the latter case, it is usually the ministries of agriculture (the Former Yugoslav Republic of Macedonia (FYROM), Italy and France) that are involved in regulations. In Poland, the Agency for Restructuring and Modernisation of Agriculture subsidises interest, which is linked to a specific regulation. For all EU countries, some EU regulations[1] should have influence over the agricultural credit market, but this aspect is only mentioned in the Greek, German and Italian case studies.

[1] European Commission Regulation of 15 December 2006 No. 1857/2006 on state aid to small and medium-sized enterprises active in the production of agricultural products (OJ L 358/3, 16.12.2006) and Commission Regulation No. 1535/2007 of 20 December 2007 on the application of minimum aid in the sector (OJ L 337/35, 12.12.2007) are mentioned in the German study.

Table 1. Regulating authorities and their role in the case study countries

Country	Authority	Role
Sweden	Financial supervisory authority (FI)	Supervises the total credit market, decides on the loan value of land, regulates capital adequacy related to loans on mortgage in farmland.
Finland	Financial supervisory authority	Monitors the total credit market – nothing specific exists for agriculture.
Ireland	Central Bank of Ireland	No reply
UK	Financial Services Authority (FSA) and the Financial Ombudsman Service	The FSA regulates financial services and has the following objectives: 1) market confidence, 2) financial stability, 3) consumer protection, and 4) reduction of financial crime. It sets out standards in a *Handbook of Rules and Guidance*. The Financial Ombudsman settles complaints between consumers and financial businesses.
Netherlands	De Nederlandse Bank (DNB), Autoriteit Financiele Markten (AFM)	The DNB works for a reliable financial system.
Greece	Bank of Greece, Ministry of Finance	The Bank of Greece supervises the financial markets. The Ministry of Finance monitors the financial markets. Rules and regulations for agricultural capital are as for the general credit market, but in addition EU regulations influence the agricultural sector.
FYROM	Ministry of Agriculture, Forestry and Water Economy (MAFWE), Agency for financial support in agriculture and rural development	MAFWE subsidises farmers and the Agency distributes funds from the EU Instrument for Pre-Accession Assistance (IPA).
Germany	Bafin (Bundesanstalt für Finanzdienstleistungsaufsicht), Deutche Bundesbank	Monitors and regulates the total credit market. (Aspects pertaining to agriculture are related to EU regulations for specific support for farmers.)
Poland	Agency for Restructuring and Modernisation of Agriculture (ARMA)	Subsidises interest; the work of the Agency is regulated in the Act of Parliament on ARMA and the Ordinance of the Council of Ministers on tasks of ARMA.
Italy	Banca d'Italia, Instituto di servize per il mercato agricolo alimentare (ISMEA), Ministry of Agriculture, Società gestione fondi per l'agroalimentare (SGFA)	Banca d'Italia regulates commercial banks and the Ministry of Agriculture monitors ISMEA and the SGFA. The financial sector is regulated in the Banking Credit Bill (Articles 38-43, n. 385/93). Several of the articles refer to the Civil Code, the main reference for civil and economic interactions. The Decree from the Ministry for Agricultural and Forestry Policies (14.02.2006) regulates an inter-bank fund that guarantees collateral to agricultural firms. Credit aspects of the rural development policies are regulated through a combination of EU, national and regional laws.
Slovakia	National Bank of Slovakia	Provides on-site and off-site supervision of supervised entities in the area of banking, the capital market, etc. It acts and decides on supervision issues, actually conducts on-site and off-site supervision and prepares draft regulations implementing the financial market laws.
France	Banque de France, Ministry of Finance, Ministry of Agriculture	The Banque de France and Ministry of Finance regulate the total credit market. The Ministry of Agriculture decides on subsidised loans to farmers. The Ministry of Finance sets the general regulations for banking. An important regulation recently is the LOLF (*Loi organique relative aux lois de finances*) of 1 August 2001.
Belgium	Central European Banking supervisor (CEBS), National Bank of Belgium (NBB)	CEBS and NBB work in the regulation of the general credit market. In the Flemish region, the local government provides credit subsidies (capital, interest and state guarantees).*

* Agricultural policies in Belgium are decided at the regional level. In this case study, the answers in general cover federal and Flemish policies. It might be the case that the same or similar regulations exist in Wallonia.

2.2 Government support

As a result of a poorly functioning, inefficient market, governments might want to step in to support agricultural firms in the credit market. This can be done through loan guarantees (common in the Central and Eastern European countries during transition), credit subsidies, specific agricultural credit institutions, investment allowances or payback guarantees. Yet this has been shown to be an inefficient policy in Central and Eastern Europe during the transition (Swinnen and Gow, 1999). In the case of loan guarantees, there are several risks: banks' incentives to screen and monitor and farmers' incentives to repay are reduced, and there is a discrimination against alternative sources of credit. Credit subsidies will in the long run have a negative influence on inflation and nominal interest rates. Specialised agricultural credit institutions can provide lower transaction costs owing to a higher level of expertise, thus reducing the asymmetric information problem. On the other hand, they incur a higher portfolio risk, since they are specialised (Swinnen and Gow, 1999). We can expect some of these negative impacts of government intervention to be general – and not specific to transition countries.

Government support exists in most of the case study countries, but the type varies among them (see Table 2). Loans, as in principal sums lent directly by the government, only exist in the Netherlands and FYROM. Subsidised interest rates are more common: Finland, the Netherlands, Greece, Germany and Poland all have this feature. Payback guarantees are available in Greece, Poland (though it is not used) and Italy. Investment allowances are available in Finland, the Netherlands, Greece, FYROM, Germany, Poland and Italy.

Table 2. Different types of government support (a) and their relative importance (in %) (b) in the case study countries

Country		**Loans (principal offered by the government)**	**Subsidised interest rates, with the principal financed in the open market**	**Payback guarantees**	**Investment allowances (part of the investment cost is recovered as a subsidy)**
Sweden	a	None of the alternatives are applicable			
	b	No reply			
Finland	a		√		√
	b	0	40	–	10
Ireland	a	No reply			
	b	No reply			
UK	a	None of the alternatives are applicable			
	b	No reply			
Netherlands	a			√	√
	b	–	–	25	75
Greece	a		√	√	√
	b	–	30	60	10
FYROM	a	No data			
	b	No data			
Germany	a		√		√
	b	–	50	–	50
Poland	a		√	√	√
	b	–	100	0	0 (since 2010)
Italy	a			√	√
	b	No reply			

Table 2. cont'd

Slovakia	a	None of the alternatives are applicable			
	b	No reply			
France	a		√		
	b				
Belgium	a		√	√	√
	b	–	57	1	42

The involvement of government varies widely among the countries: in Ireland and the UK, there is no involvement at all by governmental credit institutions, whereas in Germany and FYROM, for example, there are several different types of governmental institutions involved in the agricultural credit market (see Table 3). The most common type of governmental credit institution is 'private banks that supply government-subsidised loans, market-funded'. As mentioned above, the involvement of governmental institutions in the credit market can distort the market. If governmental involvement is a sign of governments perceiving the markets as inefficient, then only three case study countries have functioning credit markets for agriculture: Ireland, the UK and Slovakia.

Table 3. Governmental credit institutions in the case study countries

	Government-owned agency that is market-funded	**Government agency that supplies subsidised government loans to farmers**	**Private banks that supply government-subsidised loans, market-funded**	**Private banks that transfer subsidised government loans and receive commission fees from government**
Sweden	√[a)]			
Finland			√	
Ireland	No such agency exists			
UK	No such agency exists			
Netherlands			√[b)]	
Greece	√		√	
FYROM		√	√	√
Germany	√	√	√	
Poland			√	
Italy		√	√	
Slovakia	No such agency exists			
France			√	
Belgium			√[c)]	

[a)] The government is one of the shareholders of a commercial bank.

[b)] Agricultural Loan Guarantee Fund since 1951; available budget in 2009: €100 million; loans supplied by banks

[c)] Flemish region

2.3 The primary stakeholders: Creditors and debtors

In this section, we investigate who the main creditors are in the case study countries. Some studies, including Schmidt and Kropp (1987), have found that access to financial services by small-scale farmers is normally seen as a constraining factor. The lending practices also need to match the needs of the target group; otherwise, the farmers will not apply for credit or will not be granted credit. This study deals with the agricultural markets, thus the borrowers referred to are always agricultural firms. The lenders (creditors or loan providers) can differ, however, and it is also possible that the rules and regulations governing each type of creditor

vary. Furthermore, the behaviour of the creditor is likely to depend on the type of creditor (a profit-maximising commercial bank is not likely to make judgements on the same grounds as a farmers' cooperative bank, whose main goal is serving the interests of its members). The type of creditor is also relevant for the agricultural credit market, since lending practices might diverge among different creditors.

The categories of creditors in this study are commercial banks, mortgage institutions, farmers' cooperative banks, government (in the form of governmental credit institutions, not subsidies), sellers of input supplies, others in the informal market (such as family and micro financing) and others (as in none of the above).

Commercial banks are free market players that can use different types of collateral and which can adjust interest rates based on the risk assessments they conduct. They are usually large, and sometimes international companies, such as ING Group, BNP Paribas, Lloyds and Nordea. Mortgage institutions provide loans for buildings or other property like farmland; a mortgage loan is a loan secured by real property. Farmers' cooperative banks are co-owned by a group of farmers and are usually not commercial in the sense that serving the interest of the members of the cooperative, rather than profit maximisation, is the main goal. Sellers of input supplies are suppliers that would provide credit for the input they are selling. This would simply mean that the agricultural firm could pay its suppliers in (monthly) instalments rather than in cash when purchasing inputs.

There are very small differences among the various asset categories when it comes to who the main provider is (see Table 4) within each case study country. Commercial banks are the most important providers in most of the countries and for all the assets. Farmers' cooperative banks are important in the Netherlands and Poland, and in Sweden the category 'other' is the most important provider, regardless of asset.

*Table 4. Most important loan providers by country and asset**

Asset category	Commercial banks	Farmers' cooperative banks	Mortgage institutions
Farmland	Finland, UK, Greece, FYROM, Italy, Slovakia, France, Ireland, Belgium	Netherlands, Poland	Sweden
Farm buildings	Finland, UK, Greece, FYROM, Slovakia, Ireland, France, Belgium	Netherlands, Poland	Sweden
Equipment and machinery	Finland, UK, Greece, FYROM, Slovakia, Ireland, France, Belgium	Netherlands, Poland	Sweden
Operating capital, incl. inventory	UK, Greece, FYROM, Slovakia, Ireland, France, Sweden, Belgium	Netherlands, Poland	Sweden

* In Germany, commercial banks and farmers' cooperative banks are most important, but we were unable to attribute their importance by asset category.

Table 5 shows the share of the main loan providers in the different asset categories and countries. For farmland investments, the main creditors are commercial banks (which are most important in Finland, the UK, Greece, FYROM, Italy, Slovakia, Ireland and France). Mortgage institutions only play a role in the UK (30%), which on the other hand has no farmers' cooperative banks or governmental credit institutions. Farmers' cooperatives are the most important creditors in Poland (69%) and the Netherlands (75%), and play a significant role in Sweden (23%) and Slovakia (10%). Suppliers provide a big share of credit in FYROM (30%) and in Slovakia (20%), while they play a minor role in Greece (7%) and in Sweden (2%), and no role at all in the other case study countries. Other informal providers of loans have a notable share in the Netherlands (10%), but a smaller or no share at all in the rest of the case study counties. In Sweden, the largest share of credit is held by 'mortgage institutions' at 39%.

Table 5. Main loan providers by asset category and country (in %) and outstanding volume

Country		Comm. banks	Mortgage inst.	Farmers' coop banks	Gov. credit inst.	Suppliers	Others (informal)	Outstanding volume (million €)
SE	Land	32	39	23	0	2	4	23 817[a)]
	Build.	32	39	23	–	2	4	–
	Equip.	35	40	–	–	25	5	–
	Capital	50	50	–	–	–	5	–
FI	Land	95	0	–	5	0	0	3 000
	Build.	90	0	0	5	5	–	1 000
	Equip.	90	5	–	–	5	–	500
	Capital	–	–	–	–	–	–	–
IE	No reply							
UK	Land	70	30	–	–	0	<1	13 730[b)]
	Build.	65	30	–	–	5	<1	
	Equip.	60	0	–	–	40	<1	
	Capital	100	–	–	–	–	–	
NL	Land	15	–	75	0	0	10	13.5[c)]
	Build.	18	–	77	–	–	5	13.5[c)]
	Equip.	20	–	80	–	–	0	4[c)]
	Capital	20	–	80	–	–	0	4[c)]
EL	Land	90	0	3	0	7	0	NA
	Build.	90	–	3	–	7	–	NA
	Equip.	90	–	3	–	7	–	NA
	Capital	90	–	3	–	7	–	NA
FYROM	Land	40	0	0	0	30	0	–
	Build.	40	0	0	0	30	–	–
	Equip.	40	0	0	0	30	–	–
	Capital	40	0	0	0	30	–	–
DE	Land	60	–	40	–	–	–	35 000 (total)
	Build.	20	–	60	20	–	–	
	Equip.	20	–	60	20	–	–	
	Capital	40	–	60	–	–	–	
PL	Land	30	0	69	0	0	1	300
	Build.	30	0	65	0	3	2	150
	Equip.	35	0	57	0	3	5	150
	Capital	10	0	80	0	5	5	0.1
IT[d)]	Land	~100	N/A	N/A	–	N/A	–	2 839
	Build.	–	–	–	–	–	–	8 400
	Equip.	–	–	–	–	–	–	4 372
	Capital	–	–	–	–	–	–	–
SK	Land	70	0	10	0	20	0	5%
	Build.	70	0	10	0	20	0	5%
	Equip.	70	0	10	0	20	0	5%
	Capital	70	0	10	0	20	0	7%
FR	Land	~90	–	–	–	Some	Some	40 500 (total)
	Build.	~90	–	–	–	Some	Some	
	Equip.	~90	–	–	–	Some	Some	
	Capital	~90	–	–	–	Some	Some	

Table 5. cont'd

BE	Land	–	o	o	o	–	–	No reply
	Build.	–	o	o	o	–	–	No reply
	Equip.	–	o	o	o	–	–	No reply
	Capital	–	o	o	o	–	––	No reply

[a)] EUR/SEK at 9.25

[b)] £12 billion = €13,733 billion, exchange rate at 2011, year average from www.riksbanken.se

[c)] The share per asset category had to be estimated, since banks lend money to farms as whole entities, not by asset category. It is a combination of the shares of fixed assets and investments made by farmers and assessments by banks.

[d)] Even though the main (sole) provider of credit is commercial banks, the government has an influence through ISMEA, which offers some beneficial loans, and through suppliers offering credit. It is unclear, however, how big their share is.

Regarding farm buildings, the situation is more or less the same as for farmland. Commercial banks play the biggest role in most of the countries (Finland, the UK, Greece, FYROM, Slovakia, Ireland and France). The main difference compared with farmland is that the creditor category 'suppliers' has a share in more countries: in Sweden, Finland, the UK, Greece, FYROM, Poland and Slovakia. The highest shares are in FYROM (30%) and Slovakia (20%).

The situation for equipment and machinery differs from that for farmland and farm buildings – the main providers are more or less the same as those for farmland and buildings, but the suppliers play a more significant role in loans for equipment than for other assets in Sweden and the UK. In the Netherlands, the farmers' cooperative banks are even more important in providing loans for equipment (at 80%) than for land and buildings.

Also, the general picture is the same for operating capital: the main providers are commercial banks. In Sweden, however, equally important is the category 'mortgage institutions' and in Poland the role of the commercial banks is much smaller for operating capital (10%) than for other assets, where instead the farmers' cooperative banks (80%) increase in importance.

The change in the case study countries over the past ten years when it comes to the number of creditors is displayed in Table 6, broken down by type of loan provider. The country standing out the most in this table is Greece: commercial banks and farmers' cooperative banks have been decreasing in numbers at the same time as suppliers have been increasing. An increasing number of suppliers is not solely the case for Greece, yet the other countries have not had a corresponding decrease in other types of creditors. The number of commercial banks has increased in Finland, FYROM, Slovakia and France, decreased in Greece and Poland, and remained unchanged in Sweden, the Netherlands and Italy. Mortgage institutions have spread in Slovakia, but their number has stayed the same in Sweden and FYROM. Farmers' cooperative banks have expanded their presence in Greece, while the situation has remained unchanged in the Netherlands, FYROM, Poland and Slovakia. Governmental credit institutions also increased in number in FYROM and Italy, but decreased in Finland. The number of suppliers rose in Greece, FYROM and Slovakia, while remaining unchanged in Finland and Poland. Other (informal) creditors grew in number in Slovakia, decreased in the Netherlands and stayed the same in Sweden, FYROM and Poland.

Table 6. Number of creditors, change over the last ten years

	Increased	**Decreased**	**Unchanged**
Commercial banks	Finland, FYROM, Slovakia, France	Greece, Poland	Sweden, Netherlands, Italy, UK
Mortgage institutions	Slovakia, UK		Sweden, FYROM
Farmers' cooperative banks		Greece	Netherlands, FYROM, Poland, Slovakia

Table 6. cont'd

Governmental credit institutions	FYROM, Italy	Finland	
Suppliers	Greece, FYROM, Slovakia, UK	Belgium	Finland, Poland
Others (informal)	Slovakia	Netherlands	Sweden, FYROM, Poland

Note: No data on the number of creditors for Germany.

The share of the total volume per loan provider to agricultural operations over the past ten years is displayed in Table 7. Commercial banks have increased their share in Sweden, Finland and FYROM, decreased their share in Greece, Poland, Slovakia and the UK, and held it unchanged in the Netherlands and Italy. Mortgage institutions have increased their share of total volume in Sweden and the UK, decreased it in Slovakia and kept it the same in FYROM. Farmers' cooperative banks have increased their share in Poland, decreased it in Greece and kept the same share in FYROM and Slovakia. Governmental credit institutions have increased their share in the Netherlands, FYROM and Italy, and decreased it in Finland. Suppliers have increased their share in Greece, FYROM and Slovakia, decreased it in Sweden and held it unchanged in Finland, Poland and the UK. Others (informal) creditors have increased their share in Poland and Slovakia, while decreasing it in Sweden, the Netherlands and FYROM. Also when it comes to the share of volume, Greece seems to be switching from commercial banks and farmers' cooperative banks to suppliers. Sweden seems to be moving in the other direction: away from suppliers and informal creditors towards commercial banks and mortgage institutions. The Netherlands seems to be moving away from informal creditors and replacing them with governmental credit institutions. FYROM also seems to moving away from the informal sector and towards more formal creditors, such as suppliers, governmental credit institutions and commercial banks.

Table 7. Share of total volume, change over the past ten years

	Increased	**Decreased**	**Unchanged**
Commercial banks	Sweden, Finland, FYROM, Germany	Greece, Poland, Slovakia, UK	Netherlands, Italy
Mortgage institutions	Sweden, UK	Slovakia, Germany	FYROM
Farmers' cooperative Banks	Poland	Greece	FYROM, Slovakia, Germany
Governmental credit institutions	Netherlands, FYROM, Italy	Finland	Germany
Suppliers	Greece, FYROM, Slovakia	Sweden, Belgium	Finland, Poland, UK
Others (informal)	Poland, Slovakia	Sweden, Netherlands, FYROM	

Note: No data for France.

2.4 Functioning of the credit market and access to credit

Typical for an inefficient (malfunctioning) credit market are agency problems (asymmetric information, moral hazard, adverse selection), uncertainty and credit constraints.

Agency problems might be more prevalent in closely held agricultural firms compared with closely held firms in other sectors of the economy, mainly due to the legal form of the organisation. A proprietary farm is generally not obliged to publicly disclose its financial situation.

Adverse selection occurs because of asymmetric information: the creditor or the bank does not have accurate knowledge of the agricultural firm. The owner of the firm possesses information about the nature of success of each investment project. Therefore, for the bank it is difficult to separate good investments/borrowers from risky ones or the likely defaulters. In this situation, such information as the previous credit history of the farm owner has a crucial role in the selection of the borrower and also the interest rate associated with the borrowing.

Moral hazard problems mainly arise when the owner has private benefits of control and ownership, although a debt may enhance the incentives to perform well. The creditor or the bank needs to correctly evaluate the possible moral hazard or adverse selection problems that can emerge with any debt issued. At the time of approving a loan, the bank needs to know the future possible cash flow of the loan applicant, as the delays or any type of default will be very costly.

Finally, uncertainty plays a vital role in every financial market, since it is impossible to foresee the future. Uncertainty can be caused by lax regulations or the overall health of the national and global economy. This leads to higher transaction costs (Scully, 1988). Uncertainty and information asymmetry are strongly related to one another and information asymmetry can lead to increased uncertainty.

Although these types of problems are present in any sector, they might be more prominent in proprietary farms owing to the few or no obligations in relation to public disclosure or reporting liabilities, except the annual tax statement. Hence, it is crucial for the bank either to trust the farm seeking a loan in light of a long-term relationship or to be able to assess the correct financial status through a credit rating or business rating or a sufficient amount of collateral.

Weber and Musshoff (2012) show that the delinquency ratio is reduced if the debtor has a deposit at the bank, pointing to the possibility to use that as cash collateral. Collateral is thus an efficient way to reduce uncertainty and the amount and type of collateral varies with the risk perceived by the bank. In many situations, a haircut can also be introduced on the collateral, which is a percentage that is subtracted from the market value of an asset that is being used as collateral. The size of the haircut reflects the perceived risk associated with holding the asset.

In proprietary farms, there is lack of differentiation between business assets and private assets, leading to difficulties in using assets as collateral. Also, a farmer needs to execute good judgement when using a certain asset (for example farm machinery or land) since he/she might lose a vital part of the business if defaulting on the loan. In addition, an evaluation of the quality of collateral can create some sources of conflict between the parties and may require a third party's evaluation (for example, a land or a car valuation). A necessity for well-functioning collateral is that there is demand for the asset used as collateral. For farmers this means that land and buildings are usually good for collateral, but machinery and equipment might not be. Who would buy second-hand milking equipment if the milk farmer defaults on his/her loans?

Table 8 shows the reasons for rejecting credit applications. The top three reasons (score 1-2 for most countries) are lack of collateral, insufficient farm business income and the poor credit history of the applicant. The least important reasons are the lack of appropriate farming or management education, and a weak previous relationship with the creditor. In general, the business-related reasons score higher than the more personal reasons (education, experience and relations).

*Table 8. Reasons for rejecting credit applications**

Reason	1	2	3	4	5
Lack of appropriate farming or management education		Italy	Netherlands, FYROM	Sweden, Finland, UK, Greece, Germany, Italy	Poland, Slovakia
Lack of appropriate farming or management experience		Sweden, Netherlands, FYROM	UK, Greece, Germany Italy	Finland, Poland	Slovakia
Insufficient farm business income	Sweden, Italy	Finland, Netherlands, Greece, FYROM, Slovakia	Germany, Poland		Italy
Insufficient household income		Finland, Greece, Poland, Slovakia	Sweden, UK, Netherlands	Germany	Italy
Weak previous relationship with the creditor		Greece, Poland, Italy	Sweden, UK, Netherlands, Italy, Slovakia, Germany		Greece
Poor credit history of the applicant	Poland, Italy,	Sweden, Netherlands, FYROM, Slovakia	UK, Germany	Finland	
Lack of collateral	UK, Greece, Italy	Netherlands, Greece, FYROM, Poland, Slovakia,	Sweden, Finland, Italy, Germany	Finland	
Insufficient business plans		Sweden, Netherlands, FYROM, Poland, Slovakia	UK, Italy, Germany	Italy	
Other (state reason):					Poland

* 1 = Most often the case for rejection; 2 = Often the case for rejection; 3 = Sometimes the case for rejection; 4 = Rarely the case for rejection; 5 = Least often the case for rejection

Note: No reply for Ireland, Belgium and France.

Mezzanine financing is the middle ground between equity and traditional loans. The debtor lends money at a higher interest rate (15-20%) based, for example, on cash-flow expectations – no collateral is demanded. The creditor can gain the right to equity or just have the principal back after the maturation of the loan (*Financial News*, 2012). A mezzanine loan can thus be of use when there is no collateral available.

There are mezzanine markets in the UK, Slovakia and in Greece (see Table 9). Most countries do not seem to have any mezzanine markets, and in Germany the judgement is that there would be little demand for that in the agricultural sector. The same conclusion holds for Greece; there is a mezzanine market but it is not used much.

Table 9. The existence of a mezzanine market

Country	Response
Sweden	No
Finland	No
Ireland	No reply
UK	Yes
Netherlands	No
Greece	Yes, but it is rarely used
FYROM	No reply
Germany	Not for the agricultural sector specifically, unlikely to be any demand for it
Poland	No
Italy	No
Slovakia	Yes
France	No reply
Belgium	No

Assuming that credit rationing is connected to the risk assessment of the creditors, the characteristics of the borrower can become an important factor in explaining credit rationing in agriculture. And the characteristics of the farm household have been shown to have an effect on credit rationing. The education level will influence the credit constraints: a higher education level leads to a higher chance of receiving a loan. The household income also influences the credit constraints: a higher household income reduces the risk of experiencing credit constraints, either through the demand for credit being lower in a higher-income household or through the creditor perceiving the investment to be more secure (Nuryartono, et al., 2005). Similar results are also found in Rahji and Adeoti (2010). Petrick (2004), on the other hand, found that education level was not a significant factor in determining the risk of being credit-rationed, whereas other characteristics, such as the number of adult females (increasing the risk of being under credit constraints) and the number of adult males in a household (decreasing the risk of being under constraints) were found to influence the risk of being credit-rationed.

Across all countries, the highest weight is given to business-related characteristics, such as 'estimated farm business profit (cash flow)' and 'the available business collateral' (see Table 10). This is particularly true for Sweden, Finland, the UK (1-3) and FYROM. In the Netherlands, the estimated business profit is not given as high a weight as the 'available household income'. In Greece, the weights are quite evenly distributed over more or less all characteristics. In Italy, there are two types of investments that have been used as examples; both of them emphasise the 'appropriate farming or management experience', especially IT-2. Slovakia also shows a rather even distribution of weight over all characteristics except 'the available business collateral' and 'available household income' that are assigned no weight at all.

Table 10. Weights assigned to different characteristics when performing a risk assessment

	SE	FI	UK-1[a)]	UK-2[b)]	UK-3[c)]	NL	EL	FYROM	PL	IT-1[d)]	IT-2[e)]	SK
Appropriate farming or management education	–	–	5	0	1		10	1	5	5	–	10
Appropriate farming or management experience	10	–	5	15	15	1	10	1	10	20	75	10
Estimated farm business profit (cash flow)	50	40	60	30	65	1	15	55	25	20	20	20
Available business collateral	30	40	10	30	10	55	20	30	20	15	5	–
Available household income	2	10	2	0	2	30	5	5	10	5	–	–
Available non-farm assets for use as collateral	3	10	5	10	1	5	15	5	10	5	–	20
Extent of the previous relationship with the creditor	3	–	10	5	1	5	15	1	10	10	–	30
Credit history of the applicant and his/her family	2	–	3	10	5	1	10	2	10	20	–	10
Other (state the characteristic)	–	–	–	–	–	2	–	–	–	–	–	–
Total	100	100	100	100	100	100	100	100	100	100	100	100

[a)] Farm & Country Finance

[b)] Wall 2 Wall Finance

[c)] Lloyds TSB Agriculture

[d)] Cariparma Credit Agricolé

[e)] ISMEA

Note: No reply for Ireland, Germany, France or Belgium.

In asset-based lending, the credit decision is based on the availability and quality of collateral of the firm. At the other end of the scale, a credit decision can be based on the investment itself: Will it give enough cash flow to pay interest and repay the full amount? In Table 11, the results of the questionnaires are shown. A majority of the case studies shows a tendency towards cash flow-based lending. In the UK, Greece and Italy, asset- and cash flow-based lending have equal weight and in Poland asset-based lending is more important than expected cash flow. For some countries (the UK, the Netherlands and Poland), these results are inconsistent with the results displayed in Table 10. In the UK, while the characteristic 'estimated farm business profit (cash-flow)' has a high weight in the risk assessment related to credit evaluation (Table 10) and later when there is an application for extending an existing loan, the asset (collateral) and the cash-flow are given the same level of importance (Table 11). Results for the Netherlands show the opposite: cash flow is more important when extending a loan.

Table 11. Importance of different factors for extending a loan

	Only asset-based lending: Consideration is only given if there is enough collateral wealth that can be easily liquidated in case of default	**More asset-based than cash flow-based lending**	**Asset base and cash flow are given the same level of importance**	**More cash flow-based lending than asset-based**	**Only cash flow-based lending: Consideration is only given if there is sufficient and reliable expected cash-flow generated from loan-funded activities**
Country	**1**	**2**	**3**	**4**	**5**
Sweden				√	
Finland				√	
Ireland	No reply				
UK			√		
Netherlands				√	
Greece			√		
FYROM	1	2	3	5	4
Germany				√	
Poland		√			
Italy			√		
Slovakia				√	
France	No reply				
Belgium	No reply				

In this section, the significance of personal relations, financial situation and the possibility for agricultural firms to receive credit compared with other firms is presented.

Petersen and Rajan (1994) studied the correlation between relationships involving a creditor and a debtor and the access to capital by the debtors. It turned out that the length and the extent of a relationship does have an impact, mainly on the availability of capital, but not on the price (interest rates) of capital.

For most countries, the answers show that the business is more influential than the connections when it comes to first-time credit (see Table 12). In Finland, that is all that counts. In Greece and Italy, equal weight can be given to personal relations and estimated economic outcome. Only in Italy is there more weight given to the personal relationship than to the estimated economic outcome (according to one of the respondents).

A majority of the case studies shows that the agricultural firm has a somewhat or much greater possibility to obtain credit compared with other small rural firms (see Table 13). In the UK and Italy, they are perceived as having the same possibilities and in Greece and Slovakia their possibilities are smaller. Thus, in part the case studies point in another direction than studies showing that agriculture has a greater problem with credit rationing than other sectors (Weber and Musshoff, 2012).

Table 12. Importance of personal relations for receiving credit

	Only the personal relationship matters	**More weight given to the personal relationship than to the estimated economic outcome**	**Equal weight given to the personal relationship and the estimated economic outcome**	**More weight given to the estimated economic outcome than to the personal relationship**	**Only the estimated economic outcome is important**
Relation between (a) and (b)	**100/0**	**75/25**	**50/50**	**25/75**	**0/100**
Sweden				√	
Finland					√
Ireland	No reply				
UK				√	
Netherlands				√	
Greece			√		
FYROM				√	
Germany				√	
Poland				√	
Italy		√	√		
Slovakia				√	
France	No reply				
Belgium	No reply				

Table 13. Assessment of the possibility of a farmer to obtain a loan in comparison with other small rural firms

	Far less	**Somewhat less**	**The same**	**Somewhat greater**	**Much greater**
Sweden				√	
Finland				√	
Ireland	No reply				
UK			√		
Netherlands				√	
Greece		√			
FYROM				√	
Germany				√	
Poland					√
Italy			√		
Slovakia		√			
France	No reply				
Belgium	No reply				

2.5 Availability of credit

The availability of a sufficient amount of credit can be of great importance for rural farm owners and there might be a mismatch between the demand and supply of credit. Credit rationing is a term that is used when the borrower cannot obtain the required amount of loan and faces a credit constraint (Jaffee and Russel, 1976; Jaffee and Stiglitz, 1990; Petrick, 2005). Often information asymmetry leads to the problem of credit rationing, which is more common for small firms than for large firms (Hashi and Toci, 2010). Credit constraints can also be a characteristic of equilibrium in the loan market in contrast to the general opinion that credit rationing may be the result of disequilibrium (Stiglitz and Weiss, 1983). The bank aims at retrieving the loan amount plus interest. If the bank sets the interest rates too high the risk of default is larger, thus lowering the potential profit. In other words, it is the profit-maximising interest of the bank that is determining the interest rate and at that rate also the supply of capital, not the demand for capital.

Many studies on credit rationing in agriculture concentrate on developing countries (Weber and Musshoff, 2012, Nuryartono, et al., 2005, as well as Rahji and Adeoti, 2010, to name a few). But the problem has also been shown to exist in European agriculture (Petrick, 2004).

This section shows the total volume of credit, the total asset value and the loan to value in agriculture in the case study countries. These factors give an insight into the availability of credit in the agricultural sector.

As shown in Table 14, the lending volume in agriculture has increased in Sweden, Finland, FYROM, Slovakia, the UK and Italy, and it has decreased in Greece for commercial banks. Mortgage institutions have increased their lending volume in Sweden, the UK and Slovakia, while the volume has remained unchanged in FYROM. Farmers' cooperative banks have increased their lending volume in the Netherlands and Poland, decreased it in Greece and kept it at the same level in FYROM and Slovakia. The government credit institutions have increased their lending volume in FYROM and Italy, and decreased it in Finland. Suppliers have been increasing their lending volume in Greece, the UK, FYROM and Slovakia, while their volume has remained unchanged in Finland and Poland. Other (informal) creditors have increased their volume in Slovakia, decreased it in the Netherlands and shown no change in Sweden, FYROM and Poland.

Table 14. Lending volume, change over the past ten years

	Increased	**Decreased**	**Unchanged**
Commercial banks	Sweden, Finland, FYROM, Poland, Slovakia, Italy, UK	Greece	
Mortgage institutions	Sweden, Slovakia, UK		FYROM
Farmers' cooperative Banks	Netherlands, Poland	Greece	FYROM, Slovakia
Governmental credit institutions	FYROM, Italy	Finland	
Suppliers	Greece, FYROM, Slovakia, UK	Belgium	Finland, Poland
Others (informal)	Slovakia	Netherlands	Sweden, FYROM, Poland

Note: No data for Germany or France.

The total volume of credit varies with the size of the agricultural sector in the case study countries (see Table 15). Poland and Slovakia have relatively small credit volumes considering their sizes. The total asset value, together with information on the credit volume, can give a hint about the loan-to-value (LTV) ratio in the countries, which has been calculated in Table 15. There were not replies for all countries to the question concerning the total asset volume, but among those for which responses were given there was a varying level of LTV, from 2% in Poland to 58% in the UK.[2] Generally, LTV ratios above 80% are perceived as high and less than 80% are perceived as low in the housing market.

Table 15. Total volume of credit and total asset value in the case study countries (in million €)

Country	Total credit	Total asset value	LTV (%)
Sweden	23 000	No reply	–
Finland	4 500	20 000	23
Ireland	5 077[a)]	No reply	–
UK	13 600[b)]	23 270[b)]	58
Netherlands	43 500	136 500	32
Greece	2	7	29
FYROM	No data	No reply	–
Germany	49 650[a)]	No reply	–
Poland	500	30 000	2
Italy	41 000	8 082[d)]	–
Slovakia	390	3 400	11
France	40 500[c)]	No reply	–
Belgium	No reply		

a) Including forestry, fishery and aquaculture

b) Average exchange rate for 2009

c) Data source: Ministry of Agriculture, Bureau du Crédit

d) Total value of gross fixed investments in real value

LTV can be a sign of how different operators perceive the risks of investing in agriculture. In Table 15 it was calculated based on total credit and total asset value as reported in the questionnaires, but there is also a direct question about LTV in the questionnaire. The numbers reported in the questionnaires show much higher values than the calculated LTV in Table 15. This indicates that the actual LTV is lower than the potential LTV.

The typical LTV varies among the countries, from 60% in Finland to 100% in the Netherlands (see Table 16). There is no variation among the types of providers; however, in the UK there is a difference of 5% between mortgage institutions (at 70%) and commercial banks (at 75%), indicating that the mortgage institutions would be more restrictive when giving credit with farmland as security.

[2] As a comparison, the LTV for house loans in the eurozone varied between 63% and 101% in 2007 (ECB, 2009). Although both house buyers and farmers can use real property as collateral, the two should not be directly compared: in the housing market the collateral and the investment are the same, whereas a farmer might use farmland as collateral when investing in equipment or machinery.

Table 16. Typical loan-to-value ratio for farmland (in %)

Country	Commercial banks	Mortgage institutions	Farmers' cooperative banks	Governmental credit institutions	Suppliers (sellers of machinery, seeds, etc.)
Sweden	75	–	75	–	–
Finland	60	60	60	–	60
Ireland	No reply	–	–	–	–
UK	75	70	None exists	None exists	–
Netherlands	100	–	100	–	–
Greece	75	–	75	–	0
FYROM	No reply	–	–	–	–
Germany	Not possible to answer				
Poland	80	–	80	–	?
Italy	–	–	–	–	–
Slovakia	70	–	–	70	–
France	No reply	–	–	–	–
Belgium	–	na	na	na	–

For farm buildings, the situation is the same as for farmland. In Slovakia, however, the LTV is lower for buildings than for land (see Table 17); in other words, they perceive land as a more secure asset than buildings.

Table 17. Typical loan-to-value ratio for farm buildings (in %)

Country	Commercial banks	Mortgage institutions	Farmers' cooperative banks	Governmental credit institutions	Suppliers (sellers of machinery, seeds, etc.)
Sweden	75	–	75	–	–
Finland	60	60	60	–	60
Ireland	No reply	–	–	–	–
UK	75	70	None exists	None exists	
Netherlands	100	–	100	–	–
Greece	75	–	75	–	0
FYROM	No reply	–	–	–	–
Germany	–	–	–	–	–
Poland	80	–	80	–	?
Italy	–	–	–	–	–
Slovakia	50	–	–	50	–
France	No reply	–	–	–	–
Belgium	–	na	na	na	–

The typical LTV ratio varied between 0 for equipment and machinery from suppliers in Greece and 100% for several providers in the UK, the Netherlands and Poland. The LTV ratio is lower than for land and buildings in Sweden and to some extent in Slovakia for commercial banks (see Table 18). On the other hand, additional creditors appear to give a higher LTV ratio: in Sweden and the UK it is the suppliers, and in Slovakia it is governmental credit institutions. In Poland and the UK, the loan-to-value ratio is higher for equipment and machinery than for land and buildings.

Table 18. Typical loan-to-value ratio for equipment and machinery (in %)

Country	Commercial banks	Mortgage institutions	Farmers' cooperative banks	Governmental credit institutions	Suppliers (sellers of machinery, seeds, etc.)
Sweden	Around 40	–	–	–	75-80
Finland	–	–	–	–	–
Ireland	–	–	–	–	–
UK	100	–	None exists	None exists	100
Netherlands	100	–	100	–	–
Greece	70-75	–	70-75	–	0
FYROM	–	–	–	–	–
Germany	–	–	–	–	–
Poland	80	–	80-100	–	?
Italy	–	–	–	–	–
Slovakia	30	50	–	30	–
France	–	–	–	–	–
Belgium	–	na	na	na	–

The LTV ratio for operating capital (including inventories) varies between 40% (Slovakia and Sweden) and 100% (the Netherlands and Poland) across all types of loan providers (see Table 19). At commercial banks, the LTV ratio is lower for operating capital (including inventories) than it is for land and buildings in Sweden, the UK and Greece. For Greece, Poland and Slovakia, the LTV ratio is higher for operating capital at commercial banks than it is for the other asset categories. For Greece and Poland, this is also true for the farmers' cooperative banks. Suppliers feature high loan-to-value ratios (100%) in Finland and Poland, a bit lower in Slovakia (60%) and around 40% in Greece.

Table 19. Typical loan-to-value ratio for operating capital, including inventories (in %)

Country	Commercial banks	Mortgage institutions	Farmers' cooperative banks	Governmental credit institutions	Suppliers (sellers of machinery, seeds, etc.)
Sweden	Around 40	–	–	–	–
Finland	–	–	–	–	100
Ireland	–	–	–	–	–
UK	70	–	None exists	None exists	–
Netherlands	100	–	100	–	–
Greece	90	–	90	–	Around 40
FYROM	–	–	–	–	–
Germany	–	–	–	–	–
Poland	100	–	100	–	100
Italy	–	–	–	–	–
Slovakia	40	–	–	40	60
France	–	–	–	–	–
Belgium	–	na	na	na	–

3. The institutional framework for agricultural credit markets – Conclusions

The main aims of this study are to describe and compare the credit markets in the case study countries and to determine whether agricultural firms have problems obtaining credit owing to the institutional framework. As mentioned in the introduction, the collection of data through the questionnaire turned out to be a difficult task, and fully completed questionnaires were not obtained for all the countries. Nevertheless, some interesting conclusions can be drawn from this material.

The regulation of financial markets is mostly general – only a few countries have specific regulations for the agricultural sector, and even then it is regarding particular subsidies for agriculture. This indicates that the agricultural credit markets are not perceived to need specific regulations. On the other hand, many governments – all but four[3] actually – give some sort of credit support to agriculture, implying that there is a belief that the capital market for agriculture is not functioning efficiently. This seemingly contradictory situation might be caused by the fact that there are different ministries and authorities dealing with the financial sector and the agricultural sector; the finance ministries do not have special regulations for agriculture but the agricultural ministries introduce various types of support.

At the firm level, some of the implications associated with the different types of creditors can be quite severe. If a bank provides credit for an investment, it is up to the farmer to decide on the proper allocation of resources by his or her firm. If instead an investment is financed through monthly (future) instalments to, for example, a machine supplier, the farmer has no way of reallocating resources, and if he or she is unable to pay the suppliers can reclaim the machinery at short notice. Thus, it is a more efficient strategy for the farmer to have traditional bank loans rather than debts to suppliers. Another positive effect of long-term loans is that they build a long-term relationship, which we have seen is an important factor when it comes to extending loans. The dominant loan providers are commercial banks and farmers' cooperative banks. In two countries, however, the suppliers have relatively high shares of the market (FYROM and Slovakia), though they are decreasing. In Greece, on the other hand, they seem to be increasing in importance.

The calculated values for the LTV ratios in Table 15 show much lower numbers than the answers in the questionnaire. Therefore, the actual lending is lower than what the financial experts in the individual countries in general would expect for the sector. Extremely low values are found in Poland and Slovakia. Does this imply that they are severely under-capitalised? Credit rationing has been shown in Poland (Petrick, 2004), so it is not far-fetched that the low LTV ratio also implies that agriculture is under-capitalised. An interesting, and surprising, outcome of the survey is that firms in the agricultural sector are more likely to obtain credit than other small rural firms. Thus, agricultural firms should be better off and probably less credit-rationed than other firms.

Uncertainty, asymmetric information and moral hazard are examples of factors leading to an inefficient market in which credit constraints might occur. To reduce the negative effects of these factors, there are different strategies: requirements for collateral can reduce the risk of the investment and hence reduce the effects of uncertainty. Long-term relations will reduce the effects of asymmetric information, as the bank's knowledge of a firm increases over time. A long-term relationship will also reduce the risk of moral hazard, since it is easier for the bank to trust someone after a longer relationship.

Assets are not as important as the expected cash flow of the planned investment when extending a loan. Only in Poland is asset-based lending more widespread than that based on cash flow (this is in line with the findings of Petrick and Latruffe, 2006). When undertaking a risk assessment for a first-time loan application, the situation is a bit different: in most

[3] These are Ireland, the UK and Slovakia plus Sweden; the only involvement in Sweden is that the state is a shareholder in one of the biggest banks, NORDEA.

countries a higher weight is given to cash flow, except in the Netherlands, where the emphasis is on collateral. In the Netherlands, assets are the most significant factor at the beginning of a creditor–debtor relationship, and later on the investment itself is more decisive. The survey also shows that (for most countries) the financial situation of the firm or the economic potential of the investment are more influential factors in risk assessments than personal characteristics.

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Appendix 1. Description of the survey

Planning and formulating questions for the questionnaire was undertaken for deliverable (D.2.2.1) in collaboration with other teams of the Factor Markets consortium.

The questionnaire was sent out to team members of the consortium during spring 2011. They in turn passed the questionnaire on to national financial experts, some with agricultural expertise, some with general expertise.

In some of the countries it turned out to be difficult to find any national expert who was willing to complete the questionnaire. This may be related to the background in which the survey was conducted, with the banks having been criticised for a long period for their lax risk assessments partly causing the financial crisis that started in 2007. Nevertheless, all 13 questionnaires were returned to the SLU team by August 2011. The questionnaires were all read and compiled into tables to give a comparable image of the case study countries.

The SLU team is most grateful to the contact persons among the partners who helped gather the questionnaires.

Country	Contact person
Sweden	Chelsey Jo Huisman (SLU)
Finland	Sami Myyrää (MTT)
Ireland	Trevor Donellan (Teagasc)
UK	Barbara Tocco (University of Kent)
Netherlands	Harold van der Meulen (LEI)
Greece	Eleni Kaditi (CEPS)
FYROM	Stefan Bojnec (SIOL)
Germany	Martin Petrick (IAMO)
Poland	Jan Fałkowski (Warsaw University)
Italy	Veneziani Mario (Università cattolica del Sacro Cuore)
Slovakia	Jan Pokrivcak (Slovak Agricultural University)
France	Laure Latruffe (INRA)
Belgium	Kristine van Herck (KU Leuven)

Appendix 2. Questionnaire

Institutional framework of the market for agricultural credit

1. (General descriptive questions)
   a. Estimate, in terms of shares of volume per asset category, the main providers of credit to farm operations (primary production) in your country. In addition, please provide an estimate of the total outstanding volume of credit for each asset category (in euros).

	Farmland	**Farm buildings (included in land)**	**Equipment and machinery**	**Operating capital, incl. inventory**
	Share of volume	*Share of volume*	*Share of volume*	*Share of volume*
Commercial banks				
Mortgage institutions				
Farmers' cooperative banks				
Governmental credit institutions				
Suppliers (sellers of machinery, seeds, etc.)				
Others (informal)				
Total share	**100%**	**100%**	**100%**	**100%**
Outstanding volume (€)				

   b. Here we are interested to know which types of governmental credit institutions that may exist in your country to provide credit to agricultural operations. Please use the boxes below to check (√) the appropriate option – more than one option can apply.

Government-owned agency that is market-funded	**Government agency that supplies subsidised government loans to farmers**	**Private banks that supply government-subsidised loans, market-funded**	**Private banks that transfer subsidised government loans and receive commission fees from government**	**Not applicable (i.e. there are no such institutions)**

2. What is the estimated total volume of credit in your country to agricultural operations (farming)?
3. Give an estimate of the total asset value of the primary agricultural industry (farm operations) in your country.
4. How has the number of creditors, their volume and their share of the total volume of credit to agricultural operations changed over the past ten years?

	Number of creditors			**Lending volume**			**Share of total volume**		
	Incr.	*Decr.*	*Unch.*	*Incr.*	*Decr.*	*Unch.*	*Incr.*	*Decr.*	*Unch.*
Commercial banks									
Mortgage institutions									
Farmers' cooperative banks									
Governmental credit institutions									
Suppliers (as in question 1)									
Others (informal)									

5. Which institutions and/or authorities regulate or supervise the agricultural credit market in your country? Describe the role of each institution. Please provide contact information such as web addresses, emails to appropriate contact persons at supervisory institutions.
6. Describe the regulatory framework for agricultural credit in your country. We are, in particular, interested in aspects such as the emphasis given to law, regulation, directions or guidelines in the institutional framework.
7. Per each credit market actor and for each listed asset category, respectively, what is the typical maximum loan-to-value (share of required credit) that can be used to finance a typical investment (please give your answers as percentages)?

	Farmland	**Farm buildings**	**Equipment and machinery**	**Operating capital incl. inventories**
	Maximum share of credit given to an investment	*Maximum share of credit given to an investment*	*Maximum share of credit given to an investment*	*Maximum share of credit given to an investment*
Commercial banks				
Mortgage institutions				
Farmers' cooperative banks				
Governmental credit institutions				
Suppliers (sellers of machinery, seeds, etc.)				

8. For each reason listed in the table below, and according to your expertise, to what extent is this the reason why credit applications for a typical investment proposal by farmers are rejected?

Use the following scale and check (✓) the appropriate box:
1: Most often the case for rejection,
2: Often the case for rejection,
3: Sometimes the case for rejection,
4: Rarely the case for rejection,
5: Least often the case for rejection.

Reasons	**1**	**2**	**3**	**4**	**5**
Lack of appropriate farming or management education					
Lack of appropriate farming or management experience					
Insufficient farm business income					
Insufficient household income					
Weak previous relationship with the creditor					
Poor credit history of the applicant					
Lack of collateral					
Insufficient business plans					
Other (state reason)					
Other (state reason)					

9. Is there a functioning mezzanine credit market in your country?
10. Envisage a typical risk assessment related to a credit evaluation of a farming investment proposal (assume this to be a case where the farm operator has applied for credit to expand his/her operation by investing in new buildings and equipment for some type of livestock production). Please provide an assessment of the weights that typically would be assigned to the following characteristics of the applicant. Consider the lender to be the most typical lender for investments of the stated type. Assume further that there is, at least, some prior relationship between the two parties.

Characteristics of the applicant	**Weight in risk assessment**
Appropriate farming or management education	
Appropriate farming or management experience	
Estimated farm business profit (cash flow)	
The available business collateral	
Available household income	
The available non-farm assets for use as collateral	
The extent of the previous relationship with the creditor	
The credit history of the applicant and his family	
Other (state the characteristic)	
Other (state the characteristic)	
Total	100%

11. What means of government support are available in the agricultural credit market of your country?
    a. Check (✓) the appropriate (to indicate that this alternative is available in your country).
    b. What is the relative importance of each measure of government support in relation to a given investment? (Again, assume this to be a case where the farm operator has applied for credit to expand his/her operation by investing in new buildings and equipment for some type of livestock production) (please give your answers in percentages).

	Loans (principal from government)	**Subsidised interest rates with principal purchased in open market**	**Payback guarantees**	**Investment allowances (part of the investment cost is recovered as a subsidy)**	**Total**
a					
b					

☐ None of the alternatives are applicable.

12. Consider the personal relationship between the bank and the loan applicant in a situation where a farmer has applied for a loan to finance an investment (again assume the same type of investment as above).

Rate the importance of (a) the personal relationship (elements of trust, future prospects, etc.) versus (b) the estimated economic outcome of the investment proposal for the credit decision of the lender.

	Only personal relationship matters	**More weight given to personal relationship than to estimated economic outcome**	**Equal weight given to personal relationship and estimated economic outcome**	**More weight given to estimated economic outcome than to personal relationship**	**Only estimated economic outcome is important**
Relation between (a) and (b)	**100/0**	**75/25**	**50/50**	**25/75**	**0/100**
Check your answer (√)					

13. Now consider the factors that would be relevant for extending an already existing loan: rate the importance of available collateral versus the expected cash-flow generation from the loan.

Only asset-based lending: Consideration is only given if there exists enough collateral wealth that can be easily liquidated in case of default	More asset-based lending than cash flow-based lending	Asset base and cash flow are given the same level of importance	More cash flow-based lending than asset-based	**Only cash-flow-based lending**: Consideration is only given if there exists enough and reliable expected cash flow generated from loan-funded activities
1	**2**	**3**	**4**	**5**

14. Please assess the possibilities of a farmer to obtain credit for a larger farm investment, in comparison with other rural-based small firms (assume them to have similar cash flows).

Check (✓) the most appropriate alternative:

Far less	**Somewhat less**	**The same**	**Somewhat greater**	**Much greater**
1	**2**	**3**	**4**	**5**

Comparative Analysis of Factor Markets for Agriculture across the Member States

245123-FP7-KBBE-2009-3

The Factor Markets project in a nutshell

Title	Comparative Analysis of Factor Markets for Agriculture across the Member States
Funding scheme	Collaborative Project (CP) / Small or medium scale focused research project
Coordinator	CEPS, Prof. Johan F.M. Swinnen
Duration	01/09/2010 – 31/08/2013 (36 months)
Short description	Well functioning factor markets are a crucial condition for the competitiveness and growth of agriculture and for rural development. At the same time, the functioning of the factor markets themselves are influenced by changes in agriculture and the rural economy, and in EU policies. Member state regulations and institutions affecting land, labour, and capital markets may cause important heterogeneity in the factor markets, which may have important effects on the functioning of the factor markets and on the interactions between factor markets and EU policies. The general objective of the FACTOR MARKETS project is to analyse the functioning of factor markets for agriculture in the EU-27, including the Candidate Countries. The FACTOR MARKETS project will compare the different markets, their institutional framework and their impact on agricultural development and structural change, as well as their impact on rural economies, for the Member States, Candidate Countries and the EU as a whole. The FACTOR MARKETS project will focus on capital, labour and land markets. The results of this study will contribute to a better understanding of the fundamental economic factors affecting EU agriculture, thus allowing better targeting of policies to improve the competitiveness of the sector.
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Partners	17 (13 countries)
EU funding	1,979,023 €
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