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Studies on the Agricultural and Food Sector in Central and Eastern Europe

**Judith Möllers, Patrick Zier, Klaus Froberg
Gertrud Buchenrieder and Štefan Bojnec**

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with contributions from

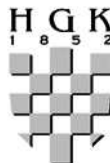
Jasminka Dukić, Ramona Franić, Ružica Gelo and Mario Njavro



LEIBNIZ-INSTITUT FÜR AGRARENTWICKLUNG
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Halle (Saale), January 2009

Executive summary¹

Croatia is very close to meeting the requirements necessary for becoming a member of the European Union (EU). On February 6, 2008, the European Enlargement Commissioner Olli Rehn said that accession negotiations with Croatia are moving ahead well. As in all new member states (NMS), the agricultural sector and food processing chain are core issues within the negotiation process. Successful negotiation requires intimate knowledge of the issue at hand, including the socio-economic situation and the fears and strategies of the stakeholders, particularly small-scale farmers. This report attempts to close some of these knowledge gaps by reviewing Croatia's rural development dynamics and farm structures, as well as agricultural and rural policies. Based on an empirical research component, the report provides unique, detailed insights into the ongoing structural change in two typical rural regions of Croatia. Special focus will be placed on socio-economic developments within farm households. Farmers' views, perceptions, and strategies are challenged by a competitiveness analysis of Croatia's farming sector, particularly in dairy farming. The opportunities and challenges for Croatia's rural regions are discussed vis-à-vis lessons learnt from the Slovenian accession experience. This executive summary provides a review of the major findings and policy recommendations. The recommendations follow those of the OECD in placing emphasis on regions rather than sectors and investments rather than subsidies in rural development policy. The recommendations refer to two important policy fields: (1) policies to develop, structurally adjust and diversify agriculture, and (2) territorial approaches for policies to create and secure employment (the wider rural economy).

Main findings

The findings for Croatia are derived from the analysis of secondary sector data as well as micro-economic data from approximately 140 farm households surveyed in 2007. Furthermore, a domestic resource costs (DRC) analysis looked into the competitiveness of the Croatian small-scale dairy sector. Expert interviews

¹ Authors of this Executive Summary are Gertrud Buchenrieder and Judith Möllers.

in Slovenia provided valuable lessons with regard to negotiating the Agricultural Chapter with the European Commission (EC). In the following, the main findings for accelerating both, rural and agricultural sector development, and smoothing the negotiation of the agricultural chapter are summarised:

Small-scale family farms. A considerable number of farms are quite small, with three hectares or less. Few family farms exceed ten hectares.

Dairy farms. Dairy production plays an important role in Croatia's agricultural sector; with roughly 25% of total revenue, it is the largest sub-sector. Further, 95% of dairy cows are kept in family farms, with an average of about three heads per farm. The DRC analysis was based on a small sample of farms which were divided into two groups: those with less than 16 cows (four on average), and those with 16 or more (an average of 47). The DRC value for the former was 3.0, and the latter was 2.2. These high figures indicate that all dairy farmers must greatly improve their efficiency. Compared to Slovenian dairy farmers, Croatian milk producer use feed, especially feed concentrates, in an inefficient way. Improvements can especially be made by investing in better breeds and cowsheds. Also, investments will be needed for reaching EU hygiene standards in the coming years. This will put an additional burden on dairy farms for staying in business.

Food processing chain. Analysing revealed comparative export advantage indicators of agro-food commodities showed that the processing industry is rather efficient; the deeper the level of processing the more competitive Croatia's food sector becomes on EU markets. This observation is made for trade in agro-food in general as well as in dairy products.

Types of farms. Seventy-five per cent of all farms surveyed are part-time farms. Based on the share of receipts from non-farm activities, we grouped the part-time farms into those with 10-50% (called "complementing") and those with more than 50% (called "subsidiary"). Twelve per cent of the farms in the sample are complementing farms and 63% are subsidiary farms. Overall, non-farm income accounts for over a third of the total income over all types of farms.

Professional training, education & farm-related topical information. Successful farm and non-farm businesses require improved access to appropriate professional training, education and topical information. Compared to Slovenia, professional training in agriculture does not play a big role in rural Croatia. The average level of educational attainment is not fully satisfactory, with only 36% of farm family members having attended primary school and 46% having had secondary school education.

Family farm income. Even if most part-time farms derive only a supplementary income (less than 50%) from farm activities, their livelihood is interwoven, to a certain extent, with their (semi-)subsistence farm activities. Especially when non-farm activities are badly paid and insecure, farming activities are maintained as a fallback option. This makes it quite unlikely that the subsidiary farms will give up farming in the medium-term. Full-time farms are economically much better off and more productive when it comes to cultivating their land: the average annual per capita income within full-time farm families is € 7,675, followed by part-time farms with € 6,386, and subsidiary part-time farms trail far behind with € 4,718.

Farm returns to land and labour. Especially full-time farms show higher returns to land and used labour, probably due to a more intensive production, particularly in the animal production, and also a better endowment with physical capital: Their economic performance is reflected by, on average, four times higher incomes per hectare compared to small-scale subsidiary farms. Nevertheless, a poorly-functioning land market restrains land consolidation and thus productivity. Farm labour productivity presently appears to be insensitive to education levels. However, non-farm labour returns increase along with increased years of education. Thus, the importance of professional training and overall educational attainment cannot be overemphasised in the process of a shrinking farm sector and a non-farm sector that becomes more decisive for rural livelihoods.

Farm expansion, farm exit and diversification. Approximately one-tenth of all surveyed farms intend to expand their farming activities within the next five years, and roughly the same share claim they plan to give up farming. Determinants that increase the chance that a farm will be expanded are a positive perception about the capability of the farm to adapt and good infrastructural links, as well as access to land. An exit from farming becomes more probable if the farm is located closer to an urban centre (here, Zagreb), which may facilitate access to lucrative non-farm activities. Also, negative attitudes towards farming, unfavourable farm prospects and no access to subsidies work in the same direction. However, a significant share of farm families (almost 40%, including hobby farmers) plans to take steps towards diversification and non-farm incomes. If individual employment choices are considered, pluriactivity, i.e. the combination of farm and non-farm work, can be seen as a first step out of farming: 25% of pluriactive people intend to concentrate on non-farm work in the future, and those who leave the farming sector prefer not to return. However, even if (semi-)subsistence farms disappear gradually, developments in Slovenia show that hobby farming could become a non-negligible factor keeping small farms alive. Almost 20% of

the family farms plan to continue at a (semi-)subsistence level or as hobby farmers. This means that in the medium-term these farms will be relatively insensitive to policy measures directed towards structural change.

Expectations from EU accession. The attitudes of Croatian farmers towards the anticipated EU accession are largely negative. There are very few positive aspects, such as law and order that are expected. Among the negative aspects, the one most frequently mentioned was that farmers consider EU regulations as a threat to the survival of their farms. Farmers also fear the prospect of becoming uncompetitive due to open markets and their small-scale farming structure. These fears, however, do not prompt the Croatian farmers to apply for the Instrument for Pre-accession Assistance (IPA), which co-finances farm investments and investments to upgrade community standards. The Slovenian example shows that the opinion towards the EU and its agricultural policy could improve as soon as the (financial) benefits become obvious to the farmers. Therefore, the negative attitude could also be seen as a sign of lacking information.

Policies versus politics in the negotiation process of the Agricultural Chapter. One general important lesson from the Slovenian accession experience is that the harmonisation of legislation is not only an issue of adopting the relevant laws and regulations. It is also about the harmonisation of administration and policies. Although the EU clearly carries more weight in the negotiation when it comes to influencing the content of the Agricultural Chapter, it is important that the national interest groups formulate their policy objectives very clearly, set aside national political concerns, and act in concert. Consequently, the negotiation team must have a common strategy and rely on the same background information for the negotiations.

Policy pointers

The following summarises the policy recommendations derived from the above findings.

Recommendation 1:

Balanced structural change in agriculture

Agricultural sector measures and in particular agricultural subsidies alone should not constitute the public policy portfolio for rural regions. In Croatia this is recognised, but traditional sector measures still play an important role. Small-scale farm structures lacking the prospect of future prosperity are the main

problem in Croatia. Therefore, structural policies should be at the heart of sector-related policies. With that in mind, seven fields of actions are critical:

Factor market mobility. Land markets are not fully functional. A careful land consolidation policy would therefore be helpful. Inter-sectoral labour mobility is already a reality. Nevertheless, professional training and education is crucial, particularly for successful participation in the non-farm sector. This implies the need to improve access to education and professional training at all age levels. It may also somewhat dampen if not reverse the rural-urban migration trend to some degree. Croatian farmers hardly participate in the capital (credit) market. Whether this is due to reluctance on the farmers' side or a lack of financial intermediaries specialising in micro-credit requires further analysis. In any case, access to credit is important for structural adjustment. Badly designed credit schemes can become a burden on public budgets, therefore, any endeavour in this direction needs to draw on successful experience from other countries.

Farm enterprise development. Full-time farmers (25% of the sample) do relatively well compared to part-time farmers. Eleven per cent of the surveyed farm families intend to expand farming within the next five years. This should be the main target group for the extension service and investment-related policy measures. If investments are credit-financed, adequate business plans are crucial and care should be taken not to put the farms at too much risk if the investment fails. Innovative credit and micro-credit schemes may be an option here.

Dairy farming. The analysis of Croatian dairy farming has revealed that it is not competitive at present. Certainly the larger dairy farms are somewhat more competitive. However, improving the milk collection infrastructure and investing in dairy processing (though presently rather efficient compared to primary production) could improve the competitiveness of the larger units at least. If Croatia wants to maintain its dairy sector and allow for the prosperity of dairy farmers, the output per unit of land and labour must considerably grow. This can only be attained through better management through e.g. improved extension work and investment into the production structure. However, introducing the milk quota system of the EU in Croatia is not recommendable for now. This would be a burden on the budget, as it implies heavy investment in the administration and would last only for some years.

Farm subsidies. A high level of farm subsidies paid from EU funds is certainly one of the goals of the negotiations. Yet, when choosing finance measures, it is important to avoid common pitfalls. Economic theory provides two rationales for government intervention: correction of market failures and income redistribution. However, many subsidies distort markets. Often they are not precisely enough

targeted and, because of this, tend to consolidate structures instead of promoting structural change. Generally, all farm subsidies should be brought in line with EU measures as early as possible, which means that if direct farm support is desired, Croatia should opt for direct payments which are decoupled as much as possible. Direct payments have proven useful for securing certain income levels, for example in Slovenia. But compensation payments which aim at tidying over the adjustment pressures should be designed according to a clearly-defined transitional period; i.e. such payments should not be made permanent since their distortion potential would increase and lead to a slowdown of structural change.

Exit schemes for farmers. Only about 10% of the farms want to exit farming within the next five years, while 45% of the farms intend either to retain their present state of development or continue as hobby farmers. However, for successful structural change, farm exit is crucial as a driver of farm development. Incentives are needed to convince farmers to give up farming and release their land to those who are willing to expand. Therefore, (semi-)subsistence and hobby farms should be excluded from regular farm subsidy programmes. Positive incentives for farm exit could be set, for example by an early retirement scheme as offered within the EU, or other monetary or social benefits that are offered under the condition of giving up farming.

Food processing sector. Generally, the question applies, and could not be finally answered in this study, whether the lack of competitiveness at farm level can be compensated somewhat at processing level. It is likely, however, that this assumption is true to some degree, as with increasing depth of processing Croatia's food sector becomes more competitive on EU markets. However, this issue should be looked into more closely in order to further accelerate structural change in the agricultural sector.

Agricultural extension service. The manpower and background of the extension service in Croatia is sub-optimal and needs to be strengthened substantially in order to come to terms with the challenge of structural change in the Croatian farm sector. As of 2007, 215 extension workers (thereof 198 agricultural specialists) within the Croatian Agricultural Extension Institute (CAEI, founded in 1997) potentially service 448,000 thousand family farms. This means every extension worker is responsible for more than 2,000 farms. Obviously, the overwhelming task ahead requires many more qualified extension workers. These ought not to be solely experts in agronomy, but also agricultural economists and persons experienced in regional rural development. Furthermore, to advise interested farmers in the correct application procedures, the development of business plans, and the assessment of associated risks, these workers will need professional

training with regard to the various national and/or EU investment schemes that are available to the farmers.

Recommendation 2:

The wider rural economy

As stated earlier, rural development is a spatial challenge. Apart from sectoral policies for agriculture and agro-food processing, policies addressing all rural sectors are at the heart of sustainable rural development. Five actions are important in this area:

Rural employment opportunities. Farming can provide a prosperous future for many, but not for all. For those who want to diversify into the rural non-farm sector, professional training and education is crucial. Hence, it is necessary to provide opportunities to improve human capital at all age levels. Unemployment is still rather high at around 11% of the workforce. This situation, combined with the relatively low level of education among the farming population, dampens the prospects of non-farm employment. Increasing the employment rate and improving the employability of the labour force must therefore be a key objective of social policy and labour market policy in Croatia. In order to increase employment of those with a low level of education, or of those with knowledge and skills that are not in demand in the labour market, it is necessary to continue shifting the emphasis to active forms of assistance, i.e. training and education in accordance with changing labour market needs. Policies that enable farmers to find secure and lucrative employment in the non-farm sector promote exit options as shown above.

Economic development. Rural regions are heterogeneous. Therefore, little scope exists for generalist recommendations with regard to rural economic development policies. A wide variety of policy interventions may be required which should be tailored to the local necessities. Decentralised and participatory decision-making may be necessary to identify the right policy mix for each region. In this context, the promotion of local action groups (LAGs) à la LEADER (= *Liaison entre actions de développement de l'économie rurale*) prior to the EU accession (as done in Poland or Romania) can greatly facilitate regional policy decision-making. The challenge in this context is to ensure that more decentralised decision-making does not compromise the government's distributional objectives. Small-scale farm families in particular may not benefit from decentralisation since it is possible that better-off farmers will be better placed to take advantage of decentralised funding and implementation mechanisms, or that within a given

community the priorities of the local economic or political elite are more effectively articulated than those of the marginalised population groups.

Cross border cooperation & networking. In the context of regional rural development, the work of the Regional Rural Development Standing Working Group (RRD SWG) needs to be pointed out (<http://www.seerural.org>). The RRD SWG was founded based on a common wish to establish an informal organisation, consisting of representatives of those institutions responsible for rural development in the respective countries and territories of South Eastern Europe (SEE), to work on rural development based on sustainable principles, through networking and permanent cooperation between all stakeholders of rural development in the region. By the end of 2008, Croatia has joined this network.

Hard infrastructure and institutional environment. Although not at the heart of this analysis, experience shows that hard infrastructure (such as roads, markets and public transport, etc.) and information technologies (IT, such as telephone, internet etc.) are decisive when comparing successful regions to those lagging behind. Therefore, investments in this area should generally be of high effectiveness. Apart from regional investments in infrastructure and IT, internet access for farm households could also be supported explicitly and thus give the owners the opportunity to be informed about markets and policies relevant to them.

Awareness campaigns. The rural population feels generally insecure when facing the anticipated changes that will come with EU accession. Awareness campaigns could help with both reducing fears and informing farmers and the rural population about how they can efficiently adapt to meet the demands of changing economic structures. In the farming sector, the extension service should be closely involved in such activities, including appropriate training offers for extension workers.

Recommendation 3:

What can be learnt from Slovenia's EU negotiation process

In many aspects, the situation of Croatia vis-à-vis the EU and the country's aspirations with regard to negotiating the Agricultural Chapter is similar to that of Slovenia some years ago. Key recommendations were therefore derived from interviewing the Slovenian negotiation team and associated experts. Three actions are particularly necessary:

Negotiation tactics & networking. Sound and fair negotiation tactics and networking are everything. It is very important to clearly define policy objectives and express demands for rural development funds. Negotiation tactics refer to a clear strategy,

based on analytical results and political considerations, in terms of what the negotiation team should achieve, including minimum and maximum outcomes. The tactics should thus aim for a pre-defined outcome of the negotiation process. The strategy and goal ought to be backed-up by a coherent statistical data base and analytical work on simulations of possible solutions and their implications upon which the networking negotiation team and resource persons can rely. Regular consultations on results and on open questions in the negotiation process are important. It is therefore highly recommended that all relevant policy stakeholders agree on the anticipated negotiation outcome and work together to reach it. International networking in the RRD SWG may also be useful in terms of learning from other accession countries or NMS with regard to their negotiation experience.

Introduce the main lines of the CAP soon. Based on the experience of Slovenia, Croatia should strive to introduce the main lines of the reformed CAP before the final stage of negotiations, also by utilising the national budget. This not only signals the EU that Croatia is ready to accede, but also provides the relevant policy-makers some leeway to gain experience prior to accession, which generally allows smoother adaptation. In addition to harmonising the legislation and adoption of relevant laws and regulations, particularly important are the efficient implementation and harmonisation of institutions and policies. When implementing CAP measures, it is important to assure the participation of agricultural extension services from the very beginning.

Rural development funds. Similar to Slovenia, it makes sense for Croatia to place a strong focus on a high level of rural development funds. Rapidly equalising the level of payments with other EU countries could also be desirable in terms of income goals, although the trade-off with structural goals might be considerable. Therefore, contrary to Slovenia, Croatia would be well-advised to concentrate not so much on less-favoured area payments, but rather on measures related to regional development that encompass the wider rural sector, i.e. including non-farm issues. Generally, it is important to ensure that the chosen policy measures are not contradictory. Since the cause and effect of certain measures are not always identifiable, and results may only appear in the medium- and long-term, indicators that fairly capture policy impacts should be defined.

Sažetak (Croatian executive summary)²

Hrvatska je vrlo blizu tome da zadovolji zahtjeve koji su potrebni da postane članica Europske unije (EU). Dana 06. veljače 2008. povjerenik Europske unije za proširenje, Olli Rehn, rekao je kako pristupni pregovori s hrvatskom protječu dobro. Kao i u svim novim zemljama članicama (NMS), poljoprivreda i lanac proizvodnje hrane ključna su pitanja unutar pregovora. Uspješno pregovaranje zahtijeva osobno poznavanje zadane teme, uključujući socijalno-ekonomsku situaciju, te strahove i strategije interesne grupe, posebice malih poljoprivrednika. Ovo izvješće nastoji zatvoriti neke rupe u znanju, tako da se ustanove dinamika ruralnog razvoja Hrvatske, struktura imanja, kao i poljoprivredna i ruralna politika. Na osnovi komponente empirijskog istraživanja, izvješće pruža jedinstven uvid u strukturalnu promjenu dvaju tipičnih ruralnih regija u Hrvatskoj. Poseban naglasak stavit će se na društveno-ekonomski razvoj u okvirima poljoprivrednoga gospodarstva. Mišljenja, percepcije i strategije poljoprivrednika pred izazovom su kompetitivne analize hrvatskoga poljoprivrednog sektora, posebice kada je riječ o uzgoju goveda radi mlijeka. Mogućnosti i poteškoće hrvatskih ruralnih regija izložene su u odnosu na naučeno iz iskustva slovenskih pristupnih pregovora. Ovaj sažetak daje pregled glavnih nalaza i preporuka. Preporuke su u skladu s preporukama OECD-a kada je riječ o stavljanju naglaska na regije radije nego na sektore i na ulaganja radije nego na subvencije u politici ruralnoga razvoja. Preporuke se odnose na dva važna politička područja: (1) politika razvoja, strukturalne prilagodbe i raznovrsnosti poljoprivrede te (2) teritorijalni pristupi politici kako bi se stvorila i osigurala radna mjesta (šira ruralna ekonomija).

Glavni nalazi

Nalazi za Hrvatsku proizlaze iz analize podataka sekundarnoga sektora, kao i mikroekonomskih podataka s oko 140 poljoprivrednih gospodarstava pregledanih u 2007. godini. Nadalje, analiza troškova domaćih resursa (DRC) istražila je konkurentnost sektora malih proizvođača mlijeka u Hrvatskoj. Stručni razgovori

² Autori sažetka su Gertrud Buchenrieder i Judith Möllers.

u Sloveniji pružili su dragocjene smjernice za pregovore o Poglavlju o poljoprivredi s Europskom komisijom (EC). U dijelu koji slijedi sažeti su glavni nalazi koji doprinose ubrzanju razvoja ruralnoga i poljoprivrednog sektora, kao i tome da pregovori o Poglavlju poljoprivrede teku bez zastoja:

Male obiteljske farme. Znatno broj farmi prilično je malen, veličine tri hektara ili manje. Tek nekoliko obiteljskih farmi su veće od deset hektara.

Farme za proizvodnju mlijeka. Proizvodnja mlijeka ima važnu ulogu u hrvatskome poljoprivrednom sektoru; otprilike 25% udio u ukupnom prihodu čini je najvećim podsektorom. Nadalje, 95% mliječnih krava drže se na obiteljskim farmama, s prosjekom od oko tri grla po farmi. DCR analiza temelji se na malom uzorku farmi podijeljenih u dvije grupe: one s manje od 16 krava (četiri u prosjeku) i one sa 16 ili više krava (47 u prosjeku). Vrijednost DCR-a u prvom slučaju je 3.0, a u drugom 2.2. Ovi visoki iznosi upućuju na to da svi proizvođači mlijeka moraju u velikoj mjeri unaprijediti svoju učinkovitost. U usporedbi sa slovenskim proizvođačima mlijeka, hrvatski proizvođači hranu, a posebice koncentrate hrane upotrebljavaju na neučinkovit način. Do poboljšanja može doći osobito ulaganjem u bolje pasmine i staje. Osim toga, bit će potrebna ulaganja i za postizanje higijenskih standarda EU u nadolazećim godinama. To će farmama za proizvodnju mlijeka uzrokovati dodatno opterećenje za opstanak u poslu.

Lanac proizvodnje hrane. Analiza usporedivih indikatora izvoznih prednosti za poljoprivreno-prehrebene proizvode otkrila je da je industrija proizvodnje hrane u većoj mjeri učinkovita; točnije, što je veća razina prerađenosti proizvoda veća je konkurentnost hrvatskog prehrambenog sektora na tržištima EU. Spomenuto zapažanje odnosi se na trgovinsku razmjenu u poljoprivredno-prehrebenu sektoru kao i za mliječne prerađevine.

Vrste farmi. Čak 75% svih istraženih farmi vode se kao dodatni izvor prihoda. S obzirom na količinu primanja od za farmu nevezanih djelatnosti, podijelili smo ove farme na one s 10% do 50% ("komplementarne") i na one s više od 50% ("pomoćne"). Ukupno 12% farmi iz uzorka jesu komplementarne farme, dok su njih 63% pomoćne. Sve u svemu, prihod od za farmu nevezanih djelatnosti obuhvaća više od jedne trećine ukupnoga prihoda svih vrsta farmi.

Profesionalno usavršavanje, naobrazba i uz farmu vezane informacije. Uspješna farma i uz farmu nevezano poslovanje zahtijeva poboljšani pristup adekvatnome profesionalnom usavršavanju, izobrazbi i stručnim informacijama. U usporedbi sa Slovenijom, profesionalno usavršavanje u poljoprivredi nema važnu ulogu u ruralnoj Hrvatskoj. Prosječna razina naobrazbe nije u potpunosti

zadovoljavajuća: samo 36% članova obitelji na farmi pohađali su osnovnu školu te 46% njih su sa srednjoškolskom naobrazbom.

Prihod obiteljskih farmi. Čak i ako većina farmi kao dodatan izvor prihoda daju samo dopunski prihod (manje od 50%) od djelatnosti na farmi, njihovo je održavanje u određenoj mjeri isprepletano s njihovim (polu-)opstojećim djelatnostima vezanim uz farmu. Posebice kada su uz farmu nevezane djelatnosti loše plaćene i nesigurni poslovi, poljoprivredne djelatnosti se tretiraju kao rezervna djelatnost. Vrlo je malo vjerojatno da će pomoćne farme odustati od uzgoja u prijelaznom razdoblju. Farme s punim radnim vremenom ekonomski su isplativije i produktivnije kada je riječ o obrađivanju zemlje: prosječni godišnji prihod *per capita* na obiteljskim farmama s punim radnim vremenom iznosi 7,675 €, iza čega slijede povremene farme s 6,386 €, dok pomoćne farme prilično zaostaju s 4,718 €.

Farma se vraća zemlji i radu. Kod farmi s punim radnim vremenom posebno se vidi povratak zemlji i radnoj snazi, osobito u uzgoju životinja, kao i bolje osiguranje fizičkim kapitalom. Njihova ekonomska performansa odražava u prosjeku četiri puta veći prihod po hektaru u usporedbi s malim pomoćnim farmama.

Unatoč tome, loše funkcioniranje tržišta zemljom ograničava konsolidaciju zemlje te na taj način i samu proizvodnju. Čini se da je produktivnost radne snage na farmi neosjetljiva na razinu naobrazbe. Međutim, povrat radne snage nevezane uz farmu povećava se s duljinom trajanja izobrazbe. Tako se ne može dovoljno istaknuti važnost profesionalnog usavršavanja i cjelokupne naobrazbe u postupku sužavanja sektora farmi i sektora koji nije vezan uz farmu, a koji postaje sve važniji za ruralni opstanak.

Ekspanzija farme, odustajanje i diversifikacija. Otprilike jedna desetina istraženih farmi namjerava proširiti svoje djelatnosti u roku od sljedećih pet godina, a jednako toliko njih planira odustati od poljoprivrede. Odrednice koje povećavaju šansu za proširenje farme jesu pozitivna percepcija mogućnosti farme da se prilagodi te dobre infrastrukturne veze, kao i pristup zemlji. Napuštanje određene djelatnosti postaje vjerojatnije ukoliko je farma smještena u blizini urbanog centra (u ovom slučaju Zagreba), što može olakšati pristup drugim unosnim djelatnostima. Osim toga, negativan stav prema poljoprivrednoj proizvodnji, nepovoljni izgledi i nedostupnost subvencija vode u tom smjeru. Međutim, značajan dio obitelji s farmama (gotovo 40%, uključujući farmere hobiste) planira poduzeti određene korake prema diversifikaciji i za farmu nevezanim prihodima. Ako se u obzir uzmu individualni izbor zapošljavanja, pluriaktivnost, tj. kombinacija rada na farmi i izvan nje, može se smatrati prvim korakom odustajanja: 25% pluriaktivnih ljudi namjeravaju se u budućnosti usredotočiti na rad izvan farme, a oni koji napuste taj sektor radije se u njega ne vraćaju. Čak i ako (polu-)opstojne

farme postupno nestanu, razvoj u Sloveniji pokazuje kako poljoprivreda iz hobija može postati faktor koji ne treba zanemariti pri održavanju malih farmi na životu.

Gotovo 20% obiteljskih farmi namjerava nastaviti na (polu-)opstojnoj razini ili kao farmeri hobisti. To znači da će u prijelaznom razdoblju te farme biti relativno neosjetljive na političke mjere usmjerene prema strukturalnim promjenama.

Očekivanja od pristupa EU. Stavovi hrvatskih poljoprivrednika prema očekivanom pristupu EU većinom su negativni. Postoji i nekoliko pozitivnih aspekata, kao što su primjerice zakon i red, koji se očekuju. Među negativnim aspektima najčešće se spominje to da poljoprivrednici regulative EU smatraju prijetnjom za opstanak svojih farmi. Također se boje da bi mogli postati nekonkurentni zbog otvorenog tržišta i svoje strukture malih farmi. Ti strahovi, međutim, ne potiču hrvatske poljoprivrednike da se prijave za Instrument pretprijetne pomoći (IPA) koji sufinancira ulaganje u farme i ulaganja radi poboljšanja standarda zajednice. Slovenski primjer pokazuje kako bi se mišljenje o EU i njezinoj poljoprivrednoj politici moglo popraviti čim (novčane) pogodnosti poljoprivrednicima postanu razumljive. Sukladno tome, negativan stav može se također smatrati znakom nedostatne informiranosti.

Odnos smjernica i politika u procesu pregovora o poglavlju poljoprivrede. Općenito važna lekcija iz slovenskoga pristupnog iskustva jest to da harmonizacija zakonodavstva nije samo pitanje usvajanja odgovarajućih zakona i propisa. Riječ je također o harmonizaciji administracije i smjernica. Iako je na EU veći teret u pregovorima, kada je riječ o utjecaju na sadržaj poglavlja o poljoprivredi važno je da nacionalne interesne grupe jasno formuliraju ciljeve svoje politike, da ostave po strani nacionalna politička pitanja i djeluju u skladu s time. S obzirom na to, tim za pregovore mora imati poznatu strategiju i u pregovorima se mora oslanjati na iste pozadinske informacije.

Pokazatelji politike

Ovdje su sažete preporuke smjernica koje proizlaze iz gore spomenutih nalaza.

Preporuka 1:

Upravnotežena strukturalna promjena u poljoprivredi

Mjere poljoprivrednoga sektora, a posebice same poljoprivredne subvencije, ne bi trebale sačinjavati javni politički portfelj za ruralne regije. To je u Hrvatskoj prepoznato, međutim mjere tradicionalnoga sektora još uvijek imaju važnu ulogu.

Struktura malih farmi kojima nedostaje perspektiva budućeg prosperiteta glavni je problem u Hrvatskoj. Stoga, strukturalne politike bi trebale biti u središtu politika vezanih uz taj sektor. U tom smislu postoji nekoliko kritičnih polja djelatnosti:

Faktor mobilnosti tržišta. Tržište zemljištem nije potpuno funkcionalno. Pomna politika konsolidacije zemljišta stoga bi bila od velike pomoći. Međusektorska mobilnost rada već je realnost. Unatoč tome, profesionalno usavršavanje i izobrazba su ključni, posebice za uspješno sudjelovanje u sektoru nevezanome uz farmu. Ovo podrazumijeva potrebu da se poboljša dostupnost profesionalnog usavršavanja i izobrazbe za sve dobne skupine. To također može donekle ublažiti, ako ne i u određenoj mjeri promijeniti, ruralno-urbani trend migracije. Hrvatski poljoprivrednici jedva da sudjeluju na tržištu kapitala (krediti). Bilo da je to zbog neodlučnosti od strane poljoprivrednika ili zbog nedostatka financijskih posrednika specijaliziranih za mikrokredite, potrebna je daljnja analiza. U svakom slučaju, dostupnost kredita važna je za strukturalnu prilagodbu. Loše organizirane kreditne sheme mogu postati teretom za proračun, stoga se svaki napor u tom smjeru mora temeljiti na uspješnim iskustvima iz drugih zemalja.

Razvoj poljoprivrednog poduzetništva. Poljoprivrednici koji žive isključivo od poljoprivrede (25% uzorka) relativno su uspješni u usporedbi s onima kojima je to dodatan izvor prihoda. Jedanaest posto istraženih poljoprivrednih obitelji namjeravaju proširiti posao u roku od pet godina. To bi trebao biti glavna ciljana grupa za savjetodavnu službu i politiku mjera vezanih za ulaganja. Ukoliko se ulaganja financiraju kreditom, prikladni poslovni planovi su ključni faktor, a posebnu pažnju treba posvetiti tome da se farme ne izlažu prevelikom riziku ako investicija propadne. Inovativni kredit i mikrokreditne sheme mogu predstavljati rješenje u ovom slučaju.

Proizvodnja mlijeka. Analiza hrvatske proizvodnje mlijeka otkrila je da ona trenutačno nije konkurentna. Veće mliječne farme zasigurno su nešto konkurentnije. Međutim, poboljšanje infrastrukture sakupljanja mlijeka i ulaganje u obradu mlijeka (iako trenutačno u većoj mjeri učinkovitije od primarne proizvodnje) moglo bi pridonijeti konkurentnosti barem većih jedinica. Ukoliko Hrvatska želi održati mljekarski sektor, izlaz po jedinici zemlje i rada mora se znatno povećati. To se može provesti jedino uz pomoć boljega menadžmenta, primjerice kroz povećan savjetodavni rad i ulaganje u strukturu proizvodnje. Kako bilo, trenutačno se ne preporučuje uvođenje sustava mljekarskih kvota kao u EU. To bi predstavljalo opterećenje za proračun, budući da podrazumijeva velika ulaganja u administraciju, a bilo bi u funkciji tek nekoliko godina.

Poljoprivredne subvencije. Visoka razina poljoprivrednih subvencija koja se uplaćuje iz fondova EU zasigurno je jedan od ciljeva pregovora. Ipak, pri odabiru financijskih mjera važno je izbjeći uobičajene klopke. Ekonomska teorija daje dvije logične podloge za intervenciju vlade: korekciju tržišnih promašaja i redistribuciju dohotka. Međutim, mnoge subvencije narušavaju tržišta. One često nisu dovoljno precizno usmjerene te stoga nastoje konsolidirati strukture umjesto da promiču strukturalne promjene. Općenito, sve poljoprivredne subvencije trebale bi biti usklađene s mjerama EU što je prije moguće, što znači da ako se želi direktno podržati poljoprivreda, Hrvatska bi trebala odabrati direktne uplate koje su rasparene što je više moguće. Direktne uplate su se pokazale korisnima za osiguravanje određenih razina prihoda, primjerice u Sloveniji. Međutim, kompenzacijske uplate koje ciljaju na povećanje za vrijeme pritiska prilagodbe trebaju biti uređene u skladu s jasno određenim prijelaznim razdobljem, tj. takve uplate ne bi trebale postati trajne, budući da bi se njihov potencijal narušavanja povećao i doveo do usporavanja strukturalne promjene.

Izlazne sheme za poljoprivrednike. Samo 10% farmi želi prestati s radom u sljedećih pet godina, dok njih 45% namjeravaju zadržati postojeće stanje napredovanja ili pak nastaviti s poljoprivredom iz hobija. Međutim, za uspješnu strukturalnu promjenu izlaz je ključan kao pokretač razvoja farme. Poticaji su potrebni kako bi uvjerali poljoprivrednike da odustanu od te djelatnosti i prepuste svoju zemlju onima koji su se voljni širiti. Stoga bi (polu-)opstojne farme i farme iz hobija trebale biti isključene iz redovitih programa za subvencioniranje farmi. Trebalo bi postaviti pozitivne poticaje za izlaz iz te djelatnosti, primjerice pomoću plana za prijevremenu mirovinu, kao što je to slučaj u EU, ili drugih novčanih ili socijalnih pogodnosti koje se nude pod uvjetom da se odustane od farme.

Sektor proizvodnje hrane. Općenito gledano, nameće se pitanje (na koje nema konačnog odgovora u ovoj studiji) da li se nedostatak konkurentnosti na razini farmi može na bilo koji način kompenzirati pri preradi. Po svoj prilici ova pretpostavka može biti istinita do određene granice, tj. uvažavajući nalaz da s višom razinom obrade proizvoda hrvatski prehrambeni proizvodi postaju konkurentniji na tržištima EU. Međutim, ovo pitanje bi trebalo pomnije razmatrati kako bi se dodatno ubrzale strukturalne promjene u poljoprivrednom sektoru.

Poljoprivredna savjetodavna služba. Ljudstvo i podrška savjetodavne službe u Hrvatskoj je ispod optimalnoga i treba je dovoljno ojačati da može odgovoriti na izazov strukturalne promjene u hrvatskome sektoru farmi. Od 2007. godine, 215 savjetodavnih djelatnika (od čega 198 poljoprivrednih stručnjaka) u sklopu Hrvatskoga poljoprivrednog savjetodavnog instituta (CAEI, osnovan 1997.) potencijalno opslužuje 448.000 obiteljskih farmi. To znači da je svaki savjetodavni

djelatnik odgovoran za više od 2.000 farmi. Očito je kako silan zadatak koji treba obaviti zahtijeva mnogo više kvalificiranih savjetodavnih djelatnika: oni bi trebali biti ne samo agronomski stručnjaci, nego također i agronomski ekonomisti i osobe s iskustvom u regionalnome ruralnom razvoju. Nadalje, za savjetovanje poljoprivrednika o pravilnim postupcima prijave, o razvoju radnih planova i procjene povezanih rizika, ti će djelatnici trebati profesionalno usavršavanje, s obzirom na različite nacionalne i/ili sheme ulaganja EU koje su poljoprivrednicima dostupne.

Preporuka 2:

Šira ruralna ekonomija

Kao što je prije navedeno, ruralni razvoj je prostorni izazov. Osim sektorskih smjernica za poljoprivredu i obradu agrohrane, smjernice za sve ruralne sektore su u srcu održivoga ruralnog razvoja. Na ovome području ima pet važnih postupaka:

Mogućnosti ruralnog zapošljavanja. Rad na farmi može osigurati blistavu budućnost mnogima, ali ne i svima. Za one koji žele diversifikaciju u drugi sektor neophodni su profesionalno usavršavanje i izobrazba. Dakle, potrebno je osigurati mogućnosti za unapređivanje ljudskoga kapitala u svim dobnim skupinama. Nezaposlenost je još prilično visoka, iznosi oko 11% radne snage. Ta situacija, u kombinaciji s relativno niskom razinom naobrazbe među poljoprivrednom populacijom, smanjuje mogućnosti zapošljavanja izvan farme. Povećanje stope zapošljavanja i poboljšanje zaposlenosti radne snage mora stoga biti ključni cilj socijalne politike i politike tržišta rada u Hrvatskoj. Kako bi se povećala zaposlenost onih s nižim stupnjem naobrazbe ili onih čija znanja i vještine nisu traženi na tržištu rada, potrebno je nastaviti s prebacivanjem naglaska na aktivne oblike podrške, tj. na usavršavanje i izobrazbu u skladu s promjenama na tržištu rada. Smjernice koje omogućuju poljoprivrednicima da pronađu sigurno i primamljivo zaposlenje u drugome sektoru promiču mogućnosti izlaza, kako je gore prikazano.

Ekonomski razvoj. Ruralne regije su heterogene, stoga je malo prostora za preporuke vezane uza smjernice ruralnoga gospodarskog razvoja. Može biti potreban širok spektar intervencija koje treba prekrojiti da odgovaraju lokalnim potrebama. Decentralizirano i participativno donošenje odluka moglo bi biti potrebno za identifikaciju odgovarajuće kombinacije smjernica za pojedinu regiju. U tom kontekstu, promocija lokalnih aktivnih grupa (LAG) à la LEADER (= *Liaison entre actions de développement de l'économie rurale*) prije

pristupanja EU (kao što je učinjeno u Poljskoj ili Rumunjskoj) može uvelike olakšati donošenje odluka u okviru regionalne politike. U ovom kontekstu izazov je osigurati da decentraliziranije donošenje odluka ne kompromitira distributivne ciljeve Vlade. Male obiteljske farme mogu neprofitirati od decentralizacije jer je moguće da će bolji poljoprivrednici imati bolji položaj da iskoriste decentralizirana sredstva i implementaciju mehanizama, ili da su unutar dane zajednice prioriteta lokalne ekonomske ili političke elite učinkovitije artikulirani od onih u marginaliziranim populativnim grupama.

Međugranična suradnja i umrežavanje. U kontekstu regionalnoga ruralnoga razvoja treba istaknuti Regional Rural Development Standing Working Group (RRD SWG) (<http://www.seerural.org>). RRD SWG je formirana sa željom da se osnuje neformalna organizacija sastavljena od predstavnika onih institucija koje su odgovorne za ruralni razvoj u svakoj pojedinoj zemlji i prostoru Jugoistočne Europe (SEE), da bi radili na ruralnome razvoju na temelju održivih principa, kroz umrežavanje i stalnu suradnju između svih dionika ruralnoga razvoja u regiji. Krajem 2008. godine, i Hrvatska se priključila spomenutoj mreži.

Čvrsta struktura i institucionalno okruženje. Iako se ne nalazi u srcu ove analize, iskustvo pokazuje da su čvrsta infrastruktura (poput cesta, tržišta i javnog prijevoza) i informatičke tehnologije (IT, poput telefona, interneta itd.) odlučujući faktor kada se uspoređuju uspješne regije s onima koje zaostaju. Ulaganja u ovo područje stoga bi općenito trebala imati visok učinak. Osim regionalnih ulaganja u infrastrukturu i IT, pristup poljoprivrednih domaćinstava internetu također bi trebalo eksplicitno podržati te na taj način vlasnicima dati mogućnost da budu obaviješteni o tržištima i smjernicama koji se na njih odnose.

Kampanje osvješćivanja. Ruralna populacija općenito se osjeća nesigurno kada se suočava s predviđenim promjenama koje će uslijediti pristupanjem EU. Kampanje osvješćivanja mogle bi biti od pomoći kod reduciranja straha te informiranja poljoprivrednika i ruralne populacije o tome kako se mogu učinkovito prilagoditi da zadovolje potrebe gospodarskih struktura koje se mijenjaju. U sektoru farmi, savjetodavna služba trebala bi biti tijesno povezana s takvim aktivnostima, uključujući i prikladne ponude usavršavanja za savjetodavne djelatnike.

Preporuka 3:**Što se može naučiti od slovenskoga procesa pregovora s EU**

U mnogočemu je hrvatska situacija *vis-à-vis* EU i aspiracija države, s obzirom na pregovore o Poglavlju poljoprivrede, slična slovenskoj od prije nekoliko godina. Ključne preporuke stoga proizlaze iz razgovora sa slovenskim pregovaračkim timom i pridruženim stručnjacima. Osobito su neophodne ove tri radnje:

Pregovaračka taktika i umrežavanje. Ispravna i pravedna pregovaračka taktika i umrežavanje su najvažniji. Vrlo je važno jasno definirati političke ciljeve i izraziti zahtjeve prema fondovima za ruralni razvoj. Pregovaračka taktika se odnosi na jasnu strategiju koja se temelji na analitičkim rezultatima i političkim razmatranjima u smislu onoga što pregovarački tim treba postići, uključujući minimalne i maksimalne rezultate. Taktika bi tako trebala biti usmjerena unaprijed definiranim rezultatima pregovaračkoga postupka. Strategija i cilj trebaju biti popraćeni koherentnom statističkom bazom podataka te analitičkim radim na simulacijama mogućih rješenja i njihove primjene, na koje se pregovarački tim za umrežavanje i pomoćni resursi mogu osloniti. Važno je održavati redovite konzultacije o rezultatima i otvorenim pitanjima. Stoga se preporučuje da se sve relevantne interesne grupe slože oko očekivanih rezultata pregovora te da zajedno rade na njihovu ostvarivanju. Međunarodno umrežavanje u RRD SWG također može biti korisno u smislu učenja od drugih pristupnih zemalja ili NMS-a, s obzirom na njihovo pregovaračko iskustvo.

Brzo uvođenje glavnih linija CAP-a. S obzirom na slovensko iskustvo, Hrvatska bi trebala stremiti uvođenju glavnih linija CAP-a prije završnog stupnja pregovora, upotrebljavajući i sredstva iz vlastitoga proračuna. To ne samo što signalizira EU da je Hrvatska spremna za pridruživanje, nego i relevantnim provoditeljima politike omogućuje određeni manevarski prostor da steknu iskustvo prije pridruživanja, što pak općenito omogućuje lakšu adaptaciju. Osim harmonizacije zakonodavstva i usvajanja relevantnih zakona, osobito su važni učinkovita implementacija i harmonizacija institucija i smjernica. Pri implementaciji CAP mjera, važno je od samoga početka osigurati sudjelovanje poljoprivrednih savjetodavnih službi.

Fondovi za ruralni razvoj. Slično Sloveniji, čini se razumnim da Hrvatska stavi snažan naglasak na visoku razinu fondova za ruralni razvoj. Brzo ujednačavanje razina uplata s drugim zemljama EU također bi moglo biti poželjno u smislu planiranih prihoda, iako bi u tom slučaju moglo doći do značajnoga balansiranja sa strukturalnim ciljevima. Stoga bi se Hrvatskoj, za razliku od Slovenije, savjetovalo da se koncentrira ne toliko na manje favorizirane područne uplate, koliko na mjere vezane uz regionalni razvoj koje obuhvaćaju širi ruralni sektor,

tj. i pitanja nevezana uz farme. Općenito gledano, važno je osigurati da odabrane mjere ne budu kontradiktorne. Budući uzroci i posljedice određenih mjera nisu uvijek uočljivi; rezultati se mogu pojaviti srednjoročno i dugoročno, treba definirati indikatore koji vjerno odražavaju utjecaje politike.

Zusammenfassung (German executive summary)³

Kroatien befindet sich auf einem guten Weg, die Kriterien für einen baldigen EU-Beitritt zu erfüllen. Am 6. Februar 2008 bestätigte der Erweiterungskommissar Olli Rehn, dass die Beitrittsverhandlungen gut vorankommen. Wie in allen neuen Mitgliedstaaten sind der Agrarsektor und die vor- und nachgelagerte Industrie zentrale Bereiche im Verhandlungsprozess. Um die Verhandlungen aus kroatischer Sicht erfolgreich zu gestalten, wird eine sehr genaue Kenntnis der Situation dieser Bereiche benötigt. Dazu gehören auch sozio-ökonomische Indikatoren sowie ein tieferes Verständnis der Ängste und Strategien insbesondere der zahlreichen kleinen landwirtschaftlichen Familienbetriebe in Kroatien. Der diesem Buch zugrunde liegende Projektbericht zielt darauf ab, einige Wissenslücken zu füllen, indem der ländliche Entwicklungsprozess in Kroatien sowie die landwirtschaftlichen Betriebsstrukturen und die entsprechenden nationalen Politiken analysiert werden. Auf der Basis einer empirischen Komponente gibt die Studie detaillierte Einblicke in den derzeitigen Strukturwandel in zwei Beispielregionen Kroatiens. Einen besonderen Stellenwert haben dabei sozio-ökonomische Entwicklungen innerhalb der landwirtschaftlichen Familienbetriebe. Daneben werden die Sichtweisen und Strategien der Landwirte einer Wettbewerbsanalyse gegenübergestellt, die sich hauptsächlich auf den kroatischen Milchsektor konzentriert. Die Möglichkeiten und Herausforderungen für Kroatiens ländliche Regionen werden schließlich auch noch im Hinblick auf Erfahrungen aus dem benachbarten Slowenien diskutiert. Diese Zusammenfassung bietet einen Überblick über die wichtigsten Ergebnisse der Studie und die abgeleiteten Politikempfehlungen. Letztere folgen dem Ansatz der OECD, der betont, dass in der ländlichen Entwicklungspolitik die Förderung der Region mit ihren verschiedenen Wirtschaftssektoren vor der Förderung eines einzelnen Sektors stehen muss, sowie Investitionen vor Subventionen. Die Politikempfehlungen beziehen sich auf zwei wichtige Politikfelder: (1) Politiken zur Entwicklung, Strukturanpassung und Diversifizierung der Landwirtschaft und (2) territoriale Ansätze für Politiken zur Schaffung und Sicherung von Arbeitsplätzen im ländlichen Raum (die sogenannte *wider rural economy*).

³ Autoren dieser Zusammenfassung sind Gertrud Buchenrieder und Judith Möllers.

Wichtige Ergebnisse

Die Ergebnisse für Kroatien basieren auf der Analyse von Sekundärdaten sowie einem mikroökonomischen Datensatz von rund 140 Haushalten, die im Jahr 2007 befragt wurden. Weiterhin kommt eine sogenannte *domestic resource costs* (DRC) Analyse zur Anwendung, anhand derer die Wettbewerbskraft kroatischer Milchviehbetriebe analysiert wird. Experteninterviews, die in Slowenien durchgeführt wurden, bieten wertvolle Einblicke in den dort bereits abgeschlossenen Verhandlungsprozess des Landwirtschaftskapitels zum EU-Beitritt mit der Europäischen Kommission. Im Folgenden werden die wichtigsten Ergebnisse im Hinblick auf einen zügigen landwirtschaftlichen und ländlichen Entwicklungsprozess sowie auf Schlüsselfaktoren für eine erfolgreiche Verhandlung des Landwirtschaftskapitels zusammengefasst:

Kleinstrukturierte Familienbetriebe. Eine beträchtliche Anzahl der kroatischen Betriebe ist vergleichsweise klein und bewirtschaftet lediglich bis zu drei Hektar Land. Nur wenige Familienbetriebe haben Zugang zu mehr als zehn Hektar Fläche.

Milchviehbetriebe. Milchproduktion spielt in der kroatischen Landwirtschaft eine wichtige Rolle und trägt durchschnittlich etwa 25 % zu den landwirtschaftlichen Erlösen bei. Es handelt sich somit um den größten Teilssektor. Fünfundneunzig Prozent der Milchkühe werden in Familienbetrieben gehalten, die auf eine durchschnittliche Herdengröße von drei Tieren kommen. Die DRC-Analyse basiert auf einer kleinen Stichprobe von Familienbetrieben, die wiederum in zwei Gruppen aufgeteilt war: Betriebe mit weniger als 16 Kühen (durchschnittlich vier Kühe) und mit 16 oder mehr Kühen (durchschnittlich 47). Der DRC-Wert für die kleinen Betriebe lag bei 3,0, der für die größeren Betriebe dagegen bei 2,2. Diese Zahlen zeigen, dass alle Milchviehbetriebe ihre Effizienz erhöhen müssen, um wettbewerbsfähig zu bleiben. Im Vergleich zu slowenischen Milchviehbetrieben setzen die kroatischen Milchbauern Futtermittel, vor allem Konzentrate, ineffizient ein. Verbesserungen können auch durch Investitionen in Tiere mit besseren Zuchtwerten und moderne Stallanlagen erwartet werden. Investitionsbedarf besteht in den nächsten Jahren ganz besonders im Hinblick auf die Anpassung an die geltenden EU-Hygienestandards. Diese Regelungen können als beträchtliche zusätzliche Bürde für alle kroatischen Milchbauern, die ihre Betriebe weiterführen wollen, angesehen werden.

Nahrungsmittelindustrie. Die Analyse von komparativen Exportvorteilen für Agrarprodukte zeigte, dass die verarbeitende Industrie relativ effizient ist; mit zunehmender Verarbeitungstiefe steigt die Wettbewerbsfähigkeit kroatischer

Agrarprodukte auf dem EU-Markt. Diese Beobachtungen gelten sowohl für den Nahrungsmittelsektor im Allgemeinen als auch speziell für Milchprodukte.

Betriebstypen. Fünfundsiebzig Prozent aller Betriebe der Stichprobe betreiben Landwirtschaft nicht im Vollerwerb, sondern in Teilzeit. Je nach dem Anteil der außerlandwirtschaftlichen Einkommen werden Zuerwerbsbetriebe (10-50 % außerlandwirtschaftliche Einkommen) von Nebenerwerbsbetrieben (mehr als 50 % außerlandwirtschaftliche Einkommen) unterschieden. Zwölf Prozent der Betriebe gehören zur Gruppe der Zuerwerbsbetriebe, wohingegen 63 % Nebenerwerbsbetriebe sind. Insgesamt tragen außerlandwirtschaftliche Einkommen mit über einem Drittel zu den Gesamteinkommen aller Betriebstypen bei.

Berufs- und allgemeine Bildung sowie Fachinformationen. Erfolgreiche landwirtschaftliche und nicht-landwirtschaftliche Betriebe sind auf einen angemessenen Zugang zu allgemeiner und beruflicher (Weiter-)Bildung und Fachinformationen angewiesen. Im Vergleich zu Slowenien spielt die berufsbezogene Bildung keine große Rolle in Kroatien. Das durchschnittliche Bildungsniveau ist zudem nicht ausreichend, wenn man berücksichtigt, dass 36 % der Haushaltsmitglieder im wirtschaftlich aktiven Alter nur eine elementare Schulausbildung haben und 46 % einen sekundären Schulabschluss.

Landwirtschaftliche Einkommen. Obwohl die meisten Betriebe Landwirtschaft nur im Nebenerwerb betreiben, also weniger als 50 % ihrer Einkommen direkt aus diesem Sektor beziehen, sind ihre Lebensweise und Lebensunterhalt eng verwoben mit ihren landwirtschaftlichen Aktivitäten. Ganz besonders, wenn außerlandwirtschaftliche Aktivitäten nur gering bezahlt oder unsicher sind, bleibt die Landwirtschaft ein wichtiger Bestandteil des Familieneinkommens. Gerade deshalb erscheint es unwahrscheinlich, dass sich die große Zahl an Nebenerwerbsbetrieben mittelfristig verringern wird. Dennoch stehen die Vollerwerbsbetriebe vergleichsweise besser da und zeichnen sich durch eine höhere Produktivität im Hinblick auf die Landnutzung aus: Das durchschnittliche Pro-Kopf-Einkommen in Vollerwerbsbetrieben liegt mit € 7,675 über dem von Zuerwerbsbetrieben (€ 6,386) und deutlich über dem von Nebenerwerbsbetrieben (€ 4,718).

Boden und Arbeitsproduktivität. Die Einkommen, die im Bezug auf den eingesetzten Boden und die Arbeit erzielt werden, sind ebenfalls in Vollerwerbsbetrieben höher. Wahrscheinlich kann dies einer intensiveren Wirtschaftsweise und insbesondere der Tierhaltung und einer besseren Ausstattung mit physischem Kapital zugeschrieben werden. Es konnte gezeigt werden, dass diese Betriebe im Durchschnitt vier Mal höhere Einkommen je Hektar Land im Vergleich zu Nebenerwerbsbetrieben erzielen. Trotzdem muss darauf hingewiesen werden, dass die unzureichende Funktionsfähigkeit des Bodenmarkts eine weitere Konsolidierung

behindert und damit auch eine verbesserte Produktivität. Die landwirtschaftlichen Einkommen je eingesetzter Arbeitseinheit scheinen nicht mit dem Ausbildungsniveau zusammenzuhängen. Dies gilt nicht für außerlandwirtschaftliche Einkommen, die mit der Anzahl der Ausbildungsjahre ansteigen. Die Bedeutung von allgemeiner und beruflicher Bildung kann deshalb nicht genug betont werden, wenn man im Blick behält, dass der Agrarsektor im Verlauf der Wirtschaftsentwicklung weiter schrumpft und der außerlandwirtschaftliche ländliche Sektor dementsprechend wichtiger wird.

Betriebserweiterung, -aufgabe und außerlandwirtschaftliche Diversifikation.

Circa ein Zehntel aller befragten Haushalte hat vor, den landwirtschaftlichen Betrieb innerhalb der kommenden fünf Jahre zu vergrößern. Etwa derselbe Anteil gibt dagegen an, den Landwirtschaftsbetrieb aufgeben zu wollen. Faktoren, die die Wahrscheinlichkeit zur Expansion erhöhen, sind eine positive Wahrnehmung der betrieblichen Anpassungsfähigkeit, gute infrastrukturelle Anbindung und die derzeitige Betriebsgröße. Eine Betriebsaufgabe wird dagegen wahrscheinlicher, wenn der Hof vergleichsweise nah an einem städtischen Zentrum (hier: Zagreb) liegt und damit das Potential steigt, interessante außerlandwirtschaftliche Einkommensmöglichkeiten zu erschließen. Außerdem wirken eine negative Einstellung zu landwirtschaftlichen Arbeiten, die Einschätzung, dass die Zukunftsaussichten des Betriebs eher ungünstig sind, und die Tatsache, derzeit keine Subventionen zu erhalten, ebenfalls in diese Richtung. Der größte Teil der Familienbetriebe (40 %, einschließlich Hobbylandwirte) plant allerdings mittelfristig weitere Schritte hin zur außerlandwirtschaftlichen Diversifikation. Die individuellen Beschäftigungsentscheidungen zeigen, dass Pluriaktivität, also die Kombination von landwirtschaftlicher und nicht-landwirtschaftlicher Arbeit auf individueller Ebene, als erster Schritt weg von der Landwirtschaft gewertet werden kann: 25 % der pluriaktiven Personen haben vor, sich mittelfristig auf außerlandwirtschaftliche Arbeiten zu konzentrieren und diejenigen, die den Agrarsektor bereits verlassen haben, wollen nicht dorthin zurückkehren. Dennoch, auch wenn die weit verbreitete kleinstrukturierte, oft (semi-) subsistenzorientierte Landwirtschaft langsam verschwinden wird, zeigen die Entwicklungen in Slowenien, dass Hobbylandwirtschaft ein nicht zu vernachlässigender Faktor sein kann, der auch Kleinstbetriebe am Leben erhält. Fast 20 % der Familienbetriebe haben vor, ihre landwirtschaftlichen Aktivitäten zum Zwecke der Selbstversorgung oder als Hobbybauern weiterzuführen. Das wiederum bedeutet, dass diese Betriebe mittelfristig auch nur sehr bedingt durch Politikmaßnahmen zu erreichen sind, die den Strukturwandel fördern sollen.

Erwartungen im Hinblick auf die EU-Erweiterung. Die Einstellung der kroatischen Landwirte gegenüber dem bevorstehenden EU-Beitritt ist überwiegend negativ. Es werden nur wenige Aspekte benannt, die als positiv gewertet werden können, so zum Beispiel allgemeine Verbesserungen im Bereich Recht und Ordnung. Negative Auswirkungen werden dagegen häufig im Bereich der EU-Regelungen gesehen, die als Bedrohung für das wirtschaftliche Überleben der Landwirtschaftsbetriebe gelten. Dementsprechend fürchten viele Landwirte auch, dem internationalen Wettbewerb nicht standhalten zu können, wenn die Märkte geöffnet werden. Allerdings konnte nicht beobachtet werden, dass in Folge dieser Befürchtungen die Instrumente des IPA-Programms (*Instrument for Pre-accession Assistance*), das genau solche Anpassungsinvestitionen mitfinanziert, besser angenommen werden. Auf Basis des Beispiels Sloweniens kann erwartet werden, dass die überwiegend negativen Meinungen gegenüber dem EU-Beitritt sich dann revidieren, wenn die (finanziellen) Vorteile offensichtlich werden. Es handelt sich also teilweise um mangelnde Information über die tatsächlichen Auswirkungen.

"Politische Inhalte versus parteipolitische Lobbyarbeit" bei der Verhandlung des Landwirtschaftskapitels. Eine ganz allgemeine Folgerung aus den Erfahrungen des slowenischen Beitritts ist, dass die Harmonisierung der Gesetzgebung nicht nur die Übernahme der entsprechenden Regeln erfordert. Es geht viel weitergehend auch um die Harmonisierung der Verwaltungsstrukturen und Politikinhalte. Obwohl oder gerade weil die EU eindeutig den stärkeren Hebel bei den Verhandlungen des Landwirtschaftskapitels hat, wenn es darum geht Inhalte zu beeinflussen, ist es besonders wichtig, dass die nationalen Interessensgruppen ihre Ziele klar formulieren, parteipolitische Lobbyarbeit beiseite legen und mit einer Stimme sprechen. Deshalb muss die Verhandlungsgruppe eine gemeinsame Strategie vertreten und dabei auf eine harmonisierte Datenbasis für Hintergrundinformationen zurückgreifen können.

Politikempfehlungen

Im Folgenden werden die Politikempfehlungen zusammengefasst, die aus den Ergebnissen der Studie abgeleitet werden konnten.

Politikempfehlung 1:

Ausgewogener Strukturwandel im Agrarsektor

Die Maßnahmen zur Förderung des Agrarsektors sowie insbesondere Subventionen sollten nicht alleiniges Standbein der öffentlichen Förderung für die ländlichen Regionen sein. Diese Ansicht wird zwar in Kroatien akzeptiert, jedoch spielen

die traditionellen Fördermaßnahmen eine immer noch (zu) große Rolle. Die ungünstige Struktur mit kleinen Betrieben, die keine Aussicht darauf haben, zukünftig im Wettbewerb bestehen zu können, ist eines der Hauptprobleme im kroatischen Agrarsektor. Deshalb muss Strukturpolitik im Mittelpunkt der sektorbezogenen Politiken stehen. Dementsprechend wurden sieben Politikfelder identifiziert, die in dieser Hinsicht kritisch sind und in denen Maßnahmen sinnvoll erscheinen:

Faktormärkte. Gerade der Bodenmarkt ist nicht ausreichend funktionsfähig. Deshalb ist eine sorgfältige Fortführung der Landkonsolidierungspolitik hilfreich und angeraten. Die intersektorale Arbeitsmobilität ist bereits Realität. Allerdings ist berufliche Fort- und Ausbildung ein entscheidender Faktor für den erfolgreichen Einstieg in den außerlandwirtschaftlichen Arbeitsmarkt. Hierfür sind alle Maßnahmen förderungswürdig, die den Zugang zu Bildung und Ausbildung für Kinder sowie auch Erwachsene verbessern. Solche Angebote könnten mittel- und langfristig auch dem Abwanderungstrend aus ländlichen Regionen entgegenwirken. Weiterhin ist auch der Kapital- und Kreditmarkt eine Schwachstelle der ländlichen Entwicklung in Kroatien, da nur wenige Landwirte überhaupt bereit oder in der Lage sind, Fremdkapital aufzunehmen. Ob dies vornehmlich an der zögerlichen Haltung der Landwirte liegt oder an einem Mangel an Anbietern, die auch Mikrokredite im Programm haben, muss noch weitergehend analysiert werden. Zweifellos ist der Zugang zu Krediten aber ein wichtiger Faktor im strukturellen Anpassungsprozess. Allerdings können schlecht aufgelegte Kreditprogramme auch schnell zu einer Belastung der öffentlichen Haushalte werden. Deshalb ist es wichtig, jegliche Schritte in diese Richtung auf Erfahrungen aus anderen Ländern in diesem Bereich aufzubauen.

Betriebsentwicklung. Vollerwerbsbetriebe (25 % der Stichprobe) stehen im Vergleich zu Neben- und Zuerwerbsbetrieben vergleichsweise gut da. Elf Prozent der Stichprobenhaushalte planen, innerhalb der nächsten fünf Jahre ihren landwirtschaftlichen Betrieb zu erweitern. Diese Haushalte sollten die wichtigste Zielgruppe für Beratung und investitionsbezogene Maßnahmen sein. Bei kreditfinanzierten Investitionen sollte dabei die Erstellung eines realistischen Geschäftsplans im Vordergrund stehen, der auch das Risiko, das ein Landwirt tragen kann, berücksichtigt. Innovative Kreditlinien und Mikrokredite könnten hierbei eine wichtige Rolle spielen.

Milchviehbetriebe. Die Analyse der kroatischen Milchviehbetriebe hat gezeigt, dass diese derzeit nicht wettbewerbsfähig sind, wobei größere Betriebe vergleichsweise etwas besser dastehen. Um deren Wettbewerbsfähigkeit zu erhöhen, wäre es notwendig, die Infrastruktur der Milchsammelstellen und der Milchverarbeitung

weiter zu verbessern, wobei die Milchverarbeitung bereits als relativ effizient im Vergleich zur primären Milcherzeugung betrachtet werden kann. Das Ziel, den kroatischen Milchviehsektor zukunftsfähig zu machen, kann nur erreicht werden, wenn der Output je eingesetzter Einheit Boden und Arbeit erheblich gesteigert werden kann. Hierfür ist in erster Linie ein gutes Management notwendig, das durch Beratung und Investitionen in die Produktionsstruktur unterstützt werden kann. Eine Einführung des Milchquotensystems der EU wird für Kroatien als wenig sinnvoll angesehen, da es – bei einer Laufzeit von nur wenigen Jahren – aufgrund der notwendigen Investitionen in die dafür erforderliche Administration eine erhebliche finanzielle Belastung für die öffentliche Hand darstellen würde.

Agrarsubventionen. Ein hohes Subventionsniveau ist sicherlich eines der Ziele der Verhandlungsgruppe des Landwirtschaftskapitels für den EU-Beitritt. Es ist allerdings unabdingbar, bei der Auswahl der Maßnahmen typische Risiken zu vermeiden, denn die ökonomische Theorie liefert nur zwei Begründungen für eine Marktintervention durch den Staat: erstens, um gegen Marktversagen vorzugehen oder zweitens, um Einkommen umzuverteilen. Generell wirken allerdings die meisten Subventionen marktverzerrend. Weil sie oft nicht präzise genug auf das Politikziel zugeschnitten sind, neigen sie dazu, Strukturen zu verfestigen, statt Strukturwandel anzuschieben. Für Kroatien ist es wichtig, alle Subventionen mit dem Maßnahmenkatalog der EU in Einklang zu bringen. Das bedeutet auch, dass, falls Direktzahlungen eingeführt werden, diese zu einem hohen Grad entkoppelt sein sollten. Beispielsweise haben sich in Slowenien Direktzahlungen als adäquates Mittel zur Einkommenssicherung im Agrarsektor erwiesen. Allerdings sollten Kompensationszahlungen immer an eine klar definierte Übergangsperiode gebunden sein, also nur zeitlich limitiert angeboten werden, da sie ansonsten den Strukturwandel hemmen, statt ihn zu unterstützen.

Ausstiegprogramme für Landwirte. Nur etwa 10 % der Betriebsleiter haben vor, innerhalb der kommenden fünf Jahre die Landwirtschaft aufzugeben. Dagegen wollen 45 % entweder ihren Betrieb wie gehabt oder als Hobbylandwirte weiterführen. Allerdings ist es für einen erfolgreichen Strukturwandel notwendig, dass Betriebe aufgeben, damit sich andere Betriebe entwickeln können. Anreize sind notwendig, um Betriebsleiter zu überzeugen, die Landwirtschaft aufzugeben und ihr Land an expansionswillige Betriebe abzugeben. Gerade deshalb ist es wichtig, (Semi-)Subsistenz- und Hobbybetriebe von landwirtschaftlichen Subventionsprogrammen auszuschließen. Positive Anreize können durch spezielle Vorruhestandsregelungen für Landwirte, wie sie in der EU angeboten werden, oder auch andere finanzielle Anreize, die unter der Bedingung der Betriebsaufgabe gewährt werden, gesetzt werden.

Verarbeitungssektor. Es stellt sich ganz generell die Frage, die auch in dieser Studie nicht abschließend geklärt werden konnte, ob die fehlende Wettbewerbsfähigkeit im Bereich der Primärproduktion auf der Verarbeitungsebene kompensiert werden kann. Es ist allerdings wahrscheinlich, dass dies zu einem gewissen Grade zutrifft, da der komparative Exportvorteil für kroatische Agrarprodukte mit zunehmendem Verarbeitungsgrad ansteigt. Dieser Fragenkomplex sollte zukünftig noch genauer betrachtet werden, um mögliche Wirkungen auf den Strukturwandel im Agrarsektor beantworten zu können.

Landwirtschaftsberatung. Die personelle Ausstattung und der fachliche Hintergrund des kroatischen landwirtschaftlichen Beratungsdienstes sind nicht optimal und müssen substantiell gestärkt werden, um die Herausforderungen des landwirtschaftlichen Strukturwandels zu meistern. Im Jahr 2007 haben 215 Berater (davon 198 landwirtschaftliche Fachberater) innerhalb des kroatischen Beratungsdienstes (CAEI, *Croatian Agricultural Extension Institute*, gegründet 1997) potentiell 448,000 Familienbetriebe beraten. Das bedeutet, dass jeder Berater für mehr als 2,000 Betriebe zuständig ist. Ganz offensichtlich braucht es für diese Aufgabe eine deutlich höhere Zahl an Fachberatern. Diese sollten nicht nur Experten im Tier- und Pflanzenbereich sein, sondern auch Agrarökonomien und erfahrene Berater im Bereich der ländlichen Entwicklung. Es ist außerdem notwendig, die Berater für verschiedene Investitionsprogramme, die national oder durch die EU angeboten werden, zu schulen, damit sie interessierte Landwirte im Hinblick auf die Antragsprozedur, die Entwicklung von Geschäftsplänen und die Einschätzung der wirtschaftlichen Risiken beraten können.

Politikempfehlung 2:

Der ländliche Wirtschaftsraum

Wie schon erwähnt, ist ländliche Entwicklung eine räumliche Herausforderung. Deshalb müssen neben sektoralen Politiken, die auf die Landwirtschaft und die angrenzenden Sektoren der Verarbeitungsindustrie zielen, auch Politiken, die den ländlichen Wirtschaftsraum in seiner Ganzheit ansprechen, im Mittelpunkt von nachhaltiger ländlicher Entwicklung stehen. Fünf Maßnahmegebiete sind hier besonders wichtig:

Ländliche Beschäftigungsmöglichkeiten. Landwirtschaft kann vielen, aber bei weitem nicht allen Landbewohnern eine wirtschaftliche Zukunft sichern. All jene, die ihre Tätigkeiten deshalb in den außerlandwirtschaftlichen Sektor hinein diversifizieren wollen, brauchen Angebote in den Bereichen Ausbildung und berufsbezogene Trainingsmaßnahmen. Es ist somit notwendig, Möglichkeiten

zur Verbesserung des Humankapitalstocks in allen Altersbereichen bereitzustellen. Der Anteil der Arbeitslosen ist mit 11 % hoch. Diese Situation, zusammen mit dem relativ niedrigen Bildungsniveau der landwirtschaftlichen Bevölkerung, erschwert den Übergang zu außerlandwirtschaftlichen Tätigkeiten. Die Beschäftigungsrate zu erhöhen und eine Anpassung der Arbeitskräfte an die Bedürfnisse des Arbeitsmarkts zu fördern, müssen deshalb zentrale Ziele einer ländlichen Sozial- und Arbeitsmarktpolitik in Kroatien sein. Um die Beschäftigungsrate zu erhöhen und auch Personen mit geringer Bildung oder mangelnden Fachkenntnissen eine Chance zu geben, ist es notwendig, aktive Formen der Unterstützung in den Vordergrund zu rücken, also Trainings- und Ausbildungsmaßnahmen, die konkret auf die Arbeitsmarktsituation zugeschnitten sind. Politiken, die Landwirten die Möglichkeit geben, attraktive Arbeitsmöglichkeiten außerhalb des Agrarsektors zu finden, fördern indirekt, wie oben beschrieben, den für den Strukturwandel wichtigen Ausstieg aus der Landwirtschaft.

Wirtschaftsentwicklung. Ländliche Regionen sind heterogen. Deshalb bleibt wenig Spielraum für generalistische Empfehlungen für nachhaltige ländliche Entwicklungsprogramme. Tatsächlich werden Politikinterventionen benötigt, die auf die lokalen Gegebenheiten zuschneidert sind. Dezentralisierte und partizipatorische Entscheidungsprozesse sind oft notwendig, um die geeignete Kombination von Politikmaßnahmen für eine Region zu identifizieren. In diesem Zusammenhang könnten die sogenannten lokalen Aktionsgruppen (LAG) à la LEADER (= *Liaison entre actions de développement de l'économie rurale*) hilfreich sein – auch schon vor einem EU-Beitritt, wie die Beispiele Polen und Rumänien zeigen. Dabei ist sicherzustellen, dass dezentrale Entscheidungen nicht die Verteilungsziele der Zentralregierung untergraben. Gerade kleine Familienbetriebe könnten benachteiligt sein, da größere Betriebe bei der Erschließung dezentralisierter Finanzmittel und ihrer Implementierungsmechanismen im Vorteil sind. Ganz allgemein können innerhalb einer Gemeinde politische Eliten eher ihre Interessen durchsetzen als benachteiligte Bevölkerungsgruppen.

Grenzüberschreitende Kooperation und Netzwerkbildung. Im Kontext der ländlichen Regionalentwicklung soll auf die Arbeit der *Regional Rural Development Standing Working Group* (RRD SWG) hingewiesen werden (<http://www.seerural.org>). Die RRD SWG wurde mit der Intention gegründet, Vertreter der in der ländlichen Entwicklung aktiven Institutionen der jeweiligen Länder und Gebiete in Südosteuropa zu bündeln und die Fragen der ländlichen Entwicklung und Nachhaltigkeit durch Netzwerkaktivitäten und Kooperation zwischen allen Akteuren aufzugreifen. Für Ende 2008 kann konstatiert werden, dass Kroatien der Gruppe beigetreten ist.

Infrastruktur und institutionelles Umfeld. Obwohl nicht direkt im Blickpunkt dieser Studie, zeigt die Erfahrung, dass gerade harte Infrastruktur (Straßen, Märkte, öffentlicher Verkehr etc.) und Informationstechnologien (IT, wie beispielsweise Telefon, Internet etc.) ganz entscheidend sind, wenn man erfolgreiche Regionen mit weniger erfolgreichen vergleicht. Deshalb kann davon ausgegangen werden, dass Investitionen in diesem Bereich besonders effektiv sind. Im Hinblick auf landwirtschaftliche Familienbetriebe wäre eine gezielte Förderung des Zugangs zum Internet wünschenswert, die den Landwirten Zugang zu markt- und politikrelevanten Informationen eröffnet.

Aufklärungskampagnen. Die ländliche Bevölkerung sieht den durch den bevorstehenden EU-Beitritt zu erwartenden Veränderungen mit einem Gefühl der Verunsicherung entgegen. Aufklärungskampagnen und Informationsveranstaltungen könnten sowohl Ängste abbauen als auch gezielt über eine effiziente Anpassung an die Anforderungen des sich verändernden Wirtschaftsumfelds informieren. Im Agrarsektor sollen hierbei die Beratungsdienste eng eingebunden werden, indem diese gezielt geschult werden, um diese Informationen weitergeben zu können.

Politikempfehlung 3:

Welche Lehren können aus Sloweniens Verhandlungen mit der EU gezogen werden?

Die Situation Kroatiens ist durch seine Bestrebung, in die EU aufgenommen zu werden, in vielerlei Hinsicht der von Slowenien vor wenigen Jahren vergleichbar. Einige wichtige Empfehlungen ergeben sich daher aus Interviews mit der slowenischen Verhandlungsgruppe und den assoziierten Experten. Folgende drei Aspekte wurden als besonders relevant identifiziert:

Verhandlungstaktik und Netzwerkbildung. Angemessene und solide Verhandlungstaktiken machen den Unterschied. Es ist besonders wichtig, Politikziele genau zu definieren und den Bedarf an Finanzmitteln für die ländliche Entwicklung zu formulieren. Verhandlungstaktiken beziehen sich auf eine klar formulierte Strategie, die auf analytischen Ergebnissen und wirtschaftspolitischen Erwägungen basiert. Es muss deutlich werden, was die Verhandlungsgruppe erreichen soll, wobei jeweils ein Minimal- und ein Maximalergebnis formuliert werden sollte. Es geht also darum, ein vordefiniertes Ergebnis der Verhandlungen anzustreben. Für die Formulierung der Strategie und der Ziele sollte möglichst auf eine kohärente statistische Datenbasis zugegriffen werden sowie wissenschaftliche Analysen und Simulationen möglicher Pfade und ihrer Auswirkungen als Referenz vorliegen.

Offene Fragen, die innerhalb des Verhandlungsprozesses entstehen, müssen in regelmäßigen Beratungen aufgegriffen werden. Auch hierfür ist es angeraten, dass sich alle wichtigen Akteure auf ein angestrebtes Verhandlungsergebnis geeinigt haben und dann an einem Strang ziehen, um dieses zu erreichen. Als weitere Quelle für Verhandlungserfahrungen kann das bereits oben erwähnte internationale Netzwerk RRD SWG dienen.

Schnelle Einführung der Hauptlinien der Gemeinsamen Agrarpolitik (GAP) der EU. Basierend auf den slowenischen Erfahrungen sollte Kroatien die Hauptlinien der reformierten GAP schon vor dem Ende der Verhandlungen einführen, auch wenn dies bedeutet, dass nationale Finanzierung notwendig ist. Dies würde einerseits der EU signalisieren, dass die Vorbereitungen für den Beitritt weit fortgeschritten sind, andererseits können aber auch im Land bereits wichtige Erfahrungen gesammelt werden und der Übergang würde generell sanfter gestaltet werden können. Neben der Harmonisierung der Gesetzgebung und Übernahme von Bestimmungen und Vorschriften ist auch die effiziente Implementierung und Harmonisierung von Institutionen und politischen Verfahrensweisen wichtig. Nochmals muss betont werden, dass für die Einführung der GAP-Maßnahmen die enge Einbindung der landwirtschaftlichen Berater vom frühest möglichen Zeitpunkt an wichtig ist

Mittel für ländliche Entwicklung. Ähnlich dem slowenischen Fall ist es auch für Kroatien sinnvoll, ausreichende Mittel für die ländliche Entwicklung auszuhandeln. Eine rasche Anpassung an das Zahlungsniveau der EU könnte auch ein Ziel im Hinblick auf die Einkommenssicherung sein. Allerdings kann hier auch schnell ein Zielkonflikt mit Strukturwandel relevanten Zielen entstehen. Deshalb lautet hier die Empfehlung – im Gegensatz zur slowenischen Vorgehensweise –, sich weniger auf die benachteiligten ländlichen Gebiete zu konzentrieren, sondern eher auf allgemeine Regionalentwicklungsinstrumente, die auch den ländlichen Sektor einbeziehen, also sowohl den landwirtschaftlichen als auch den außerlandwirtschaftlichen Bereich. Generell ist es wichtig sicherzustellen, dass die ausgewählten Politikmaßnahmen keine Zielkonflikte bedingen oder widersprüchlich sind. Weil Ursache und Wirkung bestimmter Maßnahmen nicht immer identifizierbar sind und die Ergebnisse eventuell nur mittel- oder langfristig sichtbar werden, sollten angemessene Erfolgsindikatoren vorab definiert werden.

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Abbreviations

AWU	Annual work unit
bn	Billion
CAP	Common Agricultural Policy
CARDS	Community Assistance for Reconstruction, Development and Stabilisation
CEEC	Central and Eastern European Countries
CROSTAT	Central Bureau of Statistics of the Republic of Croatia
DRC	Domestic resource costs
dt	Deci ton (100 kg)
€	Euro
EAGGF	European Agricultural Guidance and Guarantee Fund
EC	European Commission
EMU	European Monetary Union
ERS	Early retirement scheme
EU	European Union
EUROSTAT	European Statistics Office
FADN	Farm Accountancy Data Network
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agricultural Organization Statistics
GDP	Gross domestic product
GIS	Geographic Information System
GNI	Gross national product
ha	hectare
HRK	Croatian Kuna (currency); € 1 (2006) = HRK 7.36 (reference year: 2006)
IACS	Integrated Administration and Control System

ICTY	International Criminal Tribunal for the former Yugoslavia
i.e.	That is (id est)
ILO	International Labour Organization
IMF	International Monetary Fund
IPA	Instrument for Pre-accession Assistance
ISCED	International Standard Classification of Education
ISPA	Instrument for Structural Policy for Pre-accession
kg	Kilogramme
km ²	Square kilometre
LFA	Less favoured areas
MAFA	Multi-annual Financing Agreement between the EU and the Republic of Croatia
MAFF	Ministry of Agriculture, Forestry and Food
MAFWM	Croatian Ministry of Agriculture, Forestry and Water Management
MS	Microsoft
mio	Million
NGO	Non-governmental organisation
NMS	New Member States
No.	Number
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PHARE	Poland and Hungary: Assistance to Restructure the Economy
PPP	Purchasing Power Parity
RMA	Relative import advantage
RTA	Relative trade advantage
RXA	Relative export advantage
SAP	Stabilisation and Association Process
SAPARD	Special Pre-accession Programme for Agriculture and Rural Development
SEEC	South Eastern European Countries

SEM	Single European Market
SITC	Standard International Trade Classification
SME	Small and medium sized enterprises
SPSS	Statistical Package for the Social Sciences
StDev	Standard Deviation
T	Thousand
t	Ton
ToT	Terms of trade
UNSD	United Nations Statistics Division
US\$	US-Dollar
WTO	World Trade Organization

1 Introduction⁴

One of Croatia's main political objectives is the accession to the European Union (EU) which is planned for the year 2009. For a number of years the country has been preparing for a full EU membership. This choice seems straight-forward in view of the close historical, cultural and geographical links. With some delay due to the war in the 1990s, Croatia officially applied for membership in February 2003, In June 2004 the European Council confirmed Croatia's status as candidate country. The accession negotiations started in October 2005. The latest progress report by the EU confirms that Croatia has improved in many regards. Therefore, it seems likely that Croatia will become a member of the EU within the next years.

In view to this, the status and development of the agricultural sector and the rural economy at large will play an important role for different reasons. On the one hand, rural regions not only fulfil unique economic, social and environmental functions, but are usually more affected by transitional change than their urban counterparts. On the other hand, in view of the accession preparations, rural areas and particularly the agricultural sector require special attention as the Common Agricultural Policy (CAP) is not only the policy field with the highest share in the EU budget, but also with the highest degree of regulation at the EU level. Hence, on the one hand, rural areas will benefit from additional financial means: From 2007 until its accession to the EU, Croatia will be supported by EU funding of up to € 142 million per year⁵ of which a considerable amount will flow into rural areas (Instrument for Pre-accession Assistance, IPA). But on the other hand, the CAP demands high efforts towards the adoption of regulations and measures as well as structural change; it will result in winners and losers with regard to the triggered changes in rural structures. As it was the case in the recently acceded EU member states, many farmers in Croatia fear that they will not be capable to successfully compete in the single market after joining the EU.

⁴ Authors of this Chapter are Judith Möllers and Gertrud Buchenrieder.

⁵ This is about 5% of the agricultural sector's present contribution to Croatia's gross domestic product (GDP).

This would not only have severe implications for those earning their income in agriculture, but for the rural regions as a whole.

This report presents results from an international research project involving partners from Croatia, Slovenia and Germany. It reviews Croatia's rural development dynamics, farm structures as well as agricultural and rural policies. Based on an empirical research component, it provides unique, detailed insights into the ongoing structural change of rural Croatia. A special focus is on socio-economic developments within farm households. Farmers' views, perceptions and strategies are challenged with a competitiveness analysis of Croatia's agriculture with special focus on milk production and processing. The opportunities and challenges for Croatia's rural regions are assessed against lessons learnt from the Slovenian accession experience.

Chapter 2 gives a general introduction to macroeconomic trends and the role of agriculture in the overall economy in Croatia. More detailed information on the farm structure and important product branches in Croatia are presented in Chapter 2.2. As the current EU accession preparations will bring about considerable changes of rural policies, also past and current policy trends are reviewed including a brief overview on the current status of the negotiations. Chapters 4 to 6 are based on data from a case study of Croatian farm households conducted in the spring of 2007. Although the study is not representative for the country, it offers extraordinary detailed and valuable information on the ongoing socio-economic developments in Croatian farm households (Chapter 4). Furthermore, we draw on a study implemented in Slovenia at the same time. The data from Slovenia is used as a reference from which probable developments to be expected in Croatia and their drivers will be derived. In Chapter 4 this additional survey is used to provide further insights based on a comparison with farm households who have experienced the EU accession a few years ago. In Chapter 4 we use detailed data of dairy farms in both countries for a competitiveness analysis. Chapter 6 refers to the Slovenian household data as well as expert interviews and discusses lessons learnt from the Slovenian experience. The report concludes with a synthesis of findings and policy recommendations in Chapter 7.

Part A – Macroeconomic and sector overview

2 Macroeconomic trends and the role of the agricultural sector⁶

This chapter gives a comprehensive overview on the Croatian economy and the overall role of the farming sector in terms of income creation, employment and trade. It mainly refers to EUROSTAT and national data sources and offers fundamental background information on which the core findings and conclusions are based.

While Croatia is still in a catching up process with the EU countries, a comparison of macroeconomic indicators with other Southeastern European countries is favourable, and annual growth rates have stabilised at a high level. Like in other transitional countries the share of agriculture in gross domestic product and employment is still relatively high.

2.1 Key features of the Croatian economy

The Republic of Croatia is a relatively small country with a total land area of 56,594 km², this about 80% of the size of Bavaria in Germany. About 4.4 million people live in Croatia⁷; the average population density amounts to 78.4 inhabitants per km² (CROSTAT, 2006). According to the 2001 CENSUS, rural areas make up 36.3% according to the EU criterion⁸ and 47.6% according to the criterion of the Organisation for Economic Cooperation and Development (OECD)⁹. Map 2.1 shows Croatia's three major geographical and natural areas:

- (1) the Pannonian region in the northern continental part of the country, which is characterised by arable land, a developed farming and livestock production;
- (2) the Mountainous region divides Pannonia from the Adriatic coast. It is characterised by poor rural infrastructure; small family farms and livestock production.

⁶ Authors of this Chapter are Patrick Zier and Judith Möllers.

⁷ This is about 35% of the population in Bavaria, Germany.

⁸ EU threshold value for rural settlements = 100 inhabitants per km².

⁹ OECD threshold value for rural settlements = 150 inhabitants per km².

The Mediterranean part of Croatia describes a narrow coastal belt from Istria in the northwest to Konovale in the south. The mild climate favours the production of Mediterranean crops, like wine and olives. Besides, the regional economy is based on a well developed tourism sector.

Map 2.1 Topographic map of Croatia



Source: UNEP/GRID-ARENDAL, 1998.

Administratively, Croatia is divided into 545 local government units and 21 counties. It has 123 cities and 422 municipalities. Counties are organised as natural, historical, economic, transportation, social and administrative entities and, at the same time represents the NUTS3 regions of Croatia according to the European Statistical Standard (MAFWM, 2005).

The Croatian economy has performed moderately well in the last decade, enabling a gradual narrowing of the income gap with the EU. In 2005, the total gross domestic product (GDP) per capita reached 48% of the EU-25 average (EUROSTAT, 2007). However, the main development objective of the country

is to reach a level of 75% of the EU's average per-capita income in 2013. This is a very ambitious goal given the growth of the economy in the past (see Section 2.2).

In the period between 1990 and 1993, the Croatian economy has suffered considerable damage. The domestic output collapsed by at least one-third due to the war and general transitional problems, and inflation reached 1,500% in 1993. In October 1993, Croatia embarked on a stabilisation programme that included anti-inflationary monetary and fiscal policies, liberalization of the foreign exchange market, realignment of prices of public utilities and control of public sector wages (WORLD BANK, 2003). As Table 2.1 shows, the Croatian economy has picked up from then on. Particularly the service sector gained importance while the share of agriculture in GDP decreased. Nonetheless, the agricultural sector still plays an important role in Croatia's economy. This is also underlined by the relatively high share in employment that the agricultural and food processing sector still has: In 2006 about 14% of the Croatian labour force was employed by agriculture and 2.8% by the food processing industry (Table 2.1).

Table 2.1 Overview of the development of Croatia's economy 1995-2006

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
GDP*												
(bn €)	14.4	15.7	17.7	19.3	18.7	20.0	22.1	24.4	26.2	28.7	31.3	34.2
- Agriculture* %	10.4	10.0	9.3	9.4	9.7	8.8	9.0	8.7	7.0	7.5	7.3	7.1
- Service* %	56.3	57.8	57.8	59.0	60.4	61.9	61.8	63.1	63.9	62.5	62.4	62.6
- Industry* %												
... all	33.4	32.2	33.0	31.7	29.9	29.3	29.3	28.2	29.1	30.0	30.3	30.3
...food processing	-	-	-	-	-	3.7	3.5	3.5	3.6	3.7	-	-
Employment**												
(T)	- 1,540	1,593	1,544	1,492	1,553	1,470	1,527	1,536	1,563	1,573	1,586	
- Agriculture** %	- 19.9	17.8	16.7	16.6	14.5	15.5	15.2	16.8	16.4	17.3	14.2	
- Service** %	- 50.6	52.7	53.4	52.8	56.5	54.3	55.1	53.3	53.7	54.0	56.3	
- Industry** %												
...all	- 29.1	29.5	29.8	30.6	28.8	30.0	29.7	29.7	29.8	28.6	29.3	
...food processing	-	-	-	-	-	-	-	3.0	3.0	2.9	2.8	2.8

Source: * EUROSTAT 2007, ** ILO 2007.

Note: T stands for thousand, bn for billion.

2.2 Production and income trends

As in all other transition economies, the transformation in the former Yugoslavian republics went along with a significant decrease in GDP. Between 1989 and 1992 it added up to 50%, while the decline in employment cumulated

to 12% (JACKMAN, 1994). Also Croatia, which was comparably well-developed, suffered severely from the effects of the war and the problems of transition to a market economy. However, a successful stabilisation programme introduced in 1993 allowed a relatively fast recovery of the economy.

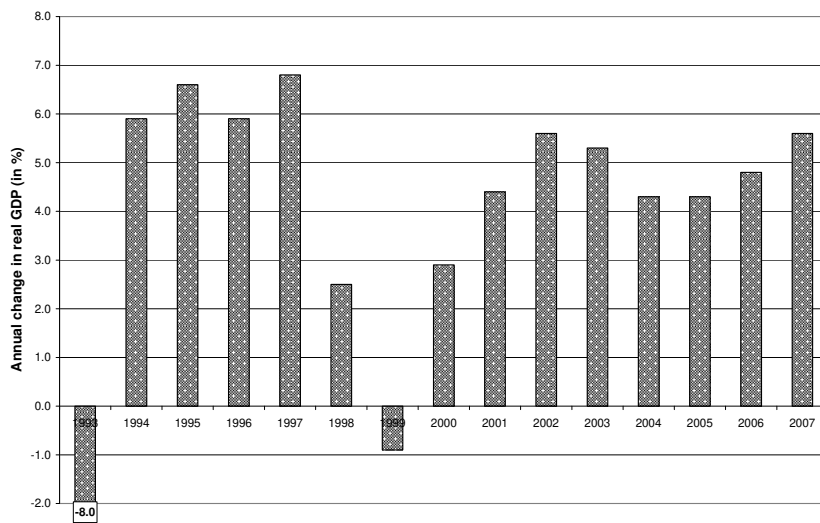
A period of significant annual GDP growth of 6.3% on average taking place between 1994 and 1997 was accompanied by the lowest inflation rate of all transition countries (Figure 2.1). It was based particularly on increases in demand for non-durables as well as durables such as housing and infrastructure (VINCENTZ and KNOGLER, 2004).

Due to a banking crisis and widening external current account deficits, growth slowed down in 1998. With reforming macroeconomic, particularly fiscal policies and introducing measures to control inflation in 1999 Croatia's economy initially shrank. However, it started to grow again in 2000 and at increasing rates until 2002 (VINCENTZ and KNOGLER, 2004, WEINGARTEN et al., 2002). Between 2002 and 2004 growth rates in real GDP declined, but recovered in 2005. Since then growth rates show an upward trend (Figure 2.1).

Real GDP grew on average 4.4% per year between 2000 and 2006. For the year 2007 a further increase of the growth rate is expected (Figure 2.1). This positive development was achieved mainly by augmenting the capital stock – especially through investment into public infrastructure – and also by larger employment. From the viewpoint of production sources, domestic consumption as well as exports increased. Especially demand for vehicles, foodstuffs, drinks and furniture enlarged, although at rates which could only be satisfied through additional imports. Considering the distribution of growth among the various branches of the economy it were mostly the industrial and tertiary sectors which enlarged its activities. Among the latter, the performance of banks and other financial enterprises was considerably strong (MAFWM, 2005).

The most recent data reveals a nominal GDP of € 34.2 billion (bn) for Croatia (Figure 2.2). Thus, during the last decade, Croatia's GDP more than doubled in the years between 1995 and 2006. Accordingly, GDP per capita increased from € 3,100 in 1995 to nearly € 7,000 in 2005. Despite this, it is still a long road to go if Croatia wants to realise the goal of reaching 75% of the EU-25 income average per capita by 2013. Based on the current figure of 48%, a doubling of

Figure 2.1 Annual percentage change in GDP (constant prices) in Croatia from 1993 to 2007



Source: IMF, 2007.

Note: Estimate for 2007.

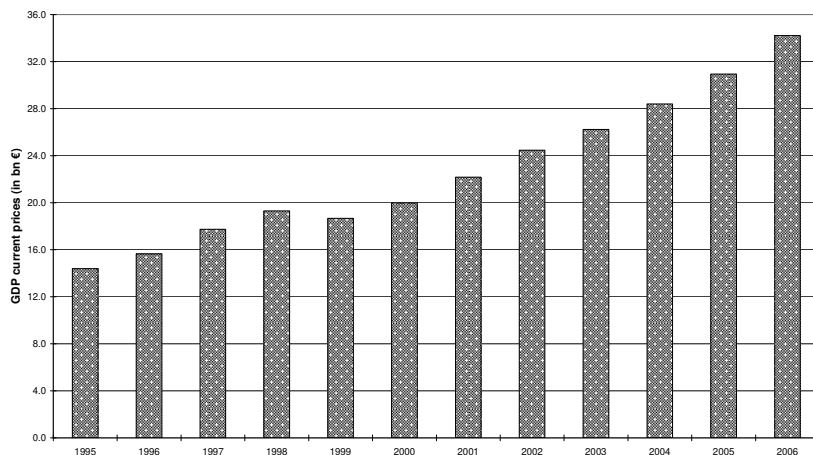
the growth rate of Croatia's economy would be necessary if one assumes that the EU economy will also modestly grow by 2% annually. One of the threats for achieving this goal is the extremely high share of state expenditures in GDP in Croatia which abates the macroeconomic development and thus the economic process of catching up with the EU (STRATEGIJA, 2006).

Turning to a comparison with CEEC-8 countries¹⁰ that comprise Slovakia, Czech Republic, Slovenia, Hungary, Poland, Estonia, Lithuania, and Latvia, Croatia's is small in terms of population and its economy. Both have a level which is slightly below half the average of this country group (Table 2.2). However, when GDP per capita is compared Croatia falls short of the average of the CEEC-8 by only 9%.

In comparison to the other South Eastern European countries (SEEC), which are generally poorer than the CEEC-8, Croatia's income situation is favourable. It clearly leads in this group in terms of the per-capita GDP: in 2005 it amounted

¹⁰ CEEC = Central and Eastern European Countries.

Figure 2.2 Nominal GDP in current prices (in bn €) in Croatia from 1995 to 2006



Source: EUROSTAT, 2007.

Table 2.2 Income in 2005 in South Eastern European Countries compared to other Eastern European transition countries

	Population (mio.)	GDP per country (bn €)	GDP per capita (€)
SEEC			
Albania	3.1	6.9	2,226
Bosnia-Herzegovina	3.9	8.2	2,103
Bulgaria	7.7	22.0	2,857
Croatia	4.4	31.8	6,968
Serbia and Montenegro	8.1	21.7	2,679
Macedonia	2.0	4.8	2,400
Romania	21.6	81.5	3,773
SEEC-7	7.26	25.26	3,479
CEEC-8	9.11	69.43	7,621
Croatia in % of			
SEEC-7	60.61	125.89	200.27
CEEC-8	48.29	45.83	91.43

Source: Own calculations based on WORLD BANK (2007) data.

Note: SEEC-7 refers to Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Serbia and Montenegro, Macedonia, Romania.
CEEC-8 refers to Slovakia, Czech Republic, Slovenia, Hungary, Poland, Estonia, Lithuania, Latvia.

to € 6,968 and thus was about twice as high as the average within this specific region that among others includes the neighbouring Bosnia-Herzegovina and all other former Yugoslav republics except Slovenia (Table 2.2).

2.3 Employment trend

Since 2000 there exists a significant and continuous increase in total employment. This trend is encouraged by Croatia's overall positive economic development. In 2006 the number of employees averaged 1,586,000, which is 0.8% more than in the previous year (ILO, 2007). The unemployment rate declined to 11.1% in the same year, but it is still not at the level of 1996 and above-average in Europe, where the EU-27 currently reach a level of 8.0%. The favourable trend of employment in Croatia is accompanied by increased wages and salaries which point at an increase in labour productivity. As Figure 2.3 shows, they nearly doubled during the last decade and averaged at € 906 per month in 2006 (EUROSTAT, 2007).

Figure 2.3 Average monthly wages and salaries (in €) and unemployment rate (in %) in Croatia between 1996 and 2006



Source: EUROSTAT, 2007.

Table 2.3 depicts the level of education employees attained both in Croatia and the EU. The share with secondary education (educational level 3-4) as well as with a university degree or higher (educational level 5-6) is larger in Croatia as compared to the average of the EU-15 and EU-25 member states. Correspondingly, the number of employees with low educational levels is below the EU-average. For the interpretation of the data one has to consider the formal character of the schooling degrees, which do not actually reveal quality issues. Furthermore, VINCENTZ and KNOGLER (2004) suggest that a high long-term unemployment rate leads to a devaluation of the potential of the educational skills. In Croatia the share of the long-term unemployed (over 48 months without a job) in the total number of unemployed population amounted to nearly 28% in 2005 (EUROSTAT, 2007). This has also to be considered when interpreting Table 2.3.

Table 2.3 Share of employees (in %) according to the level of education (2005)

	Educational level 0-2 (lower education)	Educational level 3-4 (secondary education)	Educational level 5-6 (university or higher)	No reply
Croatia	40.4	29.5	15.1	15.0
EU-25	54.8	20.8	11.3	13.1
EU-15	57.5	19.1	10.2	13.2
NMS-10	33.2	39.3	14.8	12.7

Source: EUROSTAT, 2007.

Note: Level of education according to the International Standard Classification of Education (ISCED) 1997.

NMS = New Member States; NMS-10 comprises the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia, and Slovakia. Together with Bulgaria and Romania that have entered the EU in January 2007 they make up the NMS-12.

2.4 The role of the agricultural sector in the national economy

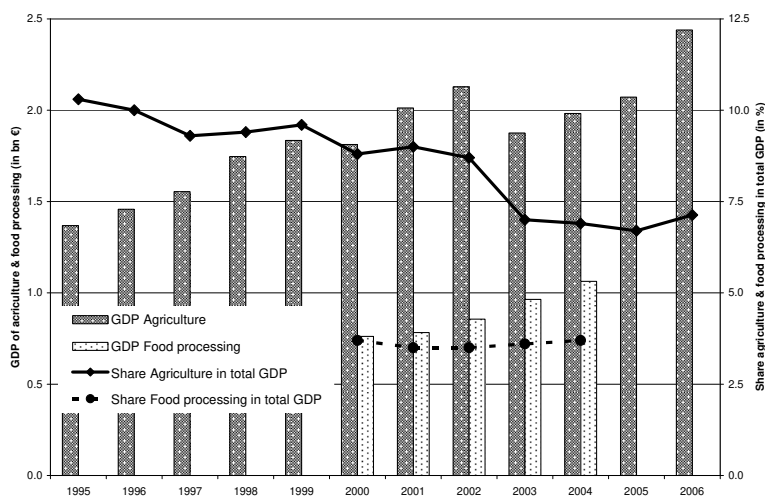
Croatia's agricultural sector still plays a significant role in the national economy. This importance is comparable to other CEEC countries but deviates from that in the EU-15. The shares of Croatia's agriculture, hunting and forestry, and fishing in GDP and in employment are clearly above the EU-15 average. Moreover, agriculture¹¹ reaches a considerable share in total trade.

¹¹ For simplification we use the term agricultural sector interchangeably with the sectors agriculture, hunting and forestry, and fishing, which are often subsumed according to the commonly used statistical division of sectors.

2.4.1 The share of agriculture in GDP

In Croatia, the agricultural GDP exceeded € 2.4 billion in 2006. While this indicator has been showing an upward trend from 1995 until 2006, agriculture's share in total GDP depicts a slight downward movement over the same period (Figure 2.4). This observation is typical for growing economies and is observed in all CEECs. However, with 7.1%, the contribution of Croatia's agricultural sector to total GDP still clearly exceeds the average of the EU-27 in 2006 (1.8%). Within the EU, only Bulgaria (8.5%) and Romania (9.0%) show higher shares of agricultural GDP (EUROSTAT, 2007).

Figure 2.4 GDP of agriculture and food processing (in bn €) and share in total GDP (in %) in Croatia 1995-2006



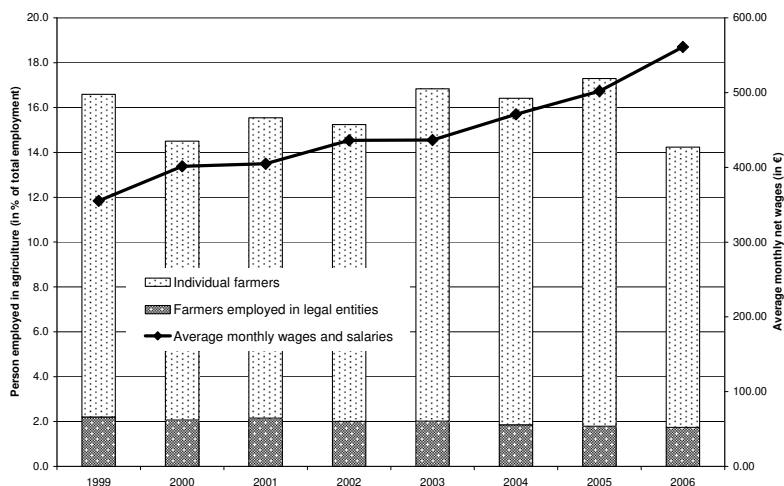
Source: EUROSTAT, 2007.

The GDP of the food processing industry reached € 1 billion in 2004. From 2000 to 2004, the production growth of the considered sector was fairly high (40%) compared to agriculture (9%). This led to a stable share in total GDP slightly below 4% by food processing industry over time, while the share in total GDP of agriculture decreased in this period.

2.4.2 The role of agriculture in employment

In Croatia 225,000 persons were employed or self-employed in agriculture in 2006. Their share in total labour force accounted for 14.3% in 2006 and was thus twice as high than the share in GDP of the sector (7.1%) (Figure 2.5). This is indicative of the fact that the GDP generated per person engaged in agriculture is only about half as high as the same indicator averaged over all remaining sectors of the economy. Figure 2.5 does not reveal a clear trend of agricultural employment, particularly regarding the number of individual farmers which seems rather volatile. The share of persons working in legal entities in total employment shows a slight downward trend in the covered period from 1999 to 2006.

Figure 2.5 Share of agriculture in total labour force (in %) and average monthly wages paid by agriculture (in €) in Croatia between 1999 and 2006



Source: ILO, 2007, CROSTAT, 2007.

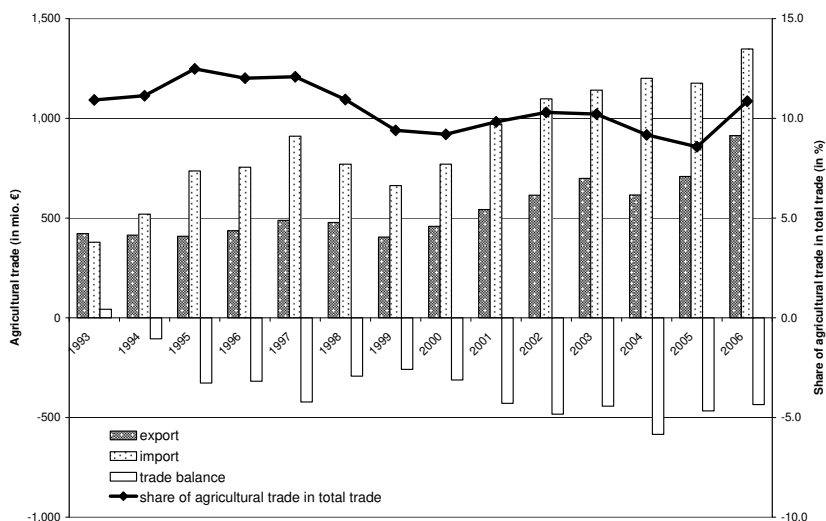
Note: Figures based on CROSTAT (2007) data are the share of farmers in legal entities as well as the figures on wages and salaries.

Figure 2.5 furthermore indicates an upward trend in the average wages paid to persons who are wage-employed in agriculture for the period between 1999 and 2006. This is attributed to the overall positive development of the national economy in these years and indicates a positive trend in labour productivity in the farming sector. However, in comparison to the average national wages (€ 906 per month), agricultural wages (€ 561 per month) were nearly 40% lower in 2006.

2.4.3 Foreign trade in agricultural goods

The development of foreign trade in agricultural and food products in the years from 1993 to 2005 has to be looked upon considering three different periods (MAFWM, 2005). In the first period from 1993 to 1997 both imports and exports expanded. Thereafter, until 2000, a downward trend in total foreign trade in agricultural and food products was observed. The third period covers the time from 2000 up to now and shows again growing imports and exports of these goods (Figure 2.6).

Figure 2.6 Agricultural trade (in mio €) and its share in total foreign trade (in %) in Croatia from 1993 to 2006



Source: CROSTAT, 2007.

Note: Agricultural trade includes food and live animals as well as tobacco and beverages according to the Standard International Trade Classification (SITC) sections and divisions.

As Figure 2.6 shows, Croatia is a net importer of agricultural and food products. This fact is revealed by an increasingly negative trade balance of agricultural goods since the year 2000 which (in absolute terms) more than doubled until 2004. Thereafter, it declined again by 26% until 2006 due to significantly growing exports and only slightly increasing imports.

Major destinations of agricultural and food exports were the other former Yugoslav Republics, especially Bosnia and Herzegovina, as well as the EU and Japan (export of tuna fish). Traditionally the main export goods are cigarettes, fish, chocolate and sugar. Italy, Germany, Austria, Hungary and Brazil are the major suppliers of agricultural and food imports into Croatia. The main import goods include cattle, fish, pork, rolls, cakes and products for animal feed (MAFWM, 2005).

The share of imports and exports of agricultural goods in total foreign trade is declining since 1995. Its value decreased from 12.5% in that year to 8.6% in 2005. A slight increase occurred over the intermediate period from 2002 to 2003 and again in 2006 (Figure 2.6).

3 Farm and agricultural production structure and rural policies¹²

This chapter summarises facts and figures about Croatia's farms and agricultural production patterns. Because this research focuses among others on the competitiveness of dairy farms, we discuss the dairy production in more detail. Although agriculture still plays a dominant role, both for the rural economy and for the livelihood of rural people, it needs to be stressed that rural areas are made up of more than just the farm sector and that agricultural development depends on the improvement in the rural non-farm sector. Therefore, rural policies addressing farm households should include both measures promoting farm investment and measures that facilitate farm exit. Chapter 3 ends with an overview on existing agricultural and rural policies in Croatia.

3.1 Farm structure

The statistics on agricultural land use are the most problematic of all agricultural data in Croatia. At present, three different reference bases exist. The cadastre data, which is used in the National Statistical Yearbook, has not been updated for a long time. It seems to display figures for total agricultural land far too high. The second source of data is the farm register of the Croatian Ministry of Agriculture, Forestry and Water Management (MAFWM). It includes only those farms, which have received support from the MAFWM, and therefore covers only about 80% of the total available land in Croatia. The third reference base is the AGRICULTURAL CENSUS from the year 2003, which draws on data that was directly provided by Croatian farmers. In the following, the data of the AGRICULTURAL CENSUS is used since it is judged the most realistic source on the current agricultural land use in Croatia (MAFWM, 2005).

According to the AGRICULTURAL CENSUS (2003), the total agricultural area of Croatia amounts to 1.077 million ha of which 860,195 ha (79.8 %) are cultivated by private farms and 217,208 ha (20.2 %) by legal entities (see Table 3.1). Of

¹² Authors of Section 3.1 to 3.2 are Patrick Zier and Judith Möllers. Authors of Section 3.3 are Patrick Zier, Ružica Gelo, Jasminka Dukić, Ramona Franić, Mario Njavro and Judith Möllers.

this total land the largest share is arable land including gardens (802,096 ha), followed by meadows (149,790 ha), pastures (60,561 ha), orchards (31,163 ha) and vineyards (27,688 ha).

About 450,000 farms existed in Croatia in 2003 (AGRICULTURAL CENSUS, 2003). This leads to an average farm size of 2.4 ha in this year. This is relatively small if compared to that of the EU-25 which then was 16.1 ha (EUROSTAT, 2007). About 50% of Croatia's farms were of a size of 1 ha or less and together farmed less than 5% of the total land. Out of the 448,532 family farms existing in 2003, only 4.7% (20,878 farms) cultivated more than 10 ha while of the legal enterprises more than 50% exceed this size (see Table 3.2). Legal entities are generally larger than family farms. The average farm size was 159.2 ha which is 80 times larger than the 1.9 ha of family farms (AGRICULTURAL CENSUS, 2003).

The main reason for this vast difference in average farm size originates from the fact that legal entities (mostly former agrocombinates) are using mainly state-owned land, in accordance with special agreements resulting from the Act on the Agricultural Land (MAFWM, 2005). Adjustments in family farm sizes, however, suffer from a longstanding unfavourable legislation, regulating agricultural land inheritance, as well as unresolved land title and property rights. The functioning of the land market is still hampered by problems concerning the cadastre registers and land registry office data (BEŠIREVIĆ, 2006).

Croatia's farmland is used by about 450,000 farms (AGRICULTURAL CENSUS, 2003). In 2003, the average farm size was 2.4 ha. By contrast, the average farm size in the EU-25 is 16.1 ha in the same year (EUROSTAT, 2007). About 50% of the farms in Croatia did not exceed a size of 1 ha and possessed together less than 5% of the total farmed land. Out of 448,532 family farms, only 20,878 (4.7%) work on more than 10 ha. Legal entities are generally larger with more than 50% of these agricultural holdings farming over 10 ha (see Table 3.2). The average farm size within the legal entities was 159.2 ha compared to only 1.9 ha in family farms (AGRICULTURAL CENSUS, 2003).

The main reason for these significant differences in average farm size between agricultural households and legal entities originates from the fact that legal entities (mostly former agrocombinates) are using mainly state-owned land, in accordance with special agreements resulting from the Act on the Agricultural Land (MAFWM, 2005). Family farms, however, suffer from a longstanding unfavourable legislation, regulating agricultural land inheritance, as well as unresolved land title and property rights. The functioning of the land market is still hampered by problems concerning the cadastre registers and land registry office data (BEŠIREVIĆ, 2006).

Table 3.1 Total agricultural land in 2003 according to land use categories

Category	Agricultural land farmed by				Total available land	
	Private farms [ha]		Legal entities		ha	%
	ha	%	ha	%		
Arable land	602,183	70.01	199,910	92.04	802,093	74.45
Kitchen gardens	5,436	0.63	,000	0.00	5,436	0.50
Meadows	148,651	17.28	1,139	0.52	149,790	13.90
Orchards	28,723	3.34	2,440	1.12	31,163	2.89
Vineyards	22,763	2.65	4,925	2.27	27,688	2.57
Nurseries and osier	,294	34.18	,379	0.17	,673	0.06
Pastures	52,146	6.06	8,415	3.87	60,561	5.62
Total agricultural land	860,195	100.00	217,208	100.00	1,077,403	100.00

Source: CROSTAT, AGRICULTURAL CENSUS, 2003.

On average, one family farm feeds three family members. About 20% of all members in a farm household are over 64 years old. One of the constraints of farm development in Croatia is probably professional training. According to the AGRICULTURAL CENSUS (2003) 98% of all household members of family farms have only practical experience. Moreover, about one quarter of all family farms are engaged in other gainful activities. Accordingly, the number of hours worked on the farm per day decreases for the smallest farms where almost half of the household members work only up to two hours on the farm.

Table 3.2 Distribution of Croatian farms according to their size (2003)

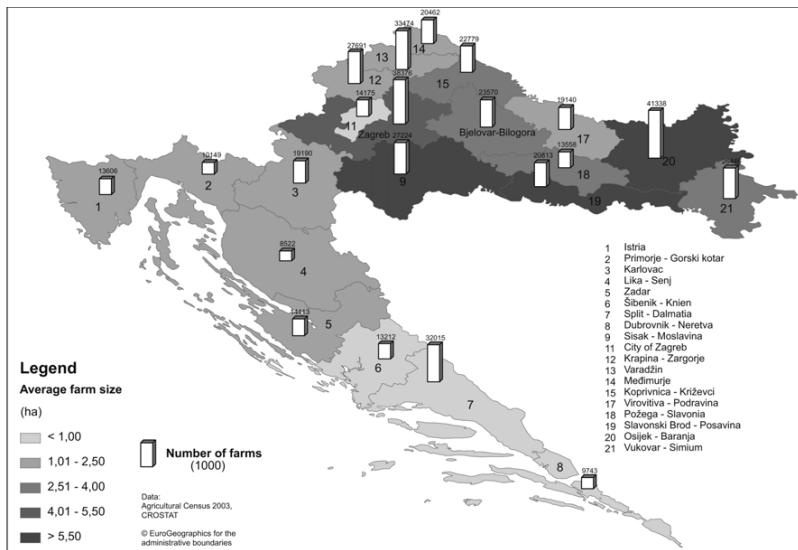
	Farm size (ha)						Total
	< 1	1 - <3	3 - <5	5 - <10	10 - <20	> 20	
Family farms							
(a) Number	227,434	112,062	45,732	42,426	15,628	5,250	448,532
(b) Farm land (ha)	50,759	132,432	123,136	213,347	162,627	177,894	860,195
(c) Share in (a) (%)	50.7	25.0	10.2	9.5	3.5	1.2	100.0
(d) Share in (b) (%)	5.9	15.4	14.3	24.8	18.9	20.7	100.0
Legal entities							
(a) Number	327	96	79	127	137	598	1,364
(b) Farm land (ha)	71	185	296	825	1,792	214,039	217,208
(c) Share in (a) (%)	24.0	7.0	5.8	9.3	10.0	43.8	100.0
(d) Share in (b) (%)	0.0	0.1	0.1	0.4	0.8	98.5	100.0
Share in all farms (%)	50.6	24.9	10.2	9.5	3.5	1.3	100.0
Share in total land (%)	4.7	12.3	11.5	19.9	15.3	36.4	100.0

Source: AGRICULTURAL CENSUS, 2003.

Figure 3.1 gives an overview on the regional distribution of the number of farms and average farm sizes in Croatia's counties. It becomes clear that most farms are located in the continental part of the country, where also farm sizes are more favourable. Bigger farms are located in the counties of Sisak-Moslavina, Slavonski Brod-Posavina and Osijek-Baranja. The smallest farms are found around Dalmatia at the Adriatic coast, where the average farms size is less than one hectare.

On average, one family farm feeds three family members. About 20% of all members in a farm household are over 64 years old. One of the constraints of farm development in Croatia is probably professional training. According to the AGRICULTURAL CENSUS (2003) 98% of all household members of family farms have only practical experience. Moreover, about one quarter of all family farms are engaged in other gainful activities. Accordingly, the number of hours worked on the farm per day decreases for the smallest farms where almost half of the household members work only up to two hours on the farm.

Figure 3.1 Farm sizes in ha and regional distribution of number of farms in Croatia

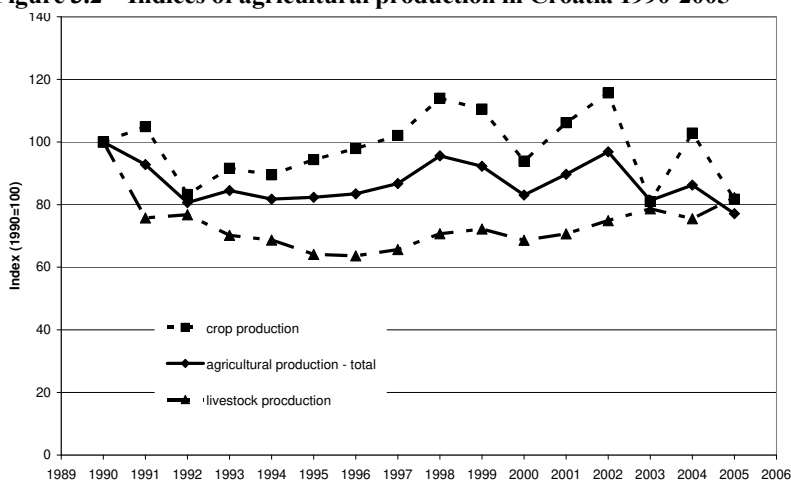


Source: Own depiction. Data from AGRICULTURAL CENSUS, 2003.

3.2 Structure of agricultural production

As mentioned above, the transition towards a market economy and the homeland war have resulted in a drop down of agricultural production. After the initial collapse in Croatia during the early 1990's, the gross agricultural output started to recover in 1994. In 1997 the crop production reached again the 1990 level, while livestock production stabilised at around 80% of the pre-war period (Figure 3.2). However, agricultural production in general still shows a high degree of uncertainty and variation in Croatia (FRANIĆ, 2006; CSAKI and NUCIFORA, 2003). The eye-catching decline in the output of crop production depicted in Figure 3.2 for the year 2003 resulted from a long-lasting drought, which affected large parts of the country. The crop production dropped by 28.9% between 2002 and 2003 and harmed both, private farms and legal entities.

Figure 3.2 Indices of agricultural production in Croatia 1990-2005



Source: CROSTAT, 2007.

Note: Before 2004, indices of agricultural production were calculated using data obtained through the regular agricultural statistical surveys. In 2004, no survey was implemented by the Central Bureau of Statistics due to a lack of governmental funding. Therefore, these data were estimated. Data for 2005 were collected through a survey based on interviews (CROSTAT, 2007). Thus, the indices for 2004 and 2005 should be interpreted with care.

3.2.1 Crop production

Croatia has a diverse agricultural production structure with a wide range of products. The value of crop production amounted to € 293.8 million in 2006

(CROSTAT, 2007). This corresponds to 31.9% of the total production of farming, forestry and fishery (€ 921.7 million). Legal entities contributed 47% (€ 138.2 million) to total crop production while the share of Croatian family farms made up the remaining 53% (€ 155.5 million).

In 2006, the major crops in Croatia were cereals with an allocated area of 570,095 ha (66% of the total cropland in 2006). Those cereals with the highest share, the most important crops in Croatia were maize, grown on 299,138 ha and wheat grown on 177,403 ha. Furthermore, oil seeds (109,328 ha) and forage crops (100,994 ha) made up a considerable share in total cropland with 12% each. Out of oil seeds, particularly soy beans (63,121 ha) and sunflowers (35,427) covered high proportions of the allocated area. The most important forage crops were alfalfa¹³ (26,415 ha) and clover (19,580 ha). Sugar beets (31,514 ha) as well as potatoes, leguminous and other vegetables (34,556 ha) all in all covered 4% of the cropland in 2006 (Figure 3.3). Beside potatoes, the most important vegetables in Croatia are cabbages, dry beans, onions, tomatoes, peppers and cucumbers. However, both vegetable and fruit production are partly uncompetitive due to lower quality standards as compared to imports and is generally not able to supply the market with sufficient quantities (MAFWM, 2005).

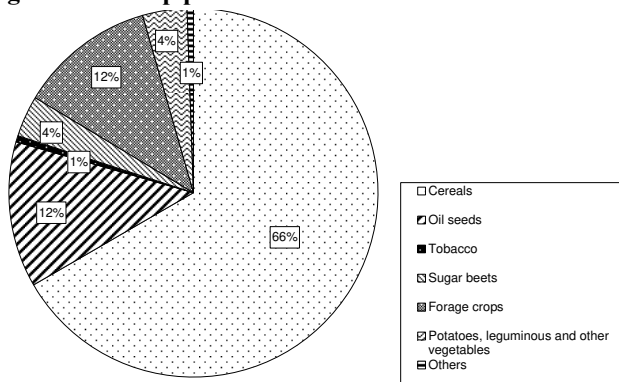
As Figure 3.4 reveals, in 2000 and 2003 the yield of crops, in comparison to the other years, was noticeably low. The majority of the counties in Croatia faced enormous crop production losses, due to drought in these years (Figure 3.2). As a result, the National Program for Irrigation, Management of Agricultural Land and Water Resources was launched in 2004. One of the main objectives of the program is to develop and improve the national irrigation infrastructure systems (MAFWM, 2005).

Overall, yields of Croatian crops are below the European average. For instance, the average yield in wheat production in 2006, 45.8 dt/ha, corresponds to about 84.9% of the EU-25 average (53.9 dt/ha). Comparable to this, the average yield in maize production reached 69.2 dt/ha after a 30% increase in 2005, that is 82.3% of the EU-25 level (84.1 dt/ha). As Figure 3.4 shows, potato production reveals a promising trend in Croatia; during the last three years the yields per hectare increased by 260%. In 2006, Croatian farmers produced 156.3 dt of potatoes per hectare. Nevertheless, this value is still fairly low compared to EU-25 farmers who harvested about 269.8 dt per hectare in the same year (EUROSTAT, 2007). One of the reasons for the relatively low yields of Croatia's

¹³ Alfalfa (*Medicago sativa*), also known as Lucerne, Purple Medic and Trefoil.

crops is the very limited use of agricultural chemicals, especially on family farms. According to the AGRICULTURAL CENSUS (2003) less than two thirds of the family farms use pesticides and mineral fertiliser. All in all only 53% of the farm land are treated with pesticides and 63% with mineral fertiliser.

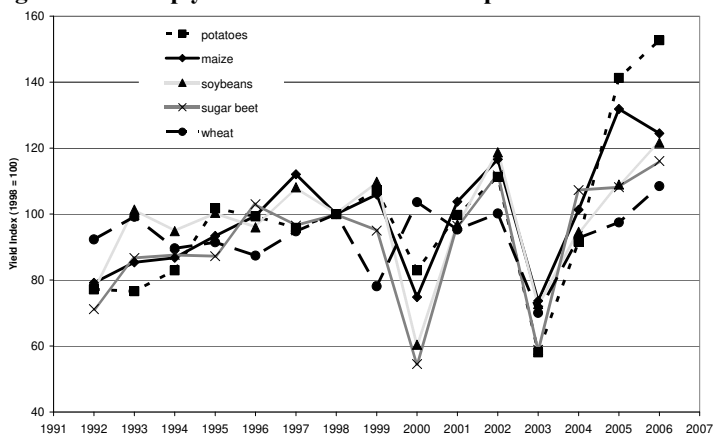
Figure 3.3 Crop production structure in Croatia 2006



Source: CROSTAT, 2007.

Note: Others: Flowers, aromatic and other plants including chamomile, sage, chicory, hop, seeds and seedlings, and other.

Figure 3.4 Crop yield indices of selected crops in Croatia 1992-2006



Source: Own calculations based on CROSTAT, 2007.

3.2.2 Livestock production

The transition from a centrally planned to a market economy as well as the war period in the 1990s severely affected livestock production in Croatia. Since the mid 1990s, however, livestock production has stabilised. In 2006, the animal stock consisted of 485,000 cattle, 1,230,000 pigs, 768,000 sheep and 10,045,000 poultry (Table 3.3).

Livestock production in Croatia not only involves many producers, but also contributed with 41.6% (€ 383.5 million) to the total agricultural production value in 2006. In particular family farms rely to a high degree in generating income on livestock production. The share of livestock in total production of Croatian family farms amounted to 53.5% in 2006 in contrast to 34.0% in the legal entities (CROSTAT, 2007).

Table 3.3 Animal stock of selected animals in Croatia 2000-2006

Commodity	2000	2001	2002	2003	2004	2005	2006
Cattle [T heads]	427	438	417	444	466	471	485
Pigs [T heads]	1,233	1,234	1,286	1,347	1,489	1,205	1,230
Sheep [T heads]	529	539	580	587	722	796	768
Poultry [T heads]	11,256	11,747	11,665	11,778	11,185	10,641	10,045

Source: CROSTAT, 2007.

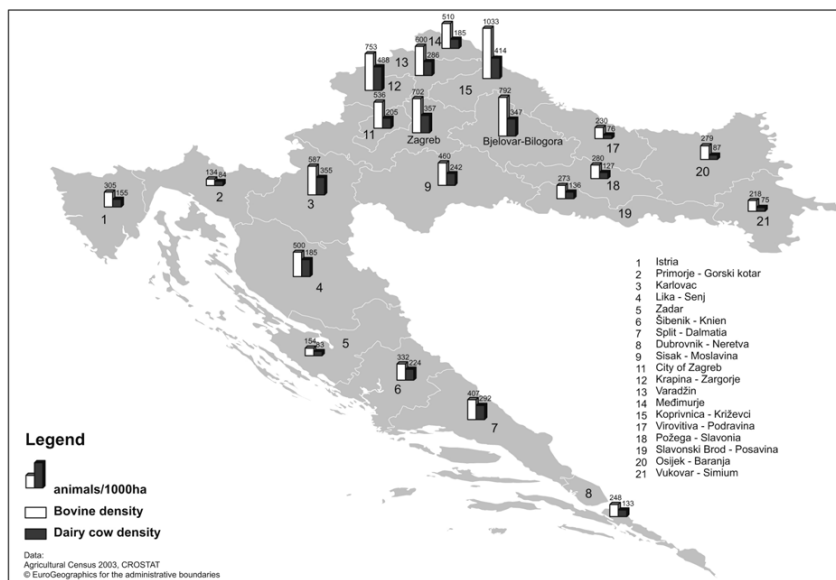
Due to the high involvement of small-scale family farms in livestock production, Croatia is facing serious problems regarding the compliance with hygiene, animal welfare and environmental standards of the EU. Small production units prevail especially for cattle, pig production, sheep, goat and horse keeping. For instance, less than 4% of the Croatian family farms keep more than 15 sows. Beside the unfavourable production structures the competitiveness is low due to the genetic base of the pigs and environmental and animal welfare problems are widespread. By contrast, poultry production is characterised by large-scale production units (mainly ex-agricombinates) for poultry meat and eggs. These farms usually use hybrid lines and modern production technologies, but will nonetheless face problems with regard to animal welfare compliance with EU standards (MAFWM, 2005).

Cattle production is one of the key branches of livestock breeding and one of the most important branches of overall agricultural production. Its contribution to the total value of Croatian livestock production in 2006 was € 218.2 million (56.6%). In the same year, the share of cattle production in total agricultural production amounted to 23.6% (CROSTAT, 2007). Cattle and dairy production is mostly

located in the counties around the capital Zagreb (Figure 3.5). With 488 cows per 1,000 hectares of farm land the County of Krapina-Zargoje has the highest concentration of dairy cows, but also the counties of Zagreb, Bjelovar-Bilogora and Koprivnica-Križevci are strong in dairy production.

The dairy farm sector plays an outstanding role in Croatia. For this reason, the interest in the current status and possible impacts of an EU accession on this sector are very high.¹⁴ In 2003, Croatia counted 222,448 dairy cow heads of which 95.2% are kept in family farms; less than 11,000 dairy cows were kept by legal entities. This is also reflected in the average number of only 2.9 dairy cows per dairy farm in Croatia. While 62.8% (48,369) of the family farms owned two or less cows, 67.6% (229) of the cattle breeding legal entities had more than 20 cows. In 2003, the average number of dairy cows per legal entity was 31.2 cows in contrast to 2.8 cows per cattle breeding family farm (Figure 3.5).

Figure 3.5 Cattle and dairy cow density in Croatia according to regions



Source: Own depiction. Data from CROSTAT, AGRICULTURAL CENSUS, 2003.

Notes: The research areas of this study are Zagreb County and Bjelovar-Bilogora County.

¹⁴ The competitiveness of the dairy farm sector is discussed in detail in Chapter 4.

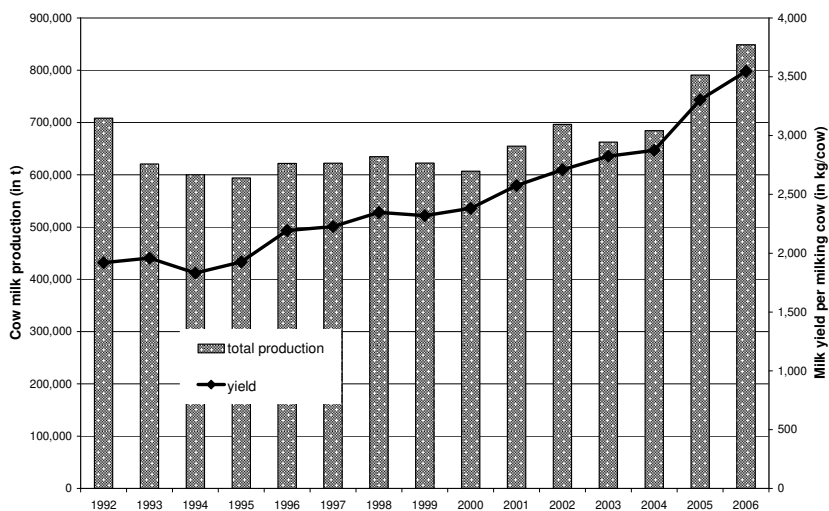
The Croatian milk production shows an increasing trend since 2000, due to consistently growing milk yields. In 2006 the average yield per dairy cow reached 3,546 kg (average annual yield per dairy cow in the EU-25 equals 5,950 kg milk). Total milk production was 848,700 t. Hence, the production in 2005 and 2006 exceeded the level of 1992 for the first time since the homeland war (Figure 3.6). From 2005 on, the local production was able to cover the market demand for milk in Croatia (FAOSTAT, 2007).

The small-scale production units will face difficulties in complying with the standards of production and animal well-being required by CAP. Recognising this, the Croatian Government implemented the Cattle Production Development Program in 2004 to promote higher competitiveness and to create the conditions for higher milk hygiene standards and animal welfare. With regard to improving the milk quality a fully EU compliant a Central Control laboratory for Milk was established and certified in 2004. However, despite a significant increase in milk quality immediately after the introduction of the testing system, in 2004 only 30% of the raw milk satisfied international standards. Therefore it is obvious that investments in the modernisation of dairy farms are necessary. (MAFWM, 2005). The general approach of Croatia in terms of agricultural and rural development policies is presented in the next Section.

Table 3.4 Scale of dairy farms in Croatia 2003

	Total number of farms	Number of agricultural farms according to herd sizes (number of dairy cows)						Total number of cows
		1-2	3-5	6-10	11-15	15-20	>20	
Family farms	77,039	48,369	20,760	6,474	1,013	276	147	211,880
- share (%)	100.0	62.8	26.9	8.4	1.3	0.4	0.2	95.2
Legal entities	339	42		33	15	20	229	10,568
- share (%)	100.0	12.4		9.7	4.4	5.9	67.6	4.8
Total	77,478	69,171		6,515	1,029	296	376	222,448
- share (%)	100.0	89.3		8.4	1.3	0.4	0.5	100.0

Source: AGRICULTURAL CENSUS, 2003.

Figure 3.6 Dairy production and yield per milking cow in Croatia 1992-2006

Source: FAOSTAT, 2007.

3.3 Critical review of agricultural and rural development policies

Unfavourably sized production units, as well as the difficulties of small farms to adopt hygiene, environmental and animal welfare standards, plus a lack of professional education in agriculture were identified as main constraints for the development of the Croatian farm Sector. To tackle these issues is important if Croatia wants to compete on the world market. Furthermore, modernisation and compliance with certain standards is required by the EU and should thus be in the focus of Croatia's agricultural and rural development policies. In Croatia this goes together with the adaptation of policies to the CAP of the EU in the course of the accession negotiations. Already now Croatia has access to considerable funds that are made available by the EU within the Stabilisation and Association Process (SAP). From 2007 on, the IPA will be available to support economic sector restructuring.

3.3.1 National agricultural policy

In the early 1990s, Croatia's agricultural policy was influenced by the ongoing preparations of the country to enter the World Trade Organisation (WTO). Particular emphasis was placed on trade liberalisation with special emphasis on

lowering of agricultural protection. However, during this period the Croatian Government offered support measures to the agricultural producers. The most commonly used measure of agricultural aid to address the decreasing competitiveness of farmers during this period was producer price protection. Only a few agricultural production branches – those with a special national concern – were supported by direct payment schemes (FRANIĆ, 2006).

The current system of agricultural price and support policy has its origin in Croatia becoming a member of WTO in 1998 and the consequential reforms. Area payments with a County-specific upper limit were implemented, to compensate farmers' losses due to a reduced import protection and decreased producer prices. As a result, the share of agricultural support in the governmental budget increased significantly from 2.0% between 1995 and 1998 to 4.4% in 2000 (FRANIĆ, 2006; CSAKI and NUCIFORA, 2003).

Since 2002 Croatia more and more focused on the reform of the national agricultural policy in order to better match the instruments applied in the EU's CAP. Significant changes were made to address the weaknesses of the prior support system. Amongst others, County-specific support ceiling was replaced by a national maximum quantity for each product that is supported. Moreover, a ceiling for the subsidy payments per farm and year was introduced. The main instruments that have been implemented to track this overall goal as well as the corresponding key legal acts are briefly described in the following¹⁵.

The *Act on Agriculture* specifies the general legal framework of support schemes for the agricultural sector in Croatia by providing the basic policy instruments (EC, 2006). As one of the most important Acts for the agricultural sector, the *Act on State Aid in Agriculture, Fishery and Forestry* entered into force in 2003. Its budget in 2003 comprised € 280 mio, which is more than 90% of the total available funds for the support of the sector by the MAFWM (FRANIĆ, 2006). This Act offers four support schemes. All measures are targeted towards key objectives of the Croatian agricultural and rural development policy: First of all, agricultural subsidies are structured in favour of a more labour-intensive production; hence, the role of livestock production is further strengthened. Moreover, special emphasis is placed on viticulture and fruit production. Second, income aid is the main type of financial support to many non-commercial farms in Croatia. A third goal is an increase of the share of subsidies for investment and rural

¹⁵ We do not discuss the following acts which are also important for the farm sector: Food Act, Act on Agricultural Land, Act on Organic Production of Agricultural and Food Products and Wine Act.

development programmes in total subsidies. This will specifically support the most competitive farms, as well as promote the sustainable development of rural areas in general. Fourth, a strict compliance with budget limitations regarding implemented international commitments is aspired, in particular within the WTO. Moreover, further convergence to CAP instruments is one of the main objectives (MAFWM, 2005). In general, the reforms are expected to increase the overall agricultural production and to simplify the budget planning and its implementation (FRANIĆ, 2006).

The *Act on State Aid in Agriculture, Fishery and Forestry* distinguishes between commercial and non-commercial agricultural farms. Commercial farms are eligible for funds for production stimulation (direct payments), capital investment and rural development. In contrast, non-commercial farmers are entitled to apply to the income aid and the rural development schemes. Within this support pattern the model of subsidised production (production stimulation) had clearly the highest proportion, with a share of 92.6% in the total funds made available by the MAFWM in 2003 (FRANIĆ, 2006). One of the greatest beneficiaries is the milk sector where almost 30% of direct payments were allocated (MAFWM, 2005).

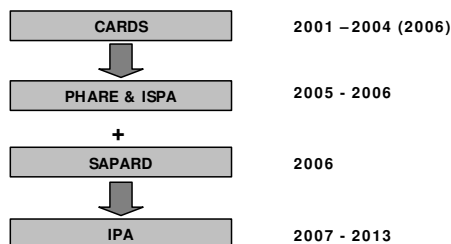
Besides this, several investment support programmes have been established since 2004 to promote and increase the competitiveness and production of agricultural products in which Croatia is less than self-sufficient. Fostering the production of fruits, grapes, meat, and milk is particularly targeted. Therefore one of the priorities is the restructuring of the agricultural production and particularly the promotion of perennial plantations (planned investments of almost € 1,000 mio, MAFWM, 2005). Furthermore, the development of cattle breeding (€ 330 mio support based on loan funds, MAFWM, 2005) as well as improving the irrigation system is a strategic priority supported by the government. However, due to many administrative obstacles, e.g. discouraging the construction of new livestock stables in villages, these measures showed little impact so far (CEEC AGRIPOLICY, 2006).

3.3.2 EU pre-accession financial assistance

The SAP is the EU's policy framework for the Western Balkan countries on the way to their eventual accession. Croatia, although having been granted candidate country status in June 2004, remains part of the SAP. As an official candidate country, Croatia is eligible for all three EU pre-accession financial instruments (Figure 3.7): (1) PHARE (= Poland and Hungary: Assistance to Restructure the Economy) for institution-building and economic and social cohesion, (2) ISPA (= Instrument for Structural Policy for Pre-accession) for environment and

transport infrastructures, and (3) SAPARD (= Special Pre-assistance Programme for Agriculture and Rural Development) for agricultural and rural development. Croatia also remains eligible for the CARDS (= Community Assistance for Reconstruction, Development and Stabilisation) Regional Programme in 2005 and 2006, although formally planned until 2004.

Figure 3.7 Croatia's EU pre-accession assistance from 2001 to 2013



Source: Own figure.

Notes: CARDS = Community Assistance for Reconstruction, Development and Stabilisation; PHARE = Poland and Hungary: Assistance to Restructure the Economy; ISPA = Instrument for Structural Policy for Pre-accession; IPA = Integrated Pre-accession Programme.

The EU Pre-accession grants amount to €105 mio in 2005 (PHARE: € 80 mio, ISPA: € 25 mio), and € 140 mio in 2006 (PHARE: € 80 mio, ISPA: € 35 mio, SAPARD: € 25 mio). This represents a substantial increase in overall EC assistance compared to the amounts foreseen under CARDS for 2005 (€ 60 mio) and 2006 (€ 62 mio) (EC 2007a). In 2007, IPA replaces CARDS, PHARE, ISPA, and SAPARD programmes until Croatia is a full member of the EU (Figure 3.7). According to the Multi-annual indicative financial framework (MIFF) (EC, 2007b) Croatia will grant funds in the amount of € 141 mio in the first year with a slight increase in the following years. Within IPA the EU will reduce aid for transition assistance and institutional building in comparison to the former support schemes and enhance support in the fields of cross-border cooperation, regional development and human resource development.

The SAPARD programme, as a special pre-accession programme in agriculture, is implemented on the basis of the Agriculture and Rural Development Plan for 2005-2006 (MAFWM, 2005), in accordance with the Multi-annual Financing Agreement (MAFA) between the European Community and the Republic of Croatia. It aims to solve problems affecting the agricultural sector and rural areas

in the respective candidate country. The management of the SAPARD programme was conferred on a provisional basis to the Directorate for Market and Structural Support in Agriculture within the MAFWM (SAPARD Agency), by Commission Decision of September 2006 (MAFWM, 2007). Three priority areas have been identified:

- Priority 1: Investment in agricultural holdings;
- Priority 2: Improvement of processing and marketing of agricultural and fishing products;
- Priority 3: Investments in rural infrastructure.

The Commission Decision marks the date for the SAPARD Agency to start selecting and contracting projects for the measures under priority 1 (Investment in agricultural holdings) and priority 2 (Improvement of processing and marketing of agricultural and fishery products). Measures under the third priority (Investments in rural infrastructure) is currently being prepared for national accreditation (MAFWM, 2007)

The first call for applications was announced on 26 July 2006 and closed on 31 October 2006. 51 applications have been received by the SAPARD Agency, out of which two had to be rejected due to insufficient application forms. Out of 49 accepted applications, 28 were for measures under priority 1 and 21 for measures under priority 2. After the administrative control six applications were approved by the SAPARD Agency, whereof five have been finally concluded after field control. Two of the applicants received financial support through measures in the field of "Investment in agricultural holdings" and three through measures in the field of "Improvement of processing and marketing of agricultural and fishery products". In the first tender, only 8.5% (€ 1.3 mio) of allocated EU funds for these two measures were contracted (MAFWM, 2007).

In the second call for applications, announced on 28 March 2007 and closed on 28 July 2007, the SAPARD Agency has received 56 applications. Ten of the applications had to be rejected, because the applicants did not submit valid application forms, which made it impossible to determine related measures. Out of 46 valid applicants, 31 applied for measures under priority 1 and 15 for measures under priority 2. In comparison to the first tender, a higher number of 24 contracts were accepted after the field test, thereof, 15 beneficiaries of priority 1 and 9 of priority 2. The allocated EU funds amount to € 7.6 mio in 2007, thus they are

nearly 6 times higher compared to first round of applications (MAFWM, 2007). In general, the number of applications and amount of allocated funds are low, but show a positive trend over the first two years of implementation of SAPARD programme.

KERSAN-ŠKABIĆ (2007) analysed the utilisation of the whole range of EU Pre-accession programs in Croatia including SAPARD. The analysis showed that main problems in the process for a successful application are a lack of time, high degrees of bureaucracy as well as a lack of interest among the targeted groups. Moreover, successful applications come along with another set of difficulties connected with the implementation of the programs. The three most important issues were adequate human resources, lack of own financial means and interest of the individuals engaged in project realisation. To overcome these problems, further improvement is particularly needed in the field of effective distribution of knowledge about the IPA EU Pre-accession program.

Recent analyses on the impact of the SAPARD instrument in beneficiary countries have shown that this programme is not well targeted in some parts. In particular, the majority of small-sized agricultural farms do not benefit sufficiently from the programme. In Poland, for instance, mainly the above average farms in terms of size and management skills, as well as farms with a relatively young and better educated farm operator apply for and benefit from SAPARD funds (BRYLA, 2005). While this could be seen as a desired side effect that promotes structural change, the central concerns of Polish farmers with regard to the SAPARD performance point at the complicated administrative procedures as well as insufficient own resources that are needed to co-finance projects (GRZEGORZ, 2005). A study on the SAPARD programme in Hungary finds that the overall programme process was underperforming in terms of organisation, transparency, and generally caused a lot of misunderstandings among all participating levels. Moreover, the application procedure in Hungary showed "unreasonable" complications and lengthy procedures (KOVÁCS et al., 2005).

As one of the most important positive results of the SAPARD programme several studies find a positive impact on the hygiene conditions and animal welfare, as well as the environment protection and the phyto-sanitary conditions with regard to the EU requirements (GRZEGORZ, 2005; STOIAN, 2005). That confirms that investments have been initiated, which would have hardly be done without the SAPARD assistance (GEORGIEVA, 2005). Furthermore, STOIAN (2005) suggests that SAPARD was highly effective with regard to the development and improvement of the rural infrastructure and the most successful instrument in

Romania. Generally, the existence of a minimum infrastructure appears to be a prerequisite for many SAPARD measures and their success.

3.3.3 Critical comments on Croatia's agricultural and rural policies Agricultural Chapter – A brief overview

In the context of an agricultural sector that is largely dominated by small-scale producers, promoting labour intensive production can be beneficial for all stakeholders. Therefore, Croatian agricultural policy considers this a reasonable strategy for certain areas of production. However, stabilising agricultural employment could be best achieved by using instruments addressing the factor labour (e.g. increasing labour productivity by strengthening education and vocational training, improving labour mobility) instead of supporting those products which are labour intensive, such as for example milk and fruit production. In addition, strengthening agricultural employment could be hampered by promoting capital investment as long as factor substitution is achieved and not augmenting the capital stock. Capital investment receives public aid by one of the four measures offered through the *Act on State Aid in Agriculture, Fishery and Forestry*; i.e. the two instruments hamper each other. As the increase of production in deficit areas such as milk, meat and fruits, is specifically addressed by several sub-sector development programmes, it should be critically noted that from an economic point of view, Croatia should focus less on self-sufficiency but also improve its trade relations accordingly.

Income aid is used to support non-commercial farmers according to the *Act on State Aid in Agriculture, Fishery and Forestry*. This is an appropriate measure to avoid social hardships. It could be well combined with instruments addressing non-farm diversification and the development of other gainful activities. In this regard, it is important to stress that investment support, if targeted at competitive farmers as suggested by the instruments of the *Act on State Aid in Agriculture, Fishery and Forestry*, is useful. Nevertheless, other economic sectors should then also have access to such instruments: rural policies should always follow a territorial approach and not support a special sector.

Providing a comprehensive list of comments on agricultural and rural policies must go beyond analysing policies currently implemented by also addressing policy failures; i.e. areas which are in need of policy support. To those belong improving process and product, quality, animal welfare standards, farm structures and, very important, market organisation.

As will be seen in Chapter 4, competitiveness of Croatian agricultural and food products depends not only on their prices but also to a large extent on their quality. Ensuring good quality begins with using farm inputs for producing better quality of raw material for the processing industry and ends with proper distribution systems which guarantee that the high food standards are not lost in the retailing system. Hence quality is an issue at all stages of producing, processing and distributing food. The government must provide the appropriate conditions that quality will be reached at all these stages. It has a large set of instruments at its disposal which can help entrepreneurs in reaching these high standards. They range from providing information about what properties are needed for high quality, which organisational structure is to be set up for measuring quality, which quality standards and grades are best to be established etc. up to allowing for incentives for obtaining high quality.

Likewise, the government can strengthen agriculture and the food industry by improving market organisations; i.e. those regulations and policies which make the markets work. Functioning markets are crucial for becoming or staying competitive, more so than any price or other direct support. This holds for both input and output markets.

Structural change in agriculture strongly depends on a functioning land market. The extremely small and fragmented structure of Croatian farms makes it difficult for agricultural enterprises to grow by land acquisition. The need for land consolidation, further privatization of state owned land and land market development are recognised in Croatia for policy support (MAFWM, 2005). However, no clear message has been sent out about how these issues will be tackled.

For example, the development of a functioning land market is mentioned as one of the objectives of the income aid scheme (MAFWM, 2005). As mentioned above, this policy aims at non-commercial farmers. With regard to land markets it is hoped that farmers give up agriculture and rent out or sell their land when income aid is provided. However, this scheme may lead very well to the opposite effect, i.e. conserving current structures because farm exit is not explicitly supported since no incentive is provided to farmers to give up cultivation of their land.¹⁶ Another measure that targets land consolidation is the above mentioned capital investment scheme that also provides financial means to farmers that are

¹⁶ The measure of income aid has some similarities with an early retirement scheme, however, in opposite to the EU measure; it does not require that the beneficiary hands over the farm to a successor or active farmer (see COUNCIL REGULATION (EC) No 1257/1999).

interested in buying farm land. However, the impact seems also to be low with only 18 applications in 2003 in this government programme (MAFWM, 2005).

As concerns privatization of the state-owned agricultural land, there are a couple of obstacles that have to be solved. Among them are (a) unsettled ownership status and legal property rights as a consequence of the overlapping and non-harmonized land records; (b) the absence of geodetic land mapping, especially in the areas where consolidation has been completed, so that the site map does not correspond to the stated land records; (c) complicated and time-consuming restitution procedures; (d) the lack of accepted credit facilities for the purchase of land. Obviously, the problems are mostly related to institutional and organisational constraints that need to be solved in the nearer future. Some of them are also relevant for private land such as cadastre and credit related issues.

Credit markets are also of high importance when it comes to the necessary investments in quality, hygiene and animal welfare standards. To our knowledge, targeted support currently is only directed to a livestock programme. However, investments are supported by the capital investment scheme. Nonetheless, given the importance of access to credits, this issue should be more explicitly included into the rural development strategies and instruments.

Similarly, the functioning of product markets should be ensured. This includes avoiding excessively high differences between producer and border prices due to e.g. lack of infrastructure and/or to high transaction costs as well as marketing margins due to market power. In Croatia, product markets are supported by a subsidy for producers associations for selling their products. This support is limited to an amount of less than € 70,000 per year. Policy instruments that explicitly support the proper functioning of markets seem generally underrepresented compared to product specific, coupled measures. There is a need of ensuring that physical infrastructure; especially the transportation system is in excellent shape. In addition, entering into formal contracts becomes more and more custom among trading partners. Hence, setting up contracts must be accomplished with reasonable costs and in short time. Furthermore, the partners must be able to enforce these contracts easily. The legal regulations and the juridical system must be set up accordingly.

The functioning of markets can also be advanced by providing a better system which informs timely about market conditions for farmers as well as other market participants. Especially small and medium scale farmers depend on such data. Although prices are most important also other information should be provided such as quality levels etc.

The screening report of the EC for Croatia (EC, 2007c) confirms that Croatia made considerable improvements in the field of quality issues in agricultural production. Nonetheless, further efforts have to be undertaken with regard to the inspection system as well as in the processing sector and animal welfare. Good progress is also seen in the field of phytosanitary issues and plant protection.

Considerations should also be given to rural development policies. Fostering development of the rural economy in general also offers indirect support to agriculture. A host of non-farm related measures exists that could be implemented in this respect. For instance, the programmes available in Croatia that are targeted at encouraging employment, are mostly addressing urban areas, while rural economies are still seen to consist mainly of agricultural production (MAFWM, 2005). Although the programme of subsidies for small and medium sized businesses is generally open for rural applicants, there is no specific instrument targeted at rural development. Of high importance in this regard are direct and indirect incentives attracting employment-creating investments in rural areas, which would have a positive impact on structural change in agriculture as well. To the former belong those which improve the economic conditions for investment such as e.g. infrastructure while the latter provide support to reduce the investment costs.

Another general problem of Croatia's agricultural policies is that most state aid is still not in line with the *Acquis communautaire* due to the high degree of coupling of direct payments (EC, 2006).¹⁷ Further remaining problems are the lack of legal provisions and institutional capacities like the Integrated Administration and Control System (IACS) and paying agencies. Moreover, several identification and registration systems have to be enhanced or newly established, e.g. land parcel identification systems using Geographic Information System GIS techniques. A Farm Accountancy Data Network (FADN) has not yet been implemented. Generally, the EC (2007b) still observes a need for staff and financial resources to ensure a sufficient administrative capacity for preparing and implementing the CAP.

¹⁷ This issue could not be dealt with comprehensively in this contribution. However, an ongoing study under the guidance of IAMO looks at the degree of harmonisation and remaining problems particularly with regard to structural policies. Results will be published as IAMO Discussion Paper in 2009.

**Part B – Micro-economic assessment of rural livelihoods
and prospects vis-à-vis the EU accession**

4 Competitiveness of Croatia's economy, agriculture with emphasis on the dairy sector¹⁸

Chapter 4 discusses the competitiveness of Croatia's farming sector and particularly its dairy production. Different indicators are used for assessing competitiveness: trade share indicators, domestic resource costs and foreign direct investments. The analysis is based on trade figures from CROSTAT, EUROSTAT, FAO and UNSD as well as on empirical data from dairy farms in the Croatian research regions, Zagreb County and Bjelovar-Bilogora. With regard to dairy production we find a considerable lack of competitiveness.

4.1 Description of indicators of competitiveness employed

This section provides a very brief discussion of those most commonly used indicators for assessing competitiveness of which the reader might not be very familiar. The first two ones mentioned indicate price competitiveness. They do not enter account for non-price effects of competitiveness such as quality, timely delivery and other such qualitative factors. The trade share indicators mentioned last can be seen as measures taking into account all these effects simultaneously.

Exchange rate. The exchange rate can be seen as a determinant affecting the price competitiveness of a country. From a static point of view, appreciation of the national currency makes exporting more difficult because the price of the domestic good increases when denominated in the currency of the receiving country. On the other hand, imports get cheaper when their prices are expressed in national currency though the country of origin has not altered the price.

Various different exchange rates can be used for judging these effects. The nominal one is often used because it is easily available in publications of e.g. central banks. The purchasing power exchange rate is a more realistic one for assessing competitiveness because it takes into account differences in inflation rates in the countries compared. This exchange rate is calculated by multiplying the nominal exchange rate (expressed as domestic currency per unit of foreign currency

¹⁸ Authors of this Chapter are Klaus Frohberg and Patrick Zier.

known as the price or direct quotation of the exchange rate) by the ratio of foreign inflation rate to that of the domestic economy. As an alternative the real exchange rate defined as the ratio of domestic prices of tradables to that of non-tradables is also in use but rarely found in publications.

For evaluating the impact of exchange rates on competitiveness of a country against many other countries the effective exchange rate is employed. One way of arriving at this indicator is summing up the exchange rates of the various countries by weighing them with the corresponding trade shares. This yields a trade weighted average of these exchange rates. In the current study, the Kuna (HRK) is compared with the currencies of the European Monetary Union, Slovenia and Bosnia-Herzegovina.

Foreign direct investment (FDI). The amount of FDI a country attracts is frequently seen as a sign of competitiveness of that nation as a whole, or of the sector or region attracting the investment. From this point of view, FDI is interpreted as the capability of the host country to pull in mobile international resources in the form of physical capital and know-how. In such a case, it is assumed that a country will attract FDI if it has the advantage of production conditions that the foreign country making such investment is lacking.

However, such an interpretation is only valid if the donor country's investment is not triggered by trade barriers of the host country making it difficult to export onto this foreign market. Only when local production leads to a more efficient way for penetrating the host country's market than exports can FDI be interpreted as showing competitiveness of that country. Unfortunately this is not easy to judge.

Domestic resource costs (DRC). The domestic resource costs (DRC) is defined as the opportunity costs of domestic resources required in relation to the shadow value of its traded net outputs. It measures the net foreign exchange effect that domestic resources generate in a particular production activity. A DRC value less (greater) than unity implies that the net benefits of producing domestically are positive (negative). One of the disadvantages of this indicator is that in calculating this ratio by using different prices no adjustment in input structure is made though relative prices differ.

Revealed Comparative Export Advantage Index (RXA). The RXA is used to measure competitiveness as revealed in trade and defined by equation (1):

$$(1) \quad RXA_{ij} = (X_{ij} / \sum_k X_{kj}) / (\sum_l X_{il} / \sum_k \sum_l X_{kl}).$$

In equation (1) above, X refers to exports. The subscripts i and k denote product categories while j and l indicate country categories. The numerator presents the

share of Croatia's exports of product i in its total merchandise exports. The denominator expresses for all reference countries the share of exports of this product in total merchandise exports. In this study the RXA is calculated by having the country as well as the commodity considered simultaneously included in both the numerator and the denominator of the index. The interpretation of the indices is as follows. Values of RXA above unity suggest that the country has a competitive advantage in the considered product category, whereas values below 1 are indicative of a competitive disadvantage.

The RXA values were checked whether they present comparative advantage. This was done by using a condition by HILLMAN (1980). He derived it under the assumption of homothetic preferences. The Hillman index (HI) is defined as follows (2):

$$(2) \quad HI_{ij} = (1 - X_{ij} / \sum_l X_{il}) / ((X_{ij} / \sum_k X_{kj}) (1 - \sum_k X_{kj} / \sum_l \sum_k X_{kl}))$$

If the HI shown in equation (2) exceeds unity a correspondence between the RXA and comparative advantage prevails. With the subscripts as explained above. This index is made up of three elements (HINLOOPEN and MARREWIJK, 2005):

Market share measured by $X_{ij} / \sum_l X_{il}$,

Degree of export specialization expressed as $X_{ij} / \sum_k X_{kj}$,

Country size depicted by the ratio $\sum_k X_{kj} / \sum_k \sum_l X_{kl}$.

The levels of competitiveness as revealed by employing these indicators provide a descriptive assessment. There are no structures of the economy, sector and/or companies under consideration which could allow drawing conclusions for policy advice when these indicators are calculated. This calls for a careful interpretation of the results.

4.2 Competitiveness of Croatia's economy

Croatia has an open economy which is already considerably integrated in that of the EU and other neighbouring countries. This can be seen from the amount of trade in goods and services and the capital inflow as foreign direct investments. The movement of Croatia's exchange rate is closely watched by the National Bank (managed flow) with the aim of keeping domestic inflation under control (EC, 2006). Over the period 1995 to 2005 two distinguished periods regarding

the change in the nominal value of the kuna can be recognised. During the first five years the kuna depreciated against currencies important for Croatia's trade, i.e. the US-dollar, euro and the marka of Bosnia-Herzegovina while it appreciated against Slovenia's tolar. Though trade with the USA is not very strong the US-dollar nevertheless is important for Croatia because the exchange in goods with many countries is denominated in this currency. The decline in the value of the kuna against the US-dollar was especially strong in this 5-year period.

The change in fiscal policies which was implemented in 1999 led to a stabilization of the Croatian currency beginning in 2000 or 2001 depending on the foreign currency looked at. The second to last row of Table 4.1 shows the annual change of the kuna against the corresponding currency. These growth rates are all negative indicating an appreciation. This implies that Croatia's price competitiveness weakened over this period.

This effect was even strengthened by the change in the terms of trade (ToT) for Croatia's merchandise trade as depicted in the second column of Table 4.2. The ToT worsened almost continuously from 1999 until 2006. Only in 2004 did they improve somewhat compared to 2003 but still remained below the level reached in 1999. In 2005 as well as 2006, they fell again but stabilized at the height of 2003.

Both the appreciation of the nominal value of the kuna and the decline in the ToT worsened Croatia's price competitiveness during the first half of this decade. This shows up in the deficit of merchandise trade. The last column of Table 4.2 indicates that this deficit increased by about 120% from 1999 to 2006. Also in the period prior to 1999, Croatia always had a deficit in merchandise trade. However, it was considerably lower and increased not as much as after the base year 1999. As a matter of fact, from 1993 to 1999 it grew in total by 50%, i.e. half of that what it went up in the years thereafter.

Given the decline in price competitiveness due to the appreciation of the kuna Croatia has to produce cheaper; i.e. offer its commodities at lower prices and/or compensate the loss in price competitiveness with improving the quality of the goods. Though this observation holds for the entire economy agriculture is less affected by changes in its ToT as will be shown in the next sub-section.

Table 4.1 Index of changes in Croatia's exchange rate, 1995=100

	Index (1995=100) of annual average of Croatia's currency to that of				Nominal effective exchange rate, trade weighted average of HRK to EUR, to tolar and to marka ^{a)} , index (1995=100)
	European Monetary Union (EMU)	Slovenia	Bosnia-Herzegovina	USA	
Year	HRK/EUR	HRK/tolar	HRK/marka	HRK/US\$	HRK/basket of foreign currencies
1995	100.00	100.00	100.00	100.00	100.00
1996	100.69	90.79	100.68	103.90	102.86
1997	102.99	88.13	102.55	117.73	108.95
1998	105.61	87.96	106.34	121.65	113.11
1999	112.16	89.33	116.04	135.99	119.46
2000	112.98	84.69	130.15	158.26	120.86
2001	110.52	78.53	128.79	159.45	120.50
2002	109.60	75.12	122.84	150.36	120.01
2003	111.92	74.13	104.86	128.13	120.12
2004	110.91	71.85	94.90	115.40	118.43
2005	109.51	70.80	93.53	113.73	116.51
Average annual change of exchange rates (in %)					
1995-2000	2.47	-3.27	5.41	9.62	3.86
2000-2005	-0.62	-3.52	-6.39	-6.39	-0.73
1995-2000	0.91	-3.39	-0.67	1.29	1.54

Source: National Statistical Yearbooks and own calculation.

Note: ^{a)} For weighing total merchandise trade (value of imports and exports) is taken of 9 members of the EMU, not included are Ireland, Luxemburg and Portugal. The 9 countries of the EMU together with Slovenia and Bosnia-Herzegovina account for about 70% of Croatia's total trade.

Turning to a brief discussion of foreign direct investment this indicator shows a relatively positive picture for Croatia. A study on FDI in Southeastern Europe (DEMEKAS, 2005) indicates that by 2003 the FDI stock with about 3.0 Euro per capita was rather high in comparison to all the other countries in this region and not much lower in comparison to Hungary and Czech Republic which reached 3.3 Euro and held the pole position at this point in time. Slovenia had the same level as Croatia while Bulgaria and Romania reported a 20% lower level. Taking into account the necessary caution in interpreting this indicator one can nevertheless say that Croatia is attractive for FDI reflecting good competitiveness.

This rather bright aspect is overshadowed by the sector distribution of these foreign capital streams. Over the years 1993 to 2006 only 3% of them went into the food processing sector. Agriculture is not separately mentioned presumably because nothing or not much was invested in this sector. In former candidate countries the food sector was always among those branches which received most FDI. The reasons why food processing did not attract more FDI could be that major foreign processors invested already in other host countries and that Croatian agriculture is not seen to be able to deliver sufficient raw material for large processing activities.

Table 4.2 Croatia's merchandise trade: Changes in Terms of Trade and trade deficit, 1999 = 100

Year	Terms of Trade	Trade deficit
1999	100.0	100.0
2000	98.3	114.2
2001	92.8	152.4
2002	90.8	189.7
2003	89.1	216.7
2004	97.4	209.9
2005	90.2	239.9
2006	90.4	227.5

Source: Own calculations based on data from EUROSTAT, 2007.

4.3 Competitiveness of Croatia's agriculture

Table 4.3 depicts wages and GDP per labourer at current as well as constant prices for the national economy and for the agricultural sector. It shows that wages of employees in agriculture and at the national level are quite different. Those employed by agriculture earn about 40% less than is paid as national average. Though agricultural wages grew slightly more (see last row in Table 4.3) this difference remained rather stable over the period 1999 to 2006. It more or less also equals the percentage deviation of agricultural GDP per agricultural labourer and the same indicator at national level for the first four years considered; i.e. up to 2002. Thereafter, agricultural GDP at current prices per agricultural labourer increased substantially less than that of the national economy. It also quite interesting to find out that the share of annual wages in current GDP per labourer was rather similar for the national average and for agriculture in these first four years. It varied between 55 and 59%. Afterwards, this share increased for agriculture while it declined for the national average. Again, the last row in

Table 4.3 depicts this as well. For the national average wages grew less the current GDP per labourer. In agriculture it was the opposite. Less favourable weather conditions during the latter years might be one explanation why this development took place in agriculture. Moderate wage increases at national level might be the reason for the declining share of national factor payments going to labour.

However, agricultural statistics do not tell what the remuneration for self-employed persons in this sector was. Those agricultural labourers receiving wages are the minority of the total agricultural labour force. Therefore, agricultural wages cannot be used as an indicator of annual income per person working in that sector.

Table 4.3 Annual wages and GDP in current and constant (1997) prices per labourer for the entire economy and for agriculture, in Euro

Year	Annual wages per labourer, national average	Annual wages per agricultural labourer	Annual GDP per labourer, national average		Annual agricultural GDP per agricultural labourer	
			at current prices	at constant (1997) prices	at current prices	at constant (1997) prices
in Euro						
1999	7,205	4,262	12,516	11,125	7,408	6,585
2000	7,653	4,817	12,865	10,918	8,046	6,829
2001	8,131	4,857	15,082	12,310	8,833	7,209
2002	8,694	5,235	16,023	12,619	9,171	7,222
2003	8,921	5,239	17,078	12,940	7,266	5,506
2004	9,582	5,652	18,166	13,321	7,734	5,671
2005	10,132	6,024	19,675	13,981	7,613	5,409
2006	10,871	6,732	21,571	14,814	10,831	7,438
2006/1999	1.51	1.58	1.72	1.33	1.46	1.13

Source: Own calculations based on data from EUROSTAT, 2007.

GDP per labourer at constant prices is not to be seen as a measure of productivity because it includes the contribution of all factors to production. The difference between the indicators for the entire economy and for agriculture can more or less be attributed to the gap in capital use per labourer. As Table 4.3

reveals in the last row, constant GDP per labourer of the entire economy grew considerably more than that of agriculture. This fact was noticed already in Chapter 2 where it is shown that the share of agricultural GDP in that of the whole economy declined. However, a disclaimer is in order. Constant GDP of agriculture was arrived at by deflating the one in current prices by using the deflator as for total GDP; i.e. the implicit GDP deflator. This index is not available for agriculture.

In Table 4.4 the ToT for Croatia's agricultural trade are contrasted to the trade deficit in this product group. Unlike the same comparison made above for all traded goods a special relation cannot be discerned for agriculture. The terms of trade do not follow a special trend. They rather fluctuate over the period chosen which is 1995 to 2005. The same holds for the agricultural trade deficit over the first years up to 1999. It fluctuates but does not show a trend. Beginning in 2000, it increases.

Table 4.4 Croatia's agricultural trade; changes in Terms of Trade and trade deficit, 1999 = 100

Year	Agricultural Terms of Trade ^{a)}	Agricultural Trade deficit
1995	86.2	121.7
1996	78.0	94.9
1997	122.7	122.2
1998	96.6	76.6
1999	100.0	100.0
2000	79.2	111.6
2001	102.0	166.2
2002	88.3	166.3
2003	94.1	167.4
2004	120.7	225.8
2005	93.1	171.3

Source: Own calculations based on data from FAOSTAT, 2007.

Note: ^{a)} Based on commodities accounting for 85% of Croatia's total agricultural trade in 2005.

4.4 Competitiveness of Croatia's milk production and processing in comparison to the EU-25

Assessing competitiveness of milk production the domestic resource cost indicator is used. However, it is based on a rather small sample of less than 20 farms in Croatia which are located in the two regions to be described and analysed in Chapter 5. For comparison the prices of the EU as prevailing in Slovenia were taken and not world market conditions. Farmers interviewed for obtaining the

data for calculating the DRC were asked for their production conditions in 2006. The results yield DRC values of 3.0 for farms lower than 15 ha, 2.2 for those larger than that size and 2.4 for all farms. They indicate a considerable lack of competitiveness in Croatia's milk production. Based on these calculations it would be considerably advantageous for Croatia to import rather than producing milk and use the domestic resources saved in other production activities in a more profitable way. A comparison with Slovenian dairy farmers also reveals that besides the high resource costs Croatia also suffers from lower yields per dairy cow and an inefficient way of using feed concentrates.

Actually, this result is not very surprising given the considerable price and production support given to milk production. As for other commodities direct payments are spent on milk output. Also milk prices farmers reported to receive are in general above those their colleagues in the EU receive. The other side of this coin of support must also be recognised. It keeps away any pressure on dairy farmers to substantially improve efficiency. Otherwise, dairy plants may buy their milk for processing from other EU member countries after Croatia joined the EU.

The question arises how competitive are dairy plants? Can they even compensate some of the lack of competitiveness existing in producing raw milk? This issue is discussed in the following. The assessment is based largely on trade share indicators¹⁹ The data used for carrying out the analysis was obtained from EUROSTAT and the United Nations Statistics Division (UNSD) at four-digit level in the Standard International Trade Classification (SITC) system covering the period 2000 to 2007.

This period starting with 2000 was chosen for several reasons. First, the economies in transition including that of Croatia had already quite well adjusted to the fundamental changes introduced in the early 90ies. This is thought to provide a better picture about future competitiveness than time series with a longer history when transition was still strong. 2000 is also the year when the EU quite substantially adjusted its CAP by introducing the Agenda 2000 which brought about another cut in price support compensated partially by larger direct payments. Due to the so-called Mid Term Review enacted in 2003 protection

¹⁹ A similar study has recently been published by BOJNEC and FERTŐ (2007). Their analysis differs in very important details from the one presented here. They define the indicators differently in the sense that the ratio in the denominator contains different time series than employed in this analysis and they restrict their comparison to the EU-15 while this one considers the countries which made up once the EU-25.

was lowered further in 2004 and onwards. For many agricultural products this was achieved by decoupling direct payments from production to a certain degree. Dairy products were affected by lowering support prices of butter and skim milk powder and the partial compensation by introducing coupled direct payments. 2004 was also the year when 10 Middle and East European countries became members of the EU and adopted the essentials of the CAP. From May of that year the EU-25 existed until the end of 2006. In 2007 Bulgaria and Romania joined the union. But they are not included in the set of countries considered for this analysis. 2007 was, however, an exceptional year from another viewpoint. Many agricultural and food products enjoyed exceptional high prices. All these policy aspects should be taken into account when interpreting the results on Croatia's competitiveness in the markets of the EU-25 and vice versa.

Before entering that discussion on competitiveness, the values exported and imported at current prices between Croatia and the EU-25 are presented along with net trade figures (Table 4.5). Net trade is defined as the value of exports minus that of imports. Compared to the calculation of the RXA indicators²⁰, the values in Table 4.5 are solely based on EUROSTAT (2008) data.

Trade in agricultural and food products with the EU-25 is quite important for Croatia. The commodities of the agro-food sector reached approximately 10% in both total export and total import in 2006 and 2007. Table 4.5 depicts export and import figures of this sector from 2000 to 2007. The numbers in Table 4.5 are presented at different aggregation levels: (1) for the total of agricultural and food products, (2) five product groups and (3) for dairy products. The five product groups were classified following the work of CHEN et al. (2000). We modified their approach to be more suitable for our analysis by separating the group of live animals from the bulk and raw commodities. Thus, the first four groups are distinguished according to their level of processing and refer to agricultural and food products. The last group represents horticulture and is presented just for information²¹.

²⁰ Since Croatia is not yet a member of the EU, EUROSTAT does not specify Croatia as a reporter country in its trade data. Thus, we were not able to obtain data on the world's agro-food exports to Croatia (Croatia's total agro-food imports) at the four-digit level of the SITC from the EUROSTAT database. The values regarding this specific trade flow are, however, not of interest for calculating the values in Table 4.5.

²¹ Some horticultural commodities (natural honey, plants and parts of plants for pharmaceutical purposes) also belong to the aggregate of agro-food products. However, they are excluded from the discussion below.

Table 4.5 Levels and compositions of Croatia's trade in agro-food products with the EU-25 and compound growth rate between 2000 and 2007 in %

Year	2000	2001	2002	2003	2004	2005	2006	2007	Growth ^{a)}
Export, mill EUR	150.07	187.23	258.10	310.68	221.63	353.60	493.13	420.72	15.8
Live animals, %	0.91	0.91	0.36	0.46	0.27	0.16	0.19	0.17	-21.2
Bulk raw commodities, %	6.88	4.54	14.25	10.45	3.63	4.36	5.77	7.23	0.7
Processed intermediates, %	19.43	19.20	19.66	13.51	17.16	9.79	7.28	8.43	-11.2
Consumer-ready food, %	67.29	69.77	61.85	72.55	74.12	83.81	84.64	80.15	2.5
Horticulture, %	5.49	5.57	3.88	3.03	4.82	1.88	2.13	4.02	-4.3
Dairy products, mill EUR	4.25	6.56	5.62	5.12	3.76	4.74	5.46	9.39	12.0
Dairy products, %	2.83	3.50	2.18	1.65	1.70	1.34	1.11	2.23	-3.3
Import, mill EUR	561.47	683.74	753.84	785.48	833.49	923.23	1036.75	1037.71	9.1
Live animals, %	7.34	3.71	5.78	3.56	3.86	6.09	6.29	5.97	-2.9
Bulk raw commodities, %	3.65	6.18	3.45	3.01	4.89	3.01	2.79	4.46	2.9
Processed intermediates, %	14.77	14.82	16.30	15.22	15.05	12.47	12.31	12.56	-2.2
Consumer-ready food, %	64.58	65.54	64.58	67.33	66.09	68.71	69.19	65.90	0.3
Horticulture, %	9.66	9.75	9.89	10.87	10.11	9.72	9.42	11.11	2.0
Dairy products, mill EUR	55.07	64.70	62.12	60.73	58.45	45.48	46.87	63.08	1.9
Dairy products, %	9.81	9.46	8.24	7.73	7.01	4.93	4.52	6.08	-6.6
Net trade, mill EUR	-411.40	-496.51	-495.74	-474.80	-611.86	-569.63	-543.62	-617.00	5.9
Live animals, % ^{b)}	9.69	4.77	8.60	5.60	5.16	9.76	11.83	9.92	0.3
Bulk raw commodities, % ^{b)}	2.47	6.79	-2.18	-1.85	5.35	2.17	0.08	2.58	0.6
Processed intermediates, % ^{b)}	13.06	13.17	14.54	16.34	14.28	14.14	16.87	15.38	2.4
Consumer-ready food, % ^{b)}	63.59	63.95	66.01	63.91	63.18	59.34	55.18	56.18	-1.7
Horticulture, % ^{b)}	11.18	11.32	13.03	16.00	12.03	14.59	16.03	15.95	5.2
Dairy products, mill EUR	-50.81	-58.14	-56.50	-55.61	-54.69	-40.75	-41.41	-53.69	0.7
Dairy products, % ^{b)}	12.35	11.71	11.40	11.71	8.94	7.15	7.62	8.70	-4.8

Source: Own calculation based on EUROSTAT 2008 data.

Note: ^{a)} Compound growth rate between 2000 and 2007 in %.^{b)} Negative percentage values indicate that exports exceed imports, whereas positive percentage values indicate that imports are larger than exports.

As regards the values of total exports of this sector into the EU-25, Croatia was able to increase these figures significantly from 2000 to 2007. Over this eight-year period almost a tripling was achieved even though a slight decline can be seen in 2007. The increase did not take place uniformly over all product groups as indicated by their shares in total exports. Among the four groups of agro-food products consumer-ready food had already in 2000 the highest share in export value of two thirds and increased over the coming 7 years even further to 80%. The share increased over this period by 13 percentage points or annually by 2.5%. Consumer-ready food shows the strongest export performance among all products of the agro-food sector. Its export value rose annually by about 19% and was more than three times higher in 2006 than in 2000. Though only rather modest increases were achieved, bulk raw commodities are the only other group being able to push up its export share. Exports of the aggregate of dairy products cannot increase relative to those of all agro-food products and lose slightly in their shares. The shares of live animals and processed intermediates declined as well and were rather small in 2007 anyhow.

The development of the value of imports provides a different picture in comparison to those of exports. First, Croatia imports considerably more than it exports leading to a sizeable trade deficit. Second, the increase over the entire period is much smaller, 9% than 16% for exports. Third, imports of consumer-ready food remain constant over the period leading to an improvement of its trade performance. Since this group's imports exceed its exports the share of it in net deficit of trade declines. Overall, it accounts for about two thirds of all agro-food imports. Fourth, bulk raw commodities and horticultural products are increasingly imported over the 8 years considered, while the share of live animals and processed intermediates in total agro-food imports slightly decreased. The group of consumer-ready food reveals a slight increase by 2006 to drop to the share of 2000 again in 2007.

Croatia has a negative trade balance for agriculture and the food sector with the EU-25 over the entire period considered. Since during the early years, imports increase relatively less than exports the trade deficit remains rather stable until 2003. 2004 is a special year for Croatia's agro-food trade. Exports decline sharply and imports continue their increase making the total deficit in trade jump by 50% in that year as compared to 2003. Disregarding the modest downs and ups in 2005 and 2006, in 2007 it remained at the level of 2004. This indicates that Croatia's agriculture and the food processing industry cannot improve its trade with regard to the EU-25. With more than 50%, most of the trade deficit is due to the aggregate of consumer-ready food. Although this share slightly decreased until 2007, in

absolute terms the deficit increased. Moreover, Croatia's trade performance regarding processed intermediates as well as horticultural products considerably deteriorated from 2000 to 2007.

On the other hand, the share of the aggregates bulk raw commodities in total trade deficit developed rather instable over the considered time period and it is the only one which achieved a trade surplus with the EU-25 in the years 2002 and 2003. Besides strong wheat exports also maize and soy beans contributed to that in those years. Even if during the other years all aggregate groups arrived at always trade deficits some of their four-digit commodities they are composed of reached trade surpluses. Most of them belong to the group of consumer-ready food²².

Table 4.5 also depicts the values and shares of trade in dairy products which are part of the group consumer-ready food. Only a relatively small proportion of total exports are dairy products. In terms of imports these products reach much higher shares. Both, the absolute values and shares in total agro-food imports, however, decline from 2001 to 2006 leading to a decreasing trade deficit for dairy products. In 2007 the values slightly increase again which mainly results from risen imports of the sub-aggregates milk and cream (concentrated or sweetened) as well as other cheese and curd. This topic will be explored further when Table 4.8 is discussed.

Competitiveness of Croatia's agro-food trade is investigated at different levels of aggregation employing equation (1) shown above in Section 4.1. In principle, RXA values for aggregates can be obtained by the following two different procedures. One is by using the aggregate data. The other one is deriving first the RXA values for each individual four-digit level commodity and aggregating those numbers thereafter to the level desired. The latter approach is dismissed in this study because of the asymmetry of the RXA indicator. It is unbounded from above and, therefore, a few commodities with high RXA values could dominate the aggregation. To avoid this problem the RXA values were determined for all aggregates by using the corresponding aggregate data. This procedure contrasts the aggregation of the RXA values done in a very similar publication by BOJNEC and FERTÓ (2007) which followed the second procedure mentioned above.

²² These are meat of bovine animals, fresh or chilled; meat and edible meat offal, not elsewhere classified (n.e.s.); liver of any animal, prepared or preserved; meat, offal of bovine and poultry, prepared or preserved, n.e.s.; fish, fresh (live or dead) or chilled; fish salted but not dried or smoked, fish in brine; crustaceans, other than frozen; other beet or cane sugar and

RXA values were calculated for the aggregates of all agro-food products and of the 5 sub-aggregates depicted in Table 4.5. Results of both aggregation levels are presented in Table 4.6. Table 4.7 contains statistics summarizing all RXA values obtained for each four-digit level commodity. Lastly, for 9 four-digit level commodities containing exclusively or mainly dairy products the RXA values are shown in Table 4.8. Two assessments are made; the revealed export advantages of Croatia on EU-25 markets²³ and the opposite, i.e. the EU-25's competitiveness on Croatia's markets²⁴. We pursued this approach due to the fact that no consistent data was available for Croatia at the four-digit-level of the SITC for calculating the RXA and Relative Import Penetration Index (RMP) on a common data base, to finally derive the Relative Trade Advantage Index as recommended by FROHBERG and HARTMANN (1997).

The annual RXA indicators for Croatia's aggregate agro-food products, as shown in Table 4.6, point towards a comparative trade advantage in exporting those commodities into the EU-25. With the exception of 2004, the respective RXA indicators reveal a comparative trade advantage in the last six years considered. The same picture emerges with regard to EU-25's exports into Croatia; especially those in the recent years. However, the RXA values exceed unity not that much as their counterparts for Croatia's aggregated exports of agro-food products into the EU-25.

Which products cause these results for the aggregate? Table 4.6 additionally provides important hints on this question as it depicts summaries of the indices for the five subgroups of all agro-food products; live animals, bulk raw commodities, processed intermediates, consumer-ready food, and horticultural commodities. Regarding Croatian exports, the most important message emerging from the numbers depicted in Table 4.6 is that mainly consumer-ready food has a comparative advantage. This is indicative of what was mentioned earlier. In addition, also bulk raw commodities are able to realize an RXA indicator exceeding unity in three of the eight years considered. On the other hand, Croatia appears to be not competitive in exporting live animals, processed

pure sucrose, in solid; sauces, mixed condiments and seasonings, mustard; soups and broths and preparations therefore.

²³ Due to lack of trade data regarding Croatia as its exports on the EU-25 markets imports by the EU-25 from this country were taken instead, obtained from EUROSTAT (2008), to calculate the respective RXA values.

²⁴ For EU-25 exports to Croatia this country's import data downloaded from UNSD (2008) were considered of each member of the EU-25 and then summed up to get the total of the EU-25, to calculate the respective RXA values.

intermediates, and horticultural products onto markets of the EU-25. The EU-25 countries also reveal a comparative export advantage for consumer-ready food. However, it may be that different sets of individual commodities in Croatia and the EU-25 lead to these advantages in both cases. The RXA values for live animals of EU-25 countries indicate a considerable competitiveness in exporting those products onto markets of Croatia. However, both sub-aggregates show a declining trade advantage over the period considered. Horticultural products, processed intermediates, and bulk raw commodities are not quite competitive at all. Especially the latter two affect the low RXA values of the aggregate agro-food trade of the EU-25.

Table 4.6 RXA of Croatia's agro-food products on the EU-25 markets and vice versa

Groups of agro-food products	YEARS							
	2000	2001	2002	2003	2004	2005	2006	2007
	Exports of Croatia onto markets of the EU-25							
Aggregate agro-food products	0.73	0.78	1.07	1.24	0.77	1.39	1.74	1.37
Live animals	0.71	0.87	0.48	0.76	0.29	0.28	0.39	0.37
Bulk raw commodities	0.43	0.28	1.14	1.05	0.25	0.60	1.02	0.80
Processed	0.48	0.53	0.74	0.58	0.48	0.48	0.44	0.41
Consumer-ready food	1.15	1.25	1.53	2.09	1.31	2.55	3.15	2.45
Horticulture	0.30	0.32	0.28	0.24	0.24	0.16	0.23	0.36
	Exports of EU-25 onto markets of Croatia							
Aggregate agro-food products	1.02	0.96	0.83	0.87	0.92	1.11	1.19	1.11
Live animals	2.43	2.18	0.79	0.48	0.59	1.10	1.01	1.23
Bulk raw commodities	0.26	0.47	0.15	0.24	0.54	0.45	0.55	1.63
Processed	0.27	0.27	0.39	0.43	0.39	0.55	0.60	0.54
Consumer-ready food	2.47	2.14	1.57	1.60	1.56	1.61	1.70	1.40
Horticulture	0.86	0.72	0.72	0.71	0.76	0.84	0.83	0.90

Source: Own calculation based on EUROSTAT and UNSD 2008 data.

One can take an even closer look of the export performance by counting the frequency of RXA values exceeding unity. This was done for all these values calculated for all four-digit level commodities. There are 215 such commodities included in the data set. Four each of those the RXA values were determined for

all the eight years. Table 4.7 depicts the percentage of all of them exceeding unity, thus, indicating a comparative trade advantage. As can be seen from this table, for exports of Croatia to the EU-25 about 28 to 30% are competitive. The majority is below that threshold indicating a lack of competitiveness. Nevertheless, there must be a number of commodities with a strong competitive advantage leading to RXA values of agro-food products in some years above unity. As indicated above, the four-digit level product commodities driving this trend belong mainly to the sub-aggregate group consumer-ready food.

The number of four-digit level product groups with a RXA value above unity is significantly higher in the EU-25 than in Croatia (58 to 70%). This indicates a larger number of EU-25's commodities are competitive in Croatian markets as vice versa. Moreover, the last row of Table 4.7 supports this fact too. It shows the percentage of commodities which are exported to Croatia only by the EU-25 (19 to 8%). However, it needs to be mentioned that this proportion is steadily decreasing during the considered time period.

Because of their importance for Croatian farmers dairy products were looked at in more detail. Table 4.8 presents RXA values for all those four-digit food groups involving dairy commodities. The message emerging from this table indicates that Croatia is quite competitive in exporting most of its dairy products onto markets of the EU-25; particularly blue veined cheese. Of this it reaches a share of total exports into the EU-25 of more than 90% in all years but 2006, when this is reduced to 83%. For the other dairy products the share is usually below 10%, often even below 5%. In the case of grated or powdered cheese, of all kinds the share is about 20% in the years 2002 to 2004.

Based on the RXA values, two dairy products are not at all competitive. These are other cheese, curd along with milk and cream, concentrated or sweetened. A few general tendencies can be observed. The RXA values become larger for commodities which are competitive in 2000. These are milk and cream, not concentrated or sweetened (# 0221) as well as yogurt, buttermilk, acidified milk and ice cream (# 0223). Others being also competitive in 2000 indicate a loss of this advantage but their RXA values remain above unity. These are whey; products of natural milk constituents (# 0224) and blue veined cheese (# 243). There are another two four-digit level products which are also competitive in the beginning of the period under consideration and lose this advantage over time; grated or powdered cheese, of all kinds (# 0241) and processed cheese, not grated or powdered (#0242). Obviously, it became more difficult to export cheese onto the EU-25 markets. This is also the case for the commodity group other cheese; curd (# 0249) which never was competitive; a situation which got

even worse over time. Finally, the remaining two dairy groups – milk and cream, concentrated or sweetened (# 0222) and butter and other fats and oils derived from milk (# 0230) – were also not competitive in the year 2000. However, they both strengthened their competitiveness over time. The latter of the two reached even this status several times during the period considered. In summary, with the exception of exports of cheese, dairy products find their way on the EU-25 markets. And the EU's enlargement and its modifications of the CAP in 2004 did not lead to strong adjustments in Croatia's dairy exports into the EU-25.

Table 4.7 Percentage of RXA values exceeding unity in trade between EU-25 and Croatia

	YEARS							
	2000	2001	2002	2003	2004	2005	2006	2007
	Exports of Croatia onto markets of the EU-25							
Percentage of number of product groups with RXA > 1 ^{a)}	28.8	29.3	29.8	27.9	28.8	29.8	28.4	29.53
	Exports of EU-25 onto markets of Croatia							
Percentage of number of product groups with RXA > 1 ^{b)}	69.7	65.0	63.5	63.7	58.3	61.7	62.9	62.8
Percentage of number of product groups which are exported to Croatia only by the EU-25	18.9	13.0	12.0	14.7	9.0	8.5	10.4	8.0

Source: Own calculation based on EUROSTAT and UNSD 2008 data.

Note: ^{a)} Those product groups are taken which are exported both to the EU-25 and to other countries.

^{b)} Those product groups are taken which are exported both to Croatia and to other countries.

The results regarding Croatia's exports onto EU-25 markets indicate that it has quite a competitive processing sector. This holds for all food products and especially also for the dairy ones. A number of factors contribute to this comparative advantage such as relatively large scale processing firms. The dairies circumvent some of the disadvantage caused by high raw milk prices by importing the milk from the nearby countries. They then export the dairy products again. This provides an answer to the question raised at the beginning of this section: dairies are competitive.

On the other hand, EU-25 countries are even more competitive in selling their dairy products on the Croatian market. This group of countries dominates exports of dairy products reaching Croatia. The shares it captures in total exports are with a few exceptions above 90% and many times very close to or completely 100%. The few exceptions all occur in 2004 and later. This holds for milk and cream, not concentrated or sweetened, for butter and other fats and oils derived from milk and for other cheese; curd. In those years some shares fall as low as 25% for milk and cream, not concentrated or sweetened and to about 75% for another two products. This can be an outcome of the change in the CAP for the old EU-15 Member States and of the adoption of the CAP by the New Member States.

With Croatia's adjustments to the markets of the EU-25 including lowering its import protection, pressure of increasing shipments of dairy products on its domestic market increased already and is likely to rise further. As the lower half of Table 4.8 depicts the RXA values are substantially above unity for many of the four-digit level dairy products. Solely the commodity other cheese; curd declined in trade performance and was not competitive at all in the recent years. For some of the four-digit level dairy commodities imports by Croatia were covered entirely by the EU-25. This indicates a very high competitiveness of EU Member States on Croatian markets.

The Hillman index was calculated for all RXA values. It was found to exceed unity in all cases of Croatia's exports into the EU-25. It is below unity for 3 observations of the four-level dairy commodities exported by the EU-25 to Croatia. Those RXA values affected are not included in Table 4.8.

Table 4.8 RXA of Croatia's dairy products on the EU-25 markets and vice versa

Dairy products	YEARS							
	2000	2001	2002	2003	2004	2005	2006	2007
	Exports of Croatia onto markets of the EU-25							
0221: Milk and cream, not concentrated or sweetened	11.0	18.5	14.5	6.2	5.0	3.4	16.6	45.3
0222: Milk and cream, concentrated or sweetened	0.2	0.6	0.1	0.1	0.0	2.3	0.3	0.5
0223: Yogurt, butter-milk, acidified milk and cream; ice-cream	6.5	7.4	9.9	14.5	12.9	21.9	21.8	34.7
0224: Whey; products of natural milk constituents	18.1	24.5	15.7	8.4	0.8	3.8	3.8	8.2
0230: Butter and other fats and oils derived from milk	0.1	2.5	1.5	0.2	0.1	0.9	0.9	1.1
0241: Grated or powdered cheese, of all kinds	38.2	19.2	129.7	88.8	41.0	0.0	0.0	0.4
0242: Processed cheese, not grated or powdered	24.7	24.3	17.7	14.2	2.4	0.0	0.2	0.0
0243: Blue-veined cheese	4640.9	7671.5	9546.6	6513.5	3962.2	15704.3	1430.9	2845.2
0249: Other cheese; curd	0.6	0.5	0.5	0.4	0.2	0.1	0.1	0.1
	Exports of EU-25 onto markets of Croatia ^{a)}							
0221: Milk and cream, not concentrated or sweetened	HI index violated ^{b)}	57.7	20.1	12.2	1.6	0.3	0.2	0.2
0222: Milk and cream, concentrated or sweetened	296.4	HI index violated ^{b)}	112.5	61.9	52.5	7.9	11.5	83.6
0223: Yogurt, butter-milk, acidified milk and cream; ice-cream	20.7	100.4	all EU-25	20.1	8.3	1097.4	12.3	6.9
0224: Whey; products of natural milk constituents	2648.8	all EU-25	all EU-25	2342.5	all EU-25	all EU-25	63.7	all EU-25
0230: Butter and other fats and oils derived from milk	192.7	17.4	6.6	2.8	5.3	5.0	4.0	3.5
0241: Grated or powdered cheese, of all kinds	all EU-25	all EU-25	all EU-25	all EU-25	all EU-25	all EU-25	all EU-25	all EU-25
0242: Processed cheese, not grated or powdered	29.3	139.7	HI index violated ^{b)}	all EU-25	87.6	37.7	67.0	38.7
0243: Blue-veined cheese	all EU-25	all EU-25	all EU-25	all EU-25	all EU-25	954.1	1759.8	all EU-25
0249: Other cheese; curd	2.6	2.4	5.2	3.9	1.2	0.9	1.3	2.2

Source: Own calculation based on EUROSTAT and UNSD 2008 data.

Note: ^{a)} "All EU-25" indicates that no RXA values could be calculated since Croatia's imports are entirely covered by exports from the EU-25.

^{b)} Violation of Hillman index described in equation (2).

5 Structural change in rural Croatia²⁵

Structural change is a consequent outcome of economic growth and a necessity for the development of rural areas on the one hand. On the other hand, it causes fears and comes with hardship for those who cannot adapt and will turn out as losers of rural transformation. Chapter 5 provides a unique insight into the situation of farm households in Croatia. It is based on an empirical study in two Croatian counties, Bjelovar-Bilogora and Zagreb County. It not only informs in detail about socio-economic structures, but also sheds light on farmers' perceptions and medium-term livelihood strategies. Data from a parallel survey in Slovenia, which entered the EU in 2000, is used as a reference that allows putting the results in perspective.

5.1 Sample and survey design

A farm household survey was conducted in Croatia and Slovenia in the spring of 2007 (Map 5.1). The main objective of this empirical work was to fill existing gaps concerning socio-economic characteristics of Croatian farms. The results are not representative at the national level; however, they offer highly detailed and otherwise not available insights into Croatia's rural households. The data from Slovenia are used as a reference from which probable developments to be expected in Croatia and their drivers will be derived. The underlying assumption is that Slovenia is, in many respects, comparable to Croatia, but just one step ahead.

Important for the comparability of the country data is the definition of regional boundaries within which the survey took place. It was agreed to choose two distinct regions in each country with different employment opportunities. As a region with a more peri-urban character and thus with better opportunities with regard to markets and particularly non-farm employment Zagreb County in Croatia and

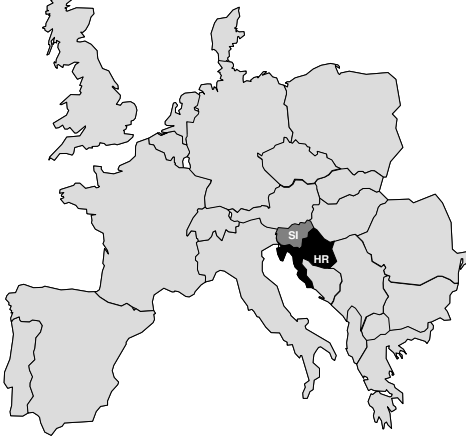
²⁵ The main author of this Chapter is Judith Möllers; Section 5.2 is written by Ramona Franić, Mario Njavro, Štefan Bojnec and Judith Möllers.

Gorenjska in Slovenia were chosen. Typical rural regions are Bjelovar-Bilogora County in Croatia and Prekmurje in Slovenia.²⁶

In each Croatian region, 80 households were interviewed. Additionally 12 dairy farms were interviewed in detail about their production (see Section 0 for the DRC of dairy production). Thus the number of interviews totalled 172. However, due to incompletely filled in questionnaires, the number of households that were included in the analysis after the data cleaning totalled 138.

In Slovenia only 65 households were interviewed; 31 households in Prekmurje as well as 34 households in Gorenjska. Also in Slovenia 12 dairy farms were interviewed in detail about their production. The number of 65 households resembles a sub-sample of farmers who agreed to take part in a follow-up interview after a first survey of 120 households in 2001/02.

Map 5.1 Croatia and Slovenia in the EU-25 context



Note: HR = Republic of Croatia; SI = Slovenia.

The questionnaire that was used for this study is an adapted version of the questionnaire used for the Slovenia study in 2001/02 (MÖLLERS, 2006).

²⁶ The Slovenian regions were chosen on the basis of an earlier survey (in 2001/2002 within Phare-Ace Project P98-1090-R "EU Accession in the Balkans: Policy Options for Diversification in the Rural Economy") to allow a comparison of the before and after accession situation in a consequent data analysis. The Croatian regions were chosen according to the same criteria by the Croatian project experts.

It contained several customised sections to capture farming activities, sources of income, driving forces of income diversification, attitudes towards farm and non-farm activities, policy support and plans for future farming and employment strategies. The enumerators went through a half-day training and took part in the pre-testing of the questionnaire before the survey started. The primary data was entered into an MS ACCESS data bank and processed in MS ACCESS, MS EXCEL and SPSS.

Additionally, responses from a series of interviews with the Slovenian core negotiation team for the Agricultural Chapter of the EU accession, experts, civil servants and heads of agro-food and forestry chambers, associations and organisations are analysed. The results on Slovenia's accession experiences are outcomes of the analysis of written answers of a qualitative questionnaire-based survey conducted during the summer 2007. For more details see Section 6.1.

5.2 Short introduction to the research areas in Croatia and Slovenia

The empirical case studies draw on data from research regions in Croatia and Slovenia. Both countries have faced similar developments in the last decade, but clearly Slovenia is leading in terms of economic indicators. The income differences between the countries are substantial. The gross domestic product (GDP) per capita of Croatia measured as PPP income is only about 60% of the respective income of Slovenia. Moreover, Slovenia's share of agriculture in GDP is close to Western European levels with less than 3% in 2005 (FAOSTAT, 2007), whereas Croatia's agricultural GDP share – although shrinking – is still close to 7% (EUROSTAT, 2007).

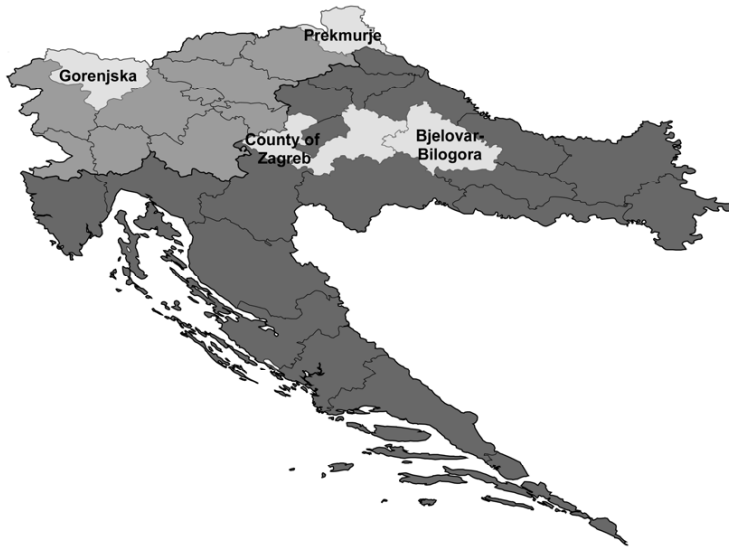
Administratively, Croatia is divided into 545 local government units and 21 counties. It has 123 cities and 422 municipalities. Counties are organised as natural, historical, economic, transportation, social and administrative entities and, at the same time represents the NUTS3 regions of Croatia according to the European Statistical Standard (MAFWM, 2005).

The Croatian economy has performed moderately well in the last decade, enabling a gradual narrowing of the income gap with the EU. In 2005, the total gross domestic product (GDP) per capita reached 48% of the EU-25 average (EUROSTAT, 2007). However, the main development objective of the country is to reach a level of 75% of the EU's average per-capita income in 2013. This is a very ambitious goal given the growth of the economy in the past (see Section 2.2).

In the period between 1990 and 1993, the Croatian economy has suffered considerable damage. The domestic output collapsed by at least one-third due to the war and general transitional problems, and inflation reached 1,500% in 1993.

In October 1993, Croatia embarked on a stabilisation programme that included anti-inflationary monetary and fiscal policies, liberalization of the foreign exchange market, realignment of prices of public utilities and control of public sector wages (WORLD BANK, 2003). As Table 2.1 shows, the Croatian economy has picked up from then on. Particularly the service sector gained importance while the share of agriculture in GDP decreased. Nonetheless, the agricultural sector still plays an important role in Croatia's economy. This is also underlined by the relatively high share in employment that the agricultural and food processing sector still has: In 2006 about 14% of the Croatian labour force was employed by agriculture and 2.8% by the food processing industry (Table 2.1). The same goes for agricultural employment, which is almost twice as high in Croatia as compared to Slovenia (9.1%, FAOSTAT, 2007). Both countries show a slowly decreasing trend for both, GDP share and employment in agriculture in favour of the service sector. The inflation rate was higher in Slovenia during the last decade, but recent years showed a stabilisation and since 2007, Slovenia is part of the euro-zone. Nonetheless, Croatia could catch up by increasing its GDP by about 43% between 1997 and 2005 compared to 37% in Slovenia.

The selected research areas in both countries are depicted in Map 5.2. As mentioned above, in both countries the sample consists of households chosen from a typically rural area – Bjelovar-Bilogora in Croatia and Prekmurje in Slovenia – and a more peri-urban region with better access to urban markets and non-farm employment – Zagreb County in Croatia and Gorenjska in Slovenia. The research areas are described in more detail in the following sections.

Map 5.2 Research areas in Croatia and Slovenia

Source: Own depiction, © EuroGeographics for the administrative boundaries.



5.2.1 Zagreb County and Bjelovar-Bilogora County in Croatia

The Western Pannonian sub-region, to which both selected research areas belong to, provides good conditions for the cultivation of a wide range of crops, fruits, vegetables and wine. Cattle breeding is well developed and has a long tradition (see Figure 3.5). Beside agriculture, successful entrepreneurial relations towards the capital Zagreb have developed recently. Zagreb is the largest industrial, financial, cultural, political, and consumer centre. One decisive factor for the development of the region is its good road and railroad connection with the rest of Croatia and the neighbouring countries. Generally, Western Pannonia provides favourable prospects for agricultural and rural development which could include the development of diverse systems of agricultural production (intense, sustainable and ecological), and an intensification of rural or agro-tourism (particularly where rich cultural heritage and protected landscapes are attracting tourists). In this context, a potential is also seen for the marketing of value added products produced by small-scale producers that dominate the farm structure in that region.

Table 5.1 offers an overview of the counties selected for the empirical study. Both counties together cover about 10% of the total land area of Croatia, and 26% of the

agricultural land. The following Sections provide detailed information, in particular with regard to regional agricultural characteristics, about the two research areas.

Table 5.1 Main features of selected counties

	Zagreb County	Bjelovar-Bilogora County	Croatia
			
Area (km ²)	3,067	2,652	56,610
Agricultural land (ha)**	54,644	72,413	488,646
Population*	309,696	133,084	4,381,352
No. of agricultural households*	38,283	23,479	448,532

Source: * CENSUS 2001, ** AGRICULTURAL CENSUS, 2003.

Map: © EuroGeographics for the administrative boundaries.

5.2.1.1 Zagreb County

Zagreb County is geographically placed in the central part of Croatia. With its position and shape, the county forms a ring around the capital Zagreb. Its road, train and air traffic infrastructure, connects the county exceptionally well with other parts of Croatia as well as with European countries and the world.

With its eight towns and 26 municipalities, Zagreb County occupies about 3000 km². According to the CENSUS 2001, 309,000 inhabitants live in Zagreb County; the average population density is 101 inhabitants per km² (Table 5.2). The majority of the population lives in rural settlements (69%). While about 12% of the population are registered as farmers, every most households are in the one way or the other involved in agriculture.

Zagreb County has a peri-urban character and is one of the most developed counties in Croatia in terms of social, demographic and economic development. It has a potential for tourism, crafts and small and medium sized enterprises (SME) development, and thus for successful rural development. The closeness to the Zagreb market with more than one million consumers, offers family farms and rural households opportunities for the profitable marketing of their produce. The

county is also well known for its crafts, a field in which it has long tradition, and as a tourist destination. Zagreb County reaches a per capita GDP index of 74% compared to Croatia as a whole in 2003. The unemployment rate is with 17% comparably low (KERSAN-ŠKABIĆ, 2007).

Table 5.2 Population and households in Zagreb County

	Zagreb County	Croatia
Population, 2001	309,696	4,381,352
Population index (1991=100)	109	92
Natural increase of population*, 2005	-395	-9298
Vital index**, 2005	88.9	82
Population density (inhabitants/km ²), 2001	101	77
Population density index (1991=100)	110	91
Number of households, 2001	94,441	1,474,298
Household index (1991=100)	110	95
Household size, 2001	3.27	2.97
Household size index (1991=100)	99	96

Source: CROSTAT (2006) Statistical Yearbook of the Republic of Croatia 2006.

Note: * Difference between live born children and number of death people.

** Number of live born on 100 death.

In the year 2001, about 12,000 legal persons were registered in Zagreb County of which slightly less than 50% (5313) were active. Croatia's total number of entrepreneurs has a share of 6% from this county. They contribute 5% to total revenues and 4% to total profits by employing about 4% of total employees. Out of the total revenues achieved in Zagreb County (HRK 11.5 billion), most were earned in the business sector (59.1%) including trade, repairing of motor vehicles and household appliances followed by the processing industry with 23.7%. Other branches include construction business, farming, forestry and fishery as well as logistics (transportation, storing) and communication.

Zagreb County is well endowed with natural conditions for agricultural production. A favourable relief structure of valleys and hills enables a diversified production structure. Further favourable factors are the continental climate, available agricultural land, forests and water resources, demand from the nearby capital as well as a long tradition in farming. Zagreb County, together with city of Zagreb, produces more than one tenth of Croatia's agricultural value. The biggest share of Croatia's livestock, fruits and wines are produced in this region. Table 5.3 informs about some key farm indicators in Zagreb County. 95% of all farm land

is used by family farms; this proportion is higher than the country average. These usually small farms keep also most of the animal stock.

The majority of Zagreb County's 38,000 family farms are small. Farms up to five hectares of agricultural land prevail in Croatia as well as in Zagreb County (Table 5.4). More than 40% of family farms cultivate up to one hectare and are hardly market oriented. Only 4.4% of them utilise more than 10 hectares accounting for about one quarter of the farm land available in this county.

Table 5.3 Basic farm indicators for Zagreb County (2003)

	Zagreb County	Croatia
Family farms (total number)	38,283	448,532
Farm business entities (total number)	93	1,364
Utilised agricultural land (ha)	77,819	1,077,403
- utilised by family farms (%)	95.1	79.8
- utilised by business entities (%)	4.9	20.2
Cattle (total number)	54,644	488,646
- kept by family farms (%)	84.1	81.5
- kept by business entities (%)	15.9	18.5
Pigs (total number)	222,169	1,924,672
- kept by family farms (%)	72.2	89.7
- kept by business entities (%)	27.8	10.3
Poultry (total number)	1,094,908	15,989,365

Source: AGRICULTURAL CENSUS, 2003, CROSTAT.

According to the AGRICULTURAL CENSUS, 2003, the number of households with agricultural production was 38.3 thousands; all in all 134,419 household members lived in these households. Thus the average household size is about 3.5 household members. More than 60% of these persons worked in agriculture. However, almost half of them work no more than two hours per day on the farm. Almost 30% are pluriactive, meaning that they are involved in farming as well as in other gainful activities, while about 20% do not work in agriculture at all.

Figure 5.1 informs about the age structure of both research areas. There are no significant regional differences. Figure 5.4 shows that the daily labour input into farming activities is smaller in Zagreb County compared to Bjelovar-Bilogora County. Although in both countries labour inputs of up to two hours a day are widespread, longer working hours of more than six hours a day are prevailing in Bjelovar-Bilogora.

Table 5.4 Family farms in Zagreb County, according to farm size

Farm size groups	Farm households	Total land (ha)	Share of farm households in farm size group	
			Zagreb County	Croatia
Up to 0.10 ha	2,177	,139.80	5.69	9.00
0.11-0.50 ha	8,350	2,213.69	21.81	27.14
0.51-1.00 ha	5,374	3,948.84	14.04	14.57
1.01-2.00 ha	6,837	9,947.27	17.86	16.04
2.01-3.00 ha	4,177	10,320.15	10.91	8.95
3.01-5.00 ha	5,106	19,871.33	13.34	10.20
5.01-10.00 ha	4,581	31,709.83	11.97	9.46
10.01-20.00 ha	1,417	18,597.24	3.70	3.48
Over 20.00 ha	,264	8,553.13	0.69	1.17
Total	38,283	105,301.28	100.00	100.00

Source: AGRICULTURAL CENSUS, 2003, CROSTAT.

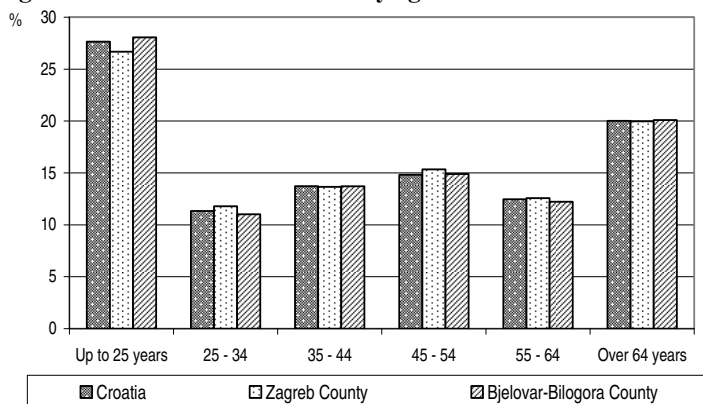
Table 5.5 Agricultural households in the research regions

	Croatia	Zagreb County	Bjelovar-Bilogora County
Number of households	448,532	38,283	23,479
Number of household members	1,493,892	134,419	76,104
- Working in agriculture	980,095	86,146	52,216
- Not working on the holding	289,423	28,620	11,856
- Involved in other gainful activities			
...as major occupation	344,000	37,745	14,780
...as subsidiary occupation	17,519	914	414

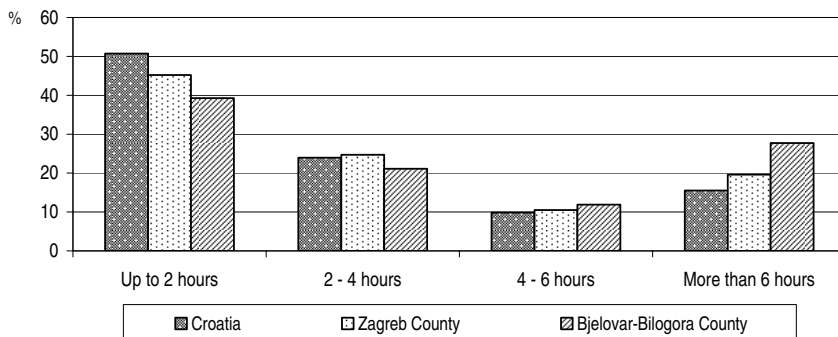
Source: AGRICULTURAL CENSUS, 2003, CROSTAT.

As one of the first in Croatia, the Zagreb County government has recognized the importance of agriculture and constituted a so-called Administrative Section for Agriculture, Forestry and Rural Development. More than 7% of the total county's budget goes into agriculture. The 2006 county budget for agricultural purposes (together with forestry and hunting) was HRK 19.4 mio (about € 2.6 mio). There is recognition that holistic approaches to rural space are needed. Hence different kinds of programs that could influence income generation, diversification and income stability have been initiated:

Different marketing projects aim at the creation of county brand names for products like wine, cheese, or "Samobor salami"; also wine roads, vinegar production, vegetable productions in hydroponics, flax production and flax fibre products are supported.

Figure 5.1 Household members by age

Source: Own depiction.

Figure 5.2 Share of household members by average number of daily working hours for agricultural activities

Source: Own depiction.

Furthermore, rural development in the county aims at the preservation of the autochthonous breeds of livestock, plants and valuable environment. The development of ecological agriculture and direct sales (marketing) of agricultural products is also in the focus of the county's policies. Institutional support includes support to associations, non-governmental organisations (NGO) and cooperatives, co-operation with state institution, co-operation with scientific institution. The county is furthermore engaged in land preservation and land amelioration projects and promotion activities (fairs, book, web pages, and leaflets).

5.2.1.2 Bjelovar-Bilogora County

Bjelovar-Bilogora County is situated in the north-western part of the Republic of Croatia. It occupies 2,652 km² which equals 4.7% of total Croatian territory. It has good traffic connections with some of the biggest Croatian cities including Zagreb, Osijek, and Varaždin as well as with the neighbouring states. In 2001, Bjelovar-Bilogora County was home to a population of 13,3084 inhabitants, about 44,000 households, or 3% of the total Croatian population (Table 5.6). Its GDP per capita reached € 4,414 in 2003, which is about 75% compared to the country's per capita GDP. The unemployment rate is with 25.6% higher than the Croatian average (KERSAN-ŠKABIĆ, 2007).

Bjelovar-Bilogora County has 23,479 households with agricultural production with about 76 thousand members. The family size was about 3.2 household members. About 70% work in agriculture (Table 5.7). The county's main economic activity is food production. It is based on two main resources: the first one is agricultural land and favourable climate conditions, and the second is tradition and farming experience.

Table 5.6 Population and households in Bjelovar-Bilogora County

	Bjelovar-Bilogora County	Croatia
Population, 2001	133,084	4,381,352
Population index (1991=100)	92	92
Natural increase of population*, 2005	-617	-9,298
Vital index**, 2005	66.9	82
Population density (inhabitants/km ²), 2001	50	77
Population density index (1991=100)	93	91
Number of households, 2001	44,269	1,474,298
Household index (1991=100)	93	95
Household size, 2001	3	2.97
Household size index (1991=100)	100	96

Source: CROSTAT 2006, Statistical Yearbook of the Republic of Croatia 2006.

Note: * Difference between live born children and number of death people.

** Number of live born on 100 death.

In the area of crop production cereals prevail, followed by vegetables, forage and industrial crops (oil seeds). Recently fruit production has become important particularly for family farms. The county is very well known for its livestock production, particularly cattle. About 14% of the total cattle population in Croatia is kept here. The region has a century long tradition in breeding Simmental cows. Pig and poultry production is also important; a relatively new trend is sheep production.

Table 5.7 Basic farm indicators for Bjelovar-Bilogora County (2003)

	Bjelovar-Bilogora County	Croatia
Family farms (total number)	23,479	448,532
Farm business entities (total number)	91	1,364
Utilised agricultural land (ha)	91,449	1,077,403
- utilised by family farms (%)	92.4	79.8
- utilised by business entities (%)	7.6	20.2
Cattle (total number)	72,413	488,646
- kept by family farms (%)	86.4	81.5
- kept by business entities (%)	13.6	18.5
Pigs (total number)	171,117	1,924,672
- kept by family farms (%)	98.0	89.7
- kept by business entities (%)	2.0	10.3
Poultry (total number)	1,158,236	15,989,365
- kept by family farms (%)	81.6	65.5
- kept by business entities (%)	18.4	34.5

Source: AGRICULTURAL CENSUS, 2003, CROSTAT.

Like in the rest of Croatia family farms prevail (Table 5.7). They are small and fragmented, and the average farm size in the county is 3.4 hectares divided into 8 plots on average. Out of the total number of family farms that own agricultural land (23,479) only 10% possess 10 or more hectares (Table 5.8).

Major industries of Bjelovar-Bilogora County include food processing (milling industry, meat products, alcoholic drinks, dairy products, biscuits) and some non-food industries (construction business and metallurgy).

Table 5.8 Family farms in Bjelovar-Bilogora County according to farm size

Farm size groups	Farm households	Total land (ha)	Share of farm households in this farm size group	
			Bjelovar-Bilogora County	Croatia
Up to 0.10 ha	1,349	83,51	5.75	9.00
0.11-0.50 ha	3,995	1,068,92	17.02	27.14
0.51-1.00 ha	2,635	1,934,27	11.22	14.57
1.01-2.00 ha	3,390	4,963,59	14.44	16.04
2.01-3.00 ha	2,215	5,476,46	9.43	8.95
3.01-5.00 ha	3,354	13,316,03	14.29	10.20
5.01-10.00 ha	4,182	29,326,57	17.81	9.46
10.01-20.00 ha	1,852	25,001,69	7.89	3.48
Over 20.00 ha	507	17,012,38	2.16	1.17
Total	23,479	98,183,42	100.00	100.00

Source: AGRICULTURAL CENSUS, 2003, CROSTAT.

5.2.2 Gorenjska and Prekmurje in Slovenia

Similarly to the Croatian research areas, Gorenjska and Prekmurje in Slovenia are selected to represent a more peri-urban environment and a typical rural environment. Gorenjska is closely connected to the capital Ljubljana, whereas Prekmurje is rather remote and less developed.

5.2.2.1 Gorenjska

Gorenjska lies in the Northwest of the country and occupies about 10% of the country's area. It is home to slightly less than 200,000 inhabitants; the population density reaches 93 persons per km² (Table 5.9). The main urban centre of the region is Kranj.

The region reaches a GDP index of 85% compared to Slovenia as a whole (Table 5.9). It is characterised by the traditional industrial production in the fields of steel, textile and shoes. Despite the transitional developments, this is still reflected in the employment structure of the region: About 40% of the employees work in the industry. About 50% are employed in the service sector (ERJAVEC et al., 2002). In 2005, only 2.4% of all employed persons were self-employed in agriculture (Table 5.9).

With regard to agriculture there are communities that are situated in the mountainous area, whereas for example around Skofja Loka, farm conditions are better, which is among others reflected in a higher share of arable land. Particularly in the mountainous areas the share of full-time farmers is low. Many farms are involved in other gainful activities such as for example wood processing or farm tourism. In the valley, rural people have better access to different kinds of employment in the towns or they even commute to Ljubljana.

Table 5.9 Economic indicators of the Slovenian research regions (2005)

	Gorenjska	Prekmurje
GDP (mio €)	2,388	1,151
GDP index (Slovenia =100)	85.1	66.6
GDP per capita (€)	12,018	9,399
Population density (persons/km ²)	93.0	91.6
Persons in employment (total number)	72,125	42,198
Self-employed farmers (%)	2.40	10.85
Unemployment rate, January 2006 (%)	7.5	18.5

Source: SORS, 2007.

5.2.2.2 Prekmurje

Prekmurje lies in the very Northeast of Slovenia bordering with Austria, Hungary and Croatia. On almost 7% of the countries total area live about 125,000 inhabitants. The population density is 91.6 persons per km² (Table 5.9). Murska Sobota is the most important urban centre in the region.

Prekmurje is less industrialised compared to Gorenjska, although there are a few companies in the food processing sector as well as textile industry. However, particularly the textile industry has suffered severely from the restructuring after the transformation process started. Many employees were released and returned to the farm sector. The GDP index reaches 67% compared to Slovenia as a whole. The structural problems of the region are reflected in an above average share of people working in the farming sector (10.85% of all persons in employment) and a high unemployment rate of 18.5% (Table 5.9). The farming conditions are favourable: 88% of all farm land is arable. However, less than 20% of all farms are full-time farms.

5.3 Socio-economic structures of rural households in Croatia and Slovenia

Farmers in rural areas of Croatia usually have limited access to land and are in need of additional income sources. Section 5.3 examines the household structures and the economic key characteristics of the researched farm families. We will shed light on the current starting point of the forceful structural change that is to be expected for the coming years. The results are based on the Croatian survey regions, Zagreb County and Bjelovar-Bilogora County, although we also present results from the Slovenian research regions and compare selected indicators, if this offers additional insights.

5.3.1 Household demography

The average family size in the research areas of Croatia was found to be four household members (Table 5.10). The dependency ratio shows the relation of active and dependent family members. In Croatia²⁷, persons in active age, i.e.

²⁷ In Chapter 5 results based on empirical data refer to the two research regions, Zagreb county and Bjelovar-Bilogora county. Therefore, in this Chapter, Croatia is used interchangeably with cross-regional results from these two counties. Although our study is not representative for the country, the regions were selected by the Croatian team to reflect a typical peri-urban and a typical rural region in Croatia. The same holds for the Slovenian research areas.

those who are between 16 and 64 years old, account for 70% of all household members. Each person in active age supports on average 0.5 children or elderly persons. In Slovenia the household sizes as well as the dependency ratios are slightly higher.

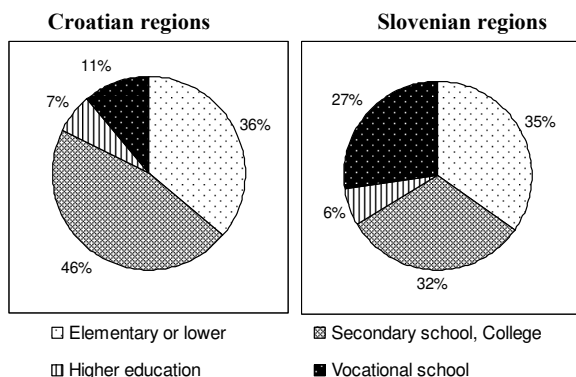
Table 5.10 Household demography

	Croatian regions	Slovenian regions
Persons per household	4.09 (StDev=1.45)	4.63 (StDev=2.00)
Children	1.72 (StDev=0.86)	1.86 (StDev=0.85)
Elderly persons	1.31 (StDev=0.47)	1.28 (StDev=0.51)
Persons in active age	2.82 (StDev=1.23)	3.12 (StDev=1.42)
Dependency ratio	0.53 (StDev=0.59)	0.59 (StDev=0.71)

Source: Own calculation.

Note: Active age refers to household members who are older than 15 years and younger than 65 years.

Figure 5.3 shows the shares of educational levels as found in the sample. Less than 40% of the rural population in the Croatian regions attended only elementary school. The biggest share, 46%, refers to secondary education. Both, vocational education and higher education make up only relatively small proportions of 11% and 7%, respectively. The picture in the neighbouring Slovenia is similar with the only difference that there vocational education seems far more wide-spread, replacing secondary education to a certain degree. Regional differences in both countries are most pronounced in terms of a higher proportion of low educated persons in the regions that are further away from the bigger urban centres, i.e. Bjelovar-Bilogora in Croatia and Prekmurje in Slovenia (Table 5.11). This seems to underline that a peri-urban environment not only offers more job opportunities, but also better conditions and/or a more supportive environment with regard to education.

Figure 5.3 Education of active household members in %

Source: Own calculation.

Table 5.11 Education of active household members according to regions (%)

	Croatia		Slovenia	
	Zagreb County	Bjelovar-Bilogora	Gorenjska	Prekmurje
Elementary or lower	33.18	39.66	26.85	43.62
Vocational school	11.68	10.34	28.70	25.53
Secondary school	47.66	44.25	39.81	22.34
Higher education	7.48	5.75	4.63	8.51

Source: Own calculation.

Table 5.12 reveals that only about 16% of the surveyed households in the Croatian regions rely overall on the lowest educational level: More than two thirds of the families have at least one household member with vocational or secondary education and the proportion of households with higher education reaches 15% if the highest level of education in a household is the criterion. The proportion of higher education is slightly higher in Slovenia, although, apart from the above mentioned differences in the attendance of vocational schools, in general the structure is similar.

Table 5.12 Highest level of education (% of households)

	Croatian regions	Slovenian regions
Elementary or lower	15.94	12.31
Vocational school	8.70	21.54
Secondary school	60.14	49.23
Higher education	15.22	16.92

Source: Own calculation.

5.3.2 Farm characteristics

The most important economic asset of a rural household is typically its farm land. Access to land is the basis for agricultural incomes and hence is often decisive in terms of the income strategies of rural people. Only if the land resources are sufficient or can be expanded will a household decide to rely on farm income sources in the longer term. If the farm is seen as uncompetitive it can be expected that households seek to open up niche markets, such as for instance medicinal herbs, or the income strategies will be directed to the non-farm sector. In the latter case, it is of utmost importance whether the farms are given up and the land is made available to more competitive farms or whether structural change is slowed down because the land stays with its owners and is used for hobby or (semi-)subsistence purposes, or even falls fallow without use. Before these issues will be discussed in more detail (Sections 5.3.3 and 5.3.4), we will present some agricultural indicators as found in the survey regions. For a general overview on the Croatian farm and production structures refer to Sections 3.1 and 3.2.

Croatian farms are small compared to the European average (see Section 3.1) and also compared to the neighbouring Slovenia. The average farm size of the sample households depicted in Table 5.13 is with less than seven hectares still bigger than the national average. About 60% of the land is arable and used for crop production, whereas 35% are pastures and meadows, the rest being land for permanent crops or glass houses. Forest land only plays a significant role in Slovenia.

The most important crops are maize which occupies around half of the arable land in the sample, followed by cereals, mainly wheat and barley. Smaller areas, all in all less than 15% of all lands, are cultivated with leguminous plants, vegetables, fruits and wine.

While the structure of land use is similar in Slovenia, differences become obvious with regard to the land rental market. In both countries the average absolute quantity of rented land per farm is about five hectares. However, the percentage of farms that increase the size of their farm by renting in land differs significantly: Only slightly more than one third of the Croatian farm households go for this option, compared to almost two thirds in Slovenia (Table 5.13).

Regional differences in farm size and land use are much more pronounced in Slovenia than in the Croatian research regions (Figure 5.4). In the Slovenian Prekmurje the average farm size exceeds 20 ha in our sample and the share of arable land is much higher. In Gorenjska farms are smaller and grassland clearly predominates. In Croatia, however, both regions show a very similar structure

and only little difference in the farm size. Farms in Bjelovar-Bilogora are with 7.8 ha about 1.6 ha bigger than in Zagreb County.

Table 5.13 Farm characteristics

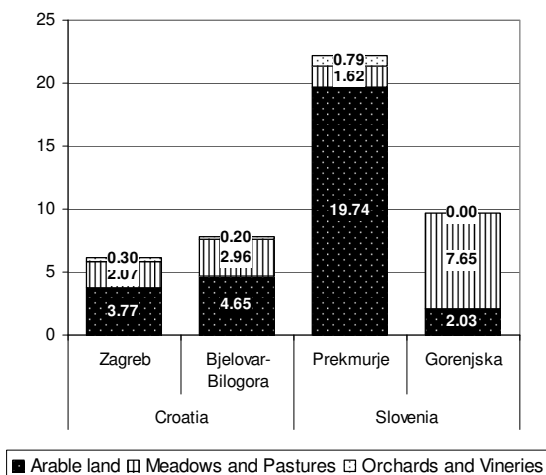
	Croatian regions	Slovenian regions
Farm size range (ha)	0.1ha-35.1ha	1.0 ha-125.0 ha
Farm size average (ha)	6.85 (StDev=6.88)	15.68 (StDev=22.56)
- Arable land (%)	60.48	67.37
- Pastures (%)	7.27	0.02
- Meadows (%)	27.57	30.20
- Orchards and vineries (%)	3.69	2.42
Rented land average(ha)	4.72	5.62
Farms with rented land (%)	36.50	64.30
Forest (ha)	0.57	9.64

Source: Own calculation.

Note: One farm household in Croatia is not included as its agricultural production is not based on land.

Table 5.14 informs about the animal stock in the Croatian farm households. Generally, alike the farm sizes, the sizes of stocks are small. On average, each farm keeps about three milking cows and between five and six pigs. As indicated by the standard deviations differences in stock sizes occur particularly in poultry production. There are a few specialised farms biasing averages considerably.

Figure 5.4 Farm size in ha and land use according to regions



Source: Own calculation.

Table 5.14 Animal stock in the farms of the Croatian regions

	Total		Zagreb		Bjelovar-Bilogora	
	Average per household	StDev	Average per household	StDev	Average per household	StDev
Milking cows	2.9	4.2	2.2	4.0	3.8	4.2
Calves < 6 months	1.4	3.7	0.8	2.8	2.2	4.5
Cattle 6-12 months	0.7	2.5	0.7	2.9	0.7	1.9
Heifer	0.6	2.9	0.5	3.5	0.7	1.8
Fattening cattle	0.2	2.2	0.3	2.9	0.1	0.6
Sows	2.1	3.2	1.8	3.4	2.4	3.1
Piglets	14.8	28.4	13.2	31.5	16.7	24.3
Fattening pigs	5.5	11.6	4.6	12.3	6.5	10.8
Sheep	1.8	10.0	1.2	6.6	2.5	12.9
Goats	0.6	3.6	0.3	2.3	1.0	4.7
Layer hens	121.5	1275.8	212.4	1730.6	13.3	11.1
Broiler	682.6	5204.0	1148.6	7000.4	127.9	880.4
Other poultry	3.0	11.4	3.4	13.3	2.6	8.6

Source: Own calculation.

Note: The poultry stocks are biased by two producers in Zagreb County each of whom keeps about 50,000 heads.

Table 5.15 offers an interesting overview on the distribution of farms according to size classes. In both countries the biggest share of farms works on three to ten hectares (class 2), namely 49% in the Croatian regions and 52% in the Slovenian regions. Farms larger than 50 hectares were only found in Slovenia with 41% of them having a size of more than ten hectares. In Croatia, however, less than one fifth of all interviewed farms belongs to the class sizes three to five (bigger than 10 hectares); one third of the researched farms is three hectares or smaller. However, structural change seems rather low in Slovenia: Compared to a survey conducted in 2001/2002 covering the same regions and households (although referring to a bigger sample size), the number of small farms has not decreased within a time frame of five years (MÖLLERS, 2006).

In terms of structural change, the socio-economic structure of farms is as important as the farm size. Farm types reflecting the income generating activities in a farm household are defined according to two criteria; the labour input into farming and the proportion of income received from farming as compared to the one from non-farm employment. Following HENRICHSMEYER and WITZKE (1991) we distinguish three types of farms: In the first two the major share of the household head's labour is allocated to farming and most of the household's earned incomes are derived from the farm. Full-time farms earn a maximum of 10% from non-farm

sources, whereas the second type of farms complements its farm incomes by a share of non-farm incomes of between more than 10% and less than 50% (Part-time farms, complemented). The third type is the typical subsidiary farm where the household head spends most of his working time outside the farm sector or the non-farm incomes are bigger than the farm incomes (Part-time farms, subsidiary).²⁸

Table 5.15 Farm size classes in Croatian and Slovenian regions

Farm size		Croatian regions		Slovenian regions	
Class	Size	#	%	#	%
1	0-3 ha	46	33.3	4	7.1
2	> 3-10 ha	68	48.6	29	51.8
3	> 10-20 ha	16	12.3	14	25.0
4	> 20-50 ha	8	5.8	6	10.7
5	> 50 ha	0	0.0	3	5.4

Source: Own calculation.

Table 5.16 informs about the shares of farm types in the Croatian research regions. Subsidiary part-time farms (class 3) prevail with more than 60%. Clearly their predominance is more pronounced in the peri-urban Zagreb County (67%) than in the more rural Bjelovar-Bilogora (59%). About one quarter of the interviewed households belong to the group of full-time farms. Again, regional differences occur: The share of full-time farms is slightly higher in the rural Bjelovar-Bilogora than in Zagreb County. Farms that complement their income with non-farm incomes in the range of 10% to 50% are found less frequently in both regions. Overall they make up about 12% of all farms.

Table 5.16 Farm type classes in Croatian regions

Farm type		Croatia		
Class	Type	Total	Zagreb	Bjelovar-Bilogora
1	Full-time farm	25.36	24.00	26.98
2	Part-time farming (complemented)	11.59	9.33	14.29
3	Part-time farming (subsidiary)	63.04	66.67	58.73

Source: Own calculation.

²⁸ This socio-economic classification is different from the EU typology that is used for instance by EUROSTAT. According to the EU, the type of farming of a holding is determined by its economic size unit (ESU) (*Official Journal L 220, 17/08/1985*). Full time farms must reach a sufficient size that allows them to fully employ the farmer and support his family.

5.3.3 Income structure

In 2006, the per capita income in Croatia reached €9,950 (WORLD BANK 2007). In rural areas lower income levels are to be expected. For the sample households we find that their yearly per capita incomes, on average, are slightly above € 4,000; hence the difference is with more than 50% considerable. Not surprisingly, farm households in the peri-urban Zagreb County are better endowed with € 4,600, whereas those in the more rural Bjelovar-Bilogora reach per capita incomes of about € 3,400 (Table 5.17).

When the per capita income of a household is obtained by dividing total net household earnings by the number of people living in the household, the implicit assumption is made that no economies of scale in consumption exist. However, larger households generally have an advantage over smaller ones because they can benefit from sharing commodities (such as cars or housing) or from purchasing produce in bulk, which might be cheaper. Therefore, Table 5.17 additionally displays a per capita income that approximates economies of scale by adjusting the household size. Following the WORLD BANK (2000) we use a simple one-parameter scale according to which the

$$\text{Equivalent household size} = (\text{household size})^{\theta},$$

where θ is 0.75 for transition countries. When such economies of scale are accounted for, the per capita income rises by about 30%. In the remaining parts of this chapter, we will use the per capita income calculated on the basis of equivalent household sizes if we refer to issues related to welfare of rural households.

The household incomes in the Croatian regions were found to be about €16,500 in the year 2006, hence they reach just about 60% of the Slovenian households (Table 5.17). Household incomes consist of "earned incomes" from farm and non-farm work, and "unearned incomes" which consist of social payments, interest gains, pensions, etc. Farm incomes contribute with the biggest share to rural incomes. Interestingly, their share is higher in the peri-urban Zagreb County (57%) compared to Bjelovar-Bilogora (49%). In Slovenia, farm incomes have a considerably lower proportion in the peri-urban Gorenjska. With regard to non-farm incomes there are no significant differences; their share lies at about 30% in Croatia and 35% in Slovenia (Figure 5.5). Hence, farm households in both countries depend to a considerable degree on non-farm income sources.

Typical non-farm activities are found in small trade businesses and services (18% of all recorded jobs in the Croatian sample). This includes, for instance,

car repair garages, gastronomy, hair-dressers, tailors and janitors. About 9% of all jobs in the non-farm sector are in the food industry and in food processing; another 15% in other industry branches. About 20% of all employees are in administration, public services or intellectual professions such as teachers, doctors, lawyers etc. Furthermore the shares of employed in the agricultural and forestry sector (workers as well as experts such as advisors), in trade, in transport and in the construction sector lie at between 8% and 12% each.

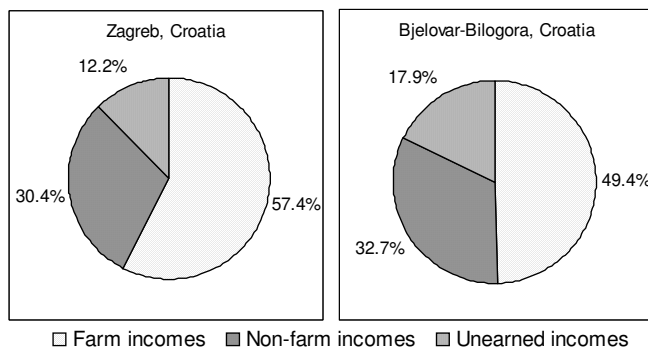
Unearned incomes mainly consist of old age pensions that make up about 60% of this income category. Overall, unearned incomes add up to a share of 14% in total household incomes and are slightly lower in the wealthier Zagreb County (Table 5.17). In the research areas of Slovenia the proportion of unearned incomes is higher, particularly in the peri-urban Gorenjska.

Table 5.17 Regional income of farm households in Croatia (in € and %)

	Croatia			Total	Gorenjska	Prekmurje
	Total	Zagreb	Bjelovar-Bilogora			
Per capita income (€)	4038.46	4599.56	3370.48	6610.41	6134.64	7132.23
Per capita income, equivalent scale (€)	5653.12	6432.56	4743.22	9293.53	8832.25	9799.46
Household income (€)	16477.69	18725.73	13801.45	28461.13	28397.66	28530.74
- Farm income (%)	54.33	57.37	49.42	41.73	29.51	55.07
- Non-farm income (%)	31.29	30.44	32.67	34.65	39.49	29.36
- Unearned income (%)	14.37	12.19	17.91	23.62	31.00	15.57

Source: Own calculation.

Figure 5.5 Share of regional income of farm households in Croatia according to type of income (%)



Source: Own calculation.

That farm incomes play an important role for the socio-economic standing of rural households becomes even clearer in Table 5.18. Full-time farms have the highest per capita incomes and the farm income generated per hectare of land is significantly higher than in the other farm type classes. The results from Table 5.18 seem to suggest, that first, farm incomes are not only crucial due to their high proportion in total incomes, but, more importantly, they seem to make the difference in terms of economic welfare. Second, the second class of farm types can (almost) compensate lower farm incomes through their complementary non-farm activities. Subsidiary part-time farming, however, is characterised by very low farm incomes per hectare of land and the farming activities cannot make good for the low non-farm incomes or pensions that make up the main part of the household income in this farm type class. Most probably the farms in this type class are typical (semi)-subsistence farms that are kept alive out of distress reasons, i.e. to provide food and some additional small income for families who are either employed for low wages in the non-farm sector or pensioner households. Also Table 5.19 clearly displays this poorer group of households lagging behind with regard to total incomes and the capacity of their farms.

Table 5.18 Incomes according to farm type classes in Croatian regions

Farm type		Croatian regions		
Class	Type	Per capita income, equivalent scale (€)	Farm returns to land	Farm share in total incomes
1	Full-time farm	7675.33	4078.03	79.18
2	Complemented part-time farming	6386.41	2471.68	61.56
3	Subsidiary part-time farming	4717.77	953.77	29.24

Source: Own calculation.

Note: The share of farm incomes in total incomes exceeds the limits used for the definition of farm type classes as described above because the definition of farm types refers to "earned incomes", whereas the total income also includes "unearned incomes".

Table 5.19 Income according to farm size classes in Croatian regions

Farm size		Yearly income in €	
Class (N)	Size	Per capita income, equivalent size	Farm incomes (Share in total in brackets)
1 (46)	0-3 ha	3934.28	2772.91 (23.8%)
2 (67)	> 3-10 ha	6532.70	10733.63 (43.2%)
3 (17)	> 10-20 ha	6572.63	14858.86 (84.3%)
4 (8)	> 20-50 ha	6358.44	17024.04 (81.6%)

Source: Own calculation.

Some more details on differences between poor and wealthy farm households are discussed on the basis of Table 5.20. Three income classes are defined (income tertiles). Each tertile includes one third of the sample households; the first tertile includes the poorest households, the second the middle income, and the third this wealthiest households.

The income tertiles refer to per capita income calculated on the basis of equivalent household sizes. Income differences between the groups are considerable: On average, the wealthiest tertile has access to an about five times higher income than the first income tertile. However, the median shows that particularly in the third tertile some extraordinary wealthy households bias the arithmetic mean.

Farm income shares increase from the poorer to the wealthier households, whereas the importance of non-farm incomes decreases. Also for unearned incomes there is a clear increasing trend towards the poorer income groups. The fact that unearned incomes are made up to a large degree by old age pensions suggests that pensioners are found in the group of poor households more frequently than in the other groups. This can be seen as an indication of old-age poverty. Another hint that points to this conclusion is the decreasing trend of the dependency ratio towards the wealthier income classes. This generally indicates that a high number of dependent household members in relation to persons in working age increase the risk of poverty.

In Slovenia, the picture in general is similar. However, the share of non-farm incomes is highest in the middle income class which goes together with a considerably high dependency ratio in this group. Access to farm land on the other hand is clearly best in the third tertile which partly explains the higher importance of non-farm activities in the second tertile.

Factors that seem to determine the affiliation to the income groups in Croatia are access to farm land as well as the farm income that is realised per hectare of land. Both show a clear decreasing trend from the first to the third tertile. Education, however, does not display an equally unambiguous picture. Even though only the third tertile has household heads with higher education, the differences between the income groups seem rather insignificant.

The variable indicating the share of incomes of a tertile in the sum of all incomes of the sample gives some idea about the income distribution. Households in the first tertile earn a very small share of 12% of all incomes, while over 60% of the incomes are allocated in the third tertile. This means that the income distribution is slightly more uneven compared to Slovenia where the respective proportions are 17% and 55%.

Table 5.20 Socio-economic characteristics according to income classes

	Income class (tertile)			Mean
	1	2	3	
Croatian regions				
Household income (€)	6028.11	11880.16	31524.80	16477.69
Per capita income, equivalent scale (€)	2065.39	4268.12	10650.51	5661.34
Median of per capita income, equivalent scale	2312.38	4340.78	7256.20	4340.78
Income shares (%)				
- Farm income	23.94	39.56	64.48	54.33
- Non-farm income	43.61	39.69	25.62	31.29
- Unearned income	32.44	20.74	9.89	14.37
Share in all household incomes (%)	12.19	24.03	63.77	100.00
Farm land (ha)	5.11	7.15	8.28	6.85
Farm incomes per ha of land (€/ha)	590.59	1108.75	4067.10	1922.15
Dependency ratio	0.75	0.46	0.38	0.53
Education level of household head (%):				
- Elementary or lower	43.48	41.30	41.30	42.03
- Vocational school	10.87	21.74	15.22	15.94
- Secondary school	45.65	36.96	39.13	40.58
- Higher education	0.00	0.00	4.35	1.45
Slovenian regions				
Household income (€)	15081.88	22068.66	48841.65	28461.13
Per capita income, equivalent scale (€)	4675.72	7262.33	16136.00	9293.534
Income shares (%)				
- Farm income	14.56	21.92	58.40	41.73
- Non-farm income	40.02	47.31	25.57	34.65
- Unearned income	45.42	30.78	16.03	23.62
Share in all household incomes (%)	17.12	27.44	55.44	100.00
Farm land (ha)	10.07	8.88	26.89	
Farm incomes per ha of land (€/ha)	260.67	429.49	1340.10	669.14
Dependency ratio	0.49	0.81	0.44	0.59
Education level of household head (%):				
- Elementary or lower	52.38	26.09	42.86	40.00
- Vocational school	33.33	39.13	33.33	35.38
- Secondary school	14.29	34.78	19.05	23.08
- Higher education	0.00	0.00	4.76	1.54

Source: Own calculation.

Note: Tertile 1 = Income class with the lowest per capita income etc.

Per capita incomes used for the definition of tertiles are corrected according to the family size to account for economies of scale; the correction factor is $\theta=0.75$ following the World Bank approach (WORLD BANK, 2000).

5.3.4 Labour allocation and labour returns

Diversified incomes, i.e. a mix of farm and non-farm incomes, are a main characteristic of rural households in Croatia and all over Europe. Therefore this Section takes a closer look at the labour allocation into farm and non-farm activities as well as the respective income derived from the labour input. We use annual work units (AWU) as measurement unit for labour input. One AWU equals 1,800 worked hours per year. Excessive time declarations were capped by a maximum of 12 hours per day.

The households in rural Croatia allocate slightly less than one AWU per household member in working age into farm and non-farm work. Almost two thirds of this labour go into farming (0.57 AWU), while the rest, 0.35 AWU, is used in non-farm activities. The differences between the two research regions are displayed in Figure 5.6: Zagreb County households allocate relatively more work into non-farm activities and, overall, work slightly less. As expected, labour allocation into farming is higher for low educated persons (Figure 5.7). In contrast to all other educational levels, an elementary school level (or below) seems to tie a person to the farm sector where more than 80% of all working time in this group is allocated.

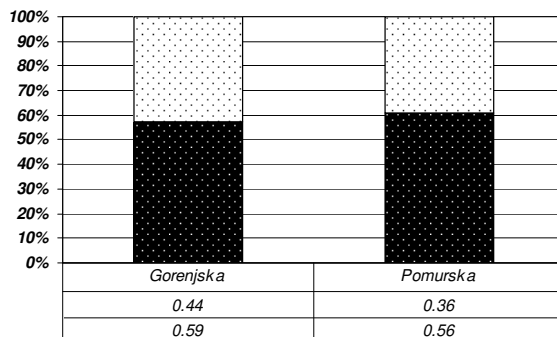
Labour returns²⁹ are presented in Euros per AWU. We look at incomes derived from farming activities and compare them with non-farm activities (mainly from wage employment). Perhaps it surprises a bit that, on average, farm incomes per AWU are with €6,100 higher in the sample households than incomes from non-farm work (€ 5,178 per AWU). However, regional differences are identified in Figure 5.8. First of all, income per AWU is generally higher in the peri-urban Zagreb. The reason for this does not lie with the non-farm incomes for which the average incomes per AWU are very similar in both regions. Farm incomes per AWU, on the contrary, differ by 30% between Zagreb County and Bjelovar-Bilogora County. As the respective standard deviation is high, this should not lead to premature conclusions; however, it clearly indicates that some households are operating very successful in the farm sector, and that particularly Zagreb County seems to offer a favourable environment for successful farming businesses.

Figure 5.9 reveals that households who reach these outstanding farm incomes per AWU are mostly full-time farms. The less a household is involved in farming, the lower are its farm returns on farm labour. Non-farm incomes per AWU show an opposite, i.e. increasing trend from full-time farms to subsidiary

²⁹ We use the term labour returns for the income derived per AWU.

farms. Hence, it seems as if farming activities with a subsidiary character are much less productive compared to farming that makes up the main part of a household portfolio. However, in contrast to farming incomes that reach a level twice as high as the sample mean for full-time farms, non-farm incomes per AWU differ to a much lower degree between farm types.

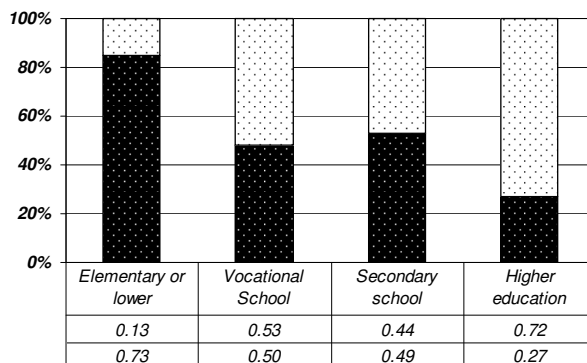
Figure 5.6 Labour allocation of Croatian farm households according to regions (AWU)



Source: Own calculation.

Note: AWU = Annual Work Unit.

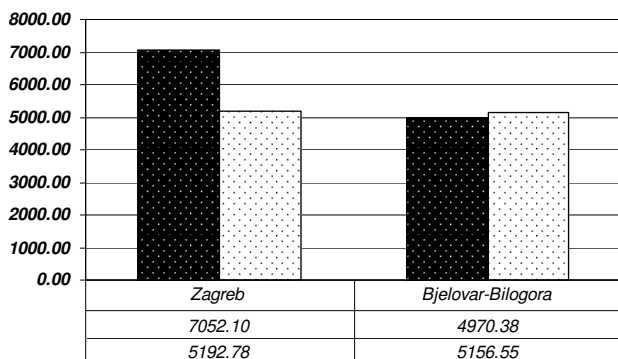
Figure 5.7 Labour allocation of farm households in Croatian regions according to education (AWU)



Source: Own calculation.

Note: AWU = Annual Work Unit.

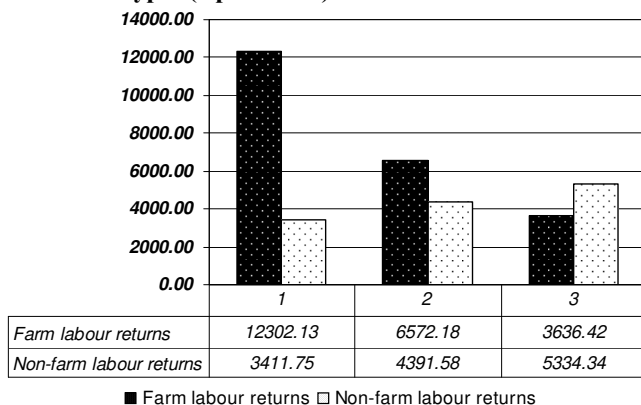
Figure 5.8 Labour returns of farm households in Croatian regions according to regions



Source: Own calculation.

Note: Returns are calculated in € per AWU (Annual Work Unit).

Figure 5.9 Labour returns of farm households in Croatian regions according to farm types (€ per AWU)



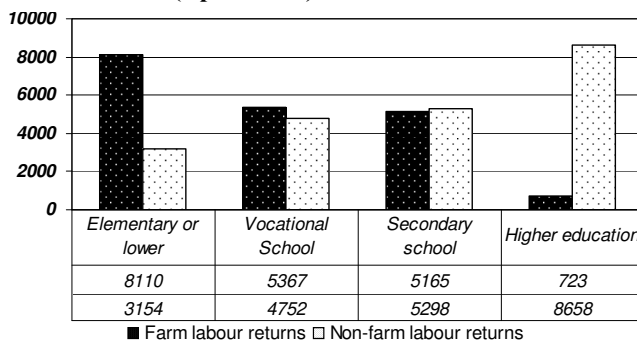
Source: Own calculation.

Note: Returns are calculated in € per AWU (Annual Work Unit).

With regard to education, Figure 5.10 shows clear trends: Farm labour returns are decreasing whereas non-farm labour returns are increasing with a rising level of education. This underlines that education plays a bigger role for non-farm

incomes derived per AWU than for farm incomes. The results shown in Figure 5.10 should be treated with care, especially in terms of quantitative conclusions regarding the group differences, as particularly the number of persons with higher education is only small in the sample.

Figure 5.10 Labour returns of farm households in Croatian regions according to education (€ per AWU)



Source: Own calculation

Note: Returns are calculated in € per AWU (Annual Work Unit).

5.4 Household strategies and change in rural livelihoods

Agricultural and rural development policies often set incentives to influence farmer's behaviour. Typical objectives of such policies could, for example, be the promotion of investments in farms with a good production basis, or to convince (semi-)subsistence farmers to abandon their farm in favour of more competitive land-users so that structural change is advanced. However, it cannot be expected that such incentives completely change general strategies of a household; they rather guide or accelerate developments that are going on anyhow. Therefore, it is of high importance for policy makers to understand the objectives of their target groups as well as the scope for decision-making and respective constraints that these target groups face. Section 5.4 deals with the strategies of farm households in the Croatian research regions.

5.4.1 Farming objectives and strategies

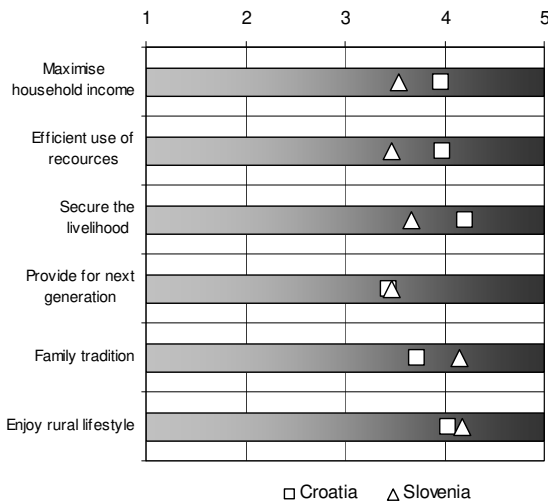
Farm families follow different objectives in their farming activities. While some see farming as a business as any other and the main goal is income generation,

others look at it as a family tradition that has to be continued as long as possible. The importance of such farming objectives are depicted in Figure 5.11 for Croatia and Slovenia. All objectives that were offered to the farmers during the interview are rated on a scale from one to five where a score of one indicates no importance at all and five indicates a high importance. Although in general the average ratings are similar, an interesting country difference gets obvious in Figure 5.11. In the Croatian regions the more economically oriented goals, i.e. income maximisation, efficient resource use and livelihood security, are given higher ratings than in Slovenia. Goals that are connected to the family, tradition and rural lifestyle, however, are the most important objectives of Slovenian farmers. In both countries farmers are aware that their – usually small – farms are rather not able to provide for the next generation. Even though not rated as unimportant, this item has the lowest importance in Slovenia and Croatia.

Full-time farmers and part-time farmers with only a small non-farm sideline, aim at income maximisation and a secure livelihood. Subsidiary part-time farmers particularly give high ratings for enjoying a rural lifestyle and securing the livelihood.

The overall high ratings for enjoying a rural lifestyle in Figure 5.11 indicate that the farmers are generally fond of working on the farm. Figure 5.12 offers some more information on the attitudes of farm household heads towards farm work and non-farm work.

In the Croatian regions, slightly more than 40% of all farm household heads indicate that their attitude towards farming activities is either very positive or positive. Almost the same number of persons, however, has a negative or very negative attitude. While Figure 5.11 seemed to suggest that a great majority enjoys farming and rural life in both countries, things look more differentiated in Figure 5.12. The fondness of Slovenian farmers' for agriculture is with over 70% overwhelming and might be one of the main reasons for the high occurrence and persistence of hobby and subsidiary farming. This phenomenon, however, is constraining full-time farmers to adapt and thus hinders structural change. If employment decisions are taken based on attitudes towards farming, the potential drop-out in the course of structural change is higher in Croatia.

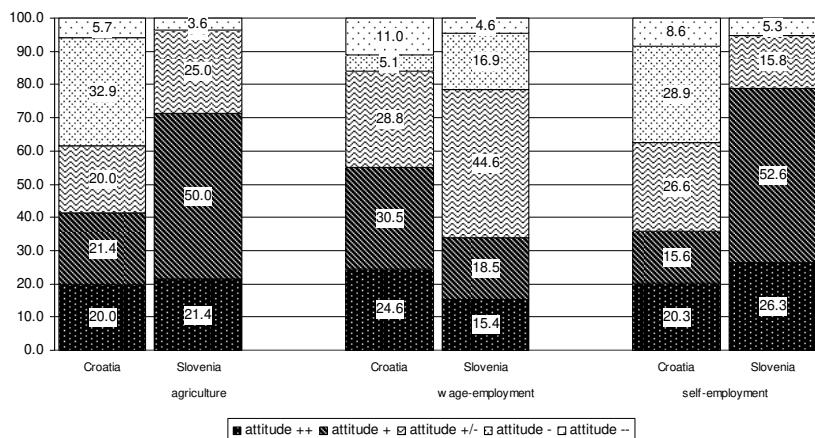
Figure 5.11 Importance of different aims in farming

Source: Own depiction.

Note: Possible aims were given by the interviewer and rated on a scale. The scale refers to a rating of the importance of the objectives: Unimportant = 1, Very important = 5.

Also with regard to non-farm employment interesting differences can be seen from Figure 5.12: Croatian farmers are clearly in favour of waged employment in the non-farm sector. More than 50% of all household heads in the Croatian regions indicate a positive or very positive attitude towards this kind of work. Self-employment, however, is less liked. In the Slovenian regions, the picture is opposite: Almost 80% of all interviewed household heads are in favour of non-farm self-employment, whereas their fondness of waged employment is clearly below the Croatian.

Table 5.21 offers more detailed information on the distribution of positive and negative farm attitudes according to age. It displays the complete set of household members aged 16 years and older. As could be expected the attitudes towards farming differ between age groups. Very positive and positive attitudes are found most often in the age groups over 45 years. While very negative attitudes are generally not found frequently, they are more pronounced among the age group 35 and younger. The picture in the Slovenian regions looks similar.

Figure 5.12 Farm household head's attitudes towards farm and non-farm activities

Source: Own depiction.

Table 5.21 Attitudes towards farming by age groups

Attitude	++		+		+/-		-		--	
	#	%	#	%	#	%	#	%	#	%
Croatian regions										
16-25 years	12	16.22	8	10.81	18	24.32	29	39.19	7	9.46
26-35 years	6	7.89	8	10.53	23	30.26	32	42.11	7	9.21
36-45 years	13	17.57	15	20.27	17	22.97	24	32.43	5	6.76
46-55 years	19	21.84	23	26.44	17	19.54	23	26.44	5	5.75
>56 years	31	20.39	43	28.29	30	19.74	36	23.68	12	7.89
Slovenian regions										
16-25 years	1	2.33	7	16.28	29	67.44	3	6.98	3	6.98
26-35 years	6	16.22	10	27.03	19	51.35	1	2.70	1	2.70
36-45 years	5	18.52	12	44.44	10	37.04	0	0.00	0	0.00
46-55 years	7	17.95	18	46.15	11	28.21	0	0.00	3	7.69
>56 years	17	22.97	33	44.59	22	29.73	0	0.00	2	2.70

Source: Own calculation.

Note: The table refers to all household member 16 years or older.

The scale refers to a rating from ++= very positive attitude to -- = very negative.

But not only unfavourable attitudes are decisive for the future of farms. Table 5.22 looks at the farmer's self-assessments of the prospects of their farms. Basically no farm household in the Croatian regions deems its prospects as excellent. More than 40% feel they are not competitive at all; neither in the medium term (five years) nor in the long-term (20 years). Only 10% of the households feel well prepared for the coming five years and think they can achieve a successful adaptation. The remainder of farms is either not sure what will happen or already fears that they will become uncompetitive or have difficulties to adapt.

Table 5.22 Self-assessment of farm prospects in the Croatian regions

	How do you evaluate the economic prospect of your farm within a time frame of 5 and 20 years?				
	1 Not competitive at all	2 Will have difficulties to adapt	3 Don't know	4 Good prospects to achieve successful adaptation	5 Excellent prospects to successfully adapt
Farm prospects within 5 years	44.20 %	17.39 %	27.54 %	10.14 %	0.00 %
Farm prospects within 20 years	40.91 %	12.88 %	37.12 %	8.33 %	0.76 %

Source: Own calculation.

5.4.2 Farm development, diversification and farm exit – Where do Croatian farms go?

Drawing on the results presented in previous Sections we analyse driving forces of farm household strategies. We have shown that the small-scale and partly uncompetitive farming sector in Croatia leads to highly diversified income portfolios. Although the income possibilities in the farm sector do not seem to be worse than in the non-farm sector – in fact in our sample average farm incomes per AWU are higher than average non-farm returns – households are driven to open up additional income sources if they do not want or cannot expand their farming activities. Further adaptations of employment strategies are expected in view of the EU accession. We hypothesise that the socio-economic standing of a farm household including its demographic structure, the individual characteristics of the household head, access to farm land and attitudes towards farming are decisive for the main economic strategies of the farm household at large. Farm exit, farm expansion and the combination of farm and non-farm incomes are the

main strategies, which will be tested against socio-economic variables with a potential influence on them. The analysis is based on the anticipated future of farms in the Croatian regions within a time-frame of five years (Table 5.23).

Despite the pending EU accession, which requires considerable structural adjustment in most agricultural enterprises, the largest share of farms (28.5%) indicates that no changes are planned within the next five years. However, as could also be seen from the previous Section, the pressure to adapt is high: About one fifth of the households have the intention to (further) diversify their incomes by taking up non-farm employment. 10.9% of the families plan to expand their farm, while 9.5% state that they will give up farming. A surprisingly high percentage of farms intend to continue farming for subsistence or hobby purposes. In Zagreb County this group makes up more than 20%. Also the percentage of farm abandoners is higher there. Thus, it seems that if the non-farm sector offers sufficient employment opportunities, abandoning or hobby farming becomes an option. In Bjelovar-Bilogora County, the percentage of households that plans to expand the farming business is higher compared to Zagreb County (Table 5.23).

Table 5.23 Anticipated future of farms in Croatian and Slovenian regions (%)

	Where do you see your farm in five years from now?					
	Farm abandoned	Farming plus taking up of (additional) non-farm employment	Subsistence/hobby farming	No major change	Farm expansion	Don't know
Croatian regions	9.5	20.4	17.5	28.5	10.9	13.1
Zagreb	13.5	21.6	20.3	23.0	8.1	13.5
Bjelovar-Bilogora	3.2	19.4	14.5	35.5	14.5	12.9
Slovenian regions	13.2	7.5	22.6	45.3	3.8	7.5
Gorenjska	0.0	7.4	33.3	51.9	3.7	3.7
Prekmurje	26.9	7.7	11.5	38.5	3.8	11.5

Source: Own calculation.

A multinomial logistic regression (see Box 1) shows determinants of the farm and diversification strategies of Croatian farm households that are anticipated for the coming five years (Table 5.24). It distinguishes between five major strategies:

- 1) Farm business will be abandoned;
- 2) Farm business will be continued, but non-farm employment will be extended/
started;
- 3) Farm business will be continued, but only for subsistence or hobby purposes;
- 4) Farm business will be expanded;
- 5) No major changes planned.

All strategies included in Table 5.24 refer to the reference category which comprises those households that intend no major changes concerning their farm within the next five years (this group is redundant in the analysis and thus not included in the Table 5.24. This reference group was chosen because it allows deducting the drivers of the pro-active farm households in one or the other way.

We hypothesise that the determinants belong to three major groups of influential factors which are included in the model: (1) the external economic environment, (2) the economic assets of a farm households and (3) individual and household related characteristics.

The external environment is depicted in the model by a region dummy, which differentiates between the peri-urban Zagreb region (dummy = 0) and the typically rural Bjelovar-Bilogora (dummy = 1). In addition, we include a dummy that reflects the average closeness of a household to important hard infrastructure such as public transport, banks, and schools. Individual characteristics of the household head that are included in the model are the age (and age square) of the household head, his/her years in education and the attitude towards farming (measured on a scale from one to five, with one indicating a very positive attitude and five indicating a clearly negative attitude). Household related factors that are included in the model are the number of household members in active age (i.e. between 16 and 64 years) and the dependency ratio which indicates the relation of active and dependent household members.

Box 1: Multinomial logistic regression model

In statistics, logistic regression is a model used for prediction of the probability of occurrence of an event. It makes use of several predictor variables that may be either numerical or categories. Here, we look at the probability that a household decides for a certain employment strategy, which might be predicted from knowledge of the household head's age and education as well as the farm size and current income situation etc.

Logistic regression applies maximum likelihood estimation after transforming the dependent into a logit variable (the natural log of the odds of the dependent occurring or not). In this way, logistic regression estimates the probability of a certain event occurring. Logistic regression has many analogies to OLS (Ordinary Least Squares) regression, the standard linear regression procedure: logit coefficients correspond to β coefficients in the logistic regression equation (although the interpretation slightly differs), the standardized logit coefficients correspond to beta weights, and a pseudo R2 statistic is available to summarize the strength of the relationship. Unlike OLS regression, however, logistic regression does not assume linearity of relationship between the independent variables and the dependent, does not assume homoscedasticity, and in general has less stringent requirements. Goodness-of-fit tests such as model Chi-square are available as indicators of model appropriateness as is the Wald statistic to test the significance of individual independent variables.

The multiple logistic regression model is shown as follows:

$$\ln\left(\frac{p(y_1 = 1)}{1 - p(y_1 = 1)}\right) = \beta_{10} + \beta_{11}x_{11} + \dots + \beta_{1j}x_{1j} + \dots + \beta_{1k}x_{1k}$$

...

$$\ln\left(\frac{p(y_i = 1)}{1 - p(y_i = 1)}\right) = \beta_{i0} + \beta_{i1}x_{i1} + \dots + \beta_{ij}x_{ij} + \dots + \beta_{ik}x_{ik}$$

...

$$\ln\left(\frac{p(y_l = 1)}{1 - p(y_l = 1)}\right) = \beta_{l0} + \beta_{l1}x_{l1} + \dots + \beta_{lj}x_{lj} + \dots + \beta_{lk}x_{lk}$$

where p stands for the probability of the behaviour y_i ($i=1..l$, l : number of observed behaviours that will be compared to a base behaviour); $(p(y_i=1)/(1-p(y_i=1)))$ are the so-called odds of the behaviour y_i ; β_{i0} are the constant terms for the single regression functions; β_{ij} are the coefficients for the variables x_{ij} ($i=1..l$, $j=1..k$, k : number of variables in the model).

In a farm household, land is supposed to be one of the most important assets, decisive for the capability of a farm to support a family's livelihood. The farm size is therefore included as one of the variables reflecting the economic capacity. In addition, we use a dummy indicating if a household has access to subsidies, because we think that this is an indication of a proactive behaviour in terms of agricultural activities and, if available, might influence a household to stay in agriculture.

Table 5.24 Multinomial logistic regression of anticipated future of farms in the Croatian regions

	Logit coefficient β	Std. Error	Wald	Sig	Exp(β)
1 Farm will be abandoned					
Region	-2.349	.983	5.707	.017	.095
Age*	-.263	.231	1.296	.255	.769
Age ² *	.003	.002	1.592	.207	1.003
Years in education*	.170	.162	1.100	.294	1.185
Attitude towards farming*	.853	.407	4.399	.036	2.347
Household members in active age	.608	.419	2.105	.147	1.837
Dependency ratio	2.075	.901	5.301	.021	7.961
Farm size in hectares	-.125	.109	1.313	.252	.883
Receive farm subsidies	-2.116	1.020	4.303	.038	.121
Expected farm prospects (5 years)	-1.077	.530	4.136	.042	.340
Unfavourable infrastructural links	1.206	.923	1.708	.191	3.339
Household income in €/1000	.012	.031	.148	.700	1.012
Part-time farming (subsidiary)	-2.349	.983	5.707	.114	.161
Intercept	1.982	5.852	.115	.735	
2 Farm will be complemented by non-farm activities					
Region	-.375	.627	.359	.549	.687
Age*	.440	.195	5.077	.024	1.552
Age ² *	-.004	.002	5.139	.023	.996
Years in education*	.165	.100	2.699	.100	1.179
Attitude towards farming*	-.237	.267	.784	.376	.789
Household members in active age	1.675	.428	15.330	.000	5.341
Dependency ratio	2.612	.764	11.677	.001	13.620
Farm size in hectares	-.047	.049	.948	.330	.954
Receive farm subsidies	.103	.702	.022	.883	1.109
Expected farm prospects (5 years)	-.109	.329	.109	.741	.897
Unfavourable infrastructural links	.606	.716	.717	.397	1.833
Household income in €/1000	-.011	.027	.165	.684	.989
Part-time farming (subsidiary)	.549	.758	.524	.469	1.731
Intercept	-17.740	5.748	9.526	.002	

Table 5.24 Multinomial logistic regression of anticipated future of farms in the Croatian regions (continued)

3 Farm will only be kept for subsistence or hobby purposes					
	Logit coefficient β	Std. Error	Wald	Sig	Exp(β)
Region	-.975	.620	2.471	.116	.377
Age*	.026	.178	.021	.884	1.026
Age ² *	.000	.002	.001	.982	1.000
Years in education*	.227	.113	4.043	.044	1.255
Attitude towards farming*	.355	.267	1.775	.183	1.426
Household members in active age	.527	.314	2.809	.094	1.693
Dependency ratio	.436	.681	.410	.522	1.546
Farm size in hectares	-.064	.066	.926	.336	.938
Receive farm subsidies	.173	.714	.058	.809	1.188
Expected farm prospects (5 years)	-.186	.328	.323	.570	.830
Unfavourable infrastructural links	.483	.705	.469	.493	1.621
Household income in €/1000	-.060	.041	2.100	.147	.942
Part-time farming (subsidiary)	.119	.742	.026	.872	1.127
Intercept	-5.172	4.875	1.126	.289	
4 Farm will be expanded					
Region	.942	.967	.948	.330	2.565
Age*	.208	.251	.687	.407	1.231
Age ² *	-.002	.003	.737	.391	.998
Years in education*	.189	.170	1.236	.266	1.208
Attitude towards farming*	-.457	.424	1.159	.282	.633
Household members in active age	.732	.680	1.157	.282	2.078
Dependency ratio	2.540	.987	6.619	.010	12.685
Farm size in hectares	.043	.060	.515	.473	1.044
Receive farm subsidies	.769	1.289	.356	.551	2.157
Expected farm prospects (5 years)	1.508	.540	7.790	.005	4.519
Unfavourable infrastructural links	-2.003	1.193	2.820	.093	.135
Household income in €/1000	.016	.025	.384	.535	1.016
Part-time farming (subsidiary)	-.017	1.126	.000	.988	.984
Intercept	-15.440	7.547	4.185	.041	

Source: Own calculation.

Note: * Data refers to the household head.

N=119; the reference category is group 5 who intend no changes regarding the farm and income strategies. This group is redundant and therefore not shown in the table.

Furthermore, the subjective perception of the farm's capability to stay or become competitive within the coming years is crucial for economic decisions on the farm's future. Finally, the general economic standing of a household is seen as decisive for the planned future of the farms. We use two variables, a dummy

showing to which group of farm types a household belongs currently as well as the total household income. While better incomes allow to go for either the necessary investments in agriculture or the abandoning of the farm, low household incomes indicate a need that the farming activities are continued for subsistence purposes at least as long as no alternative income sources are available. The farm type dummy is useful for identifying from which starting point a decision is taken. It turns one for subsidiary part time farms (type 3) and zero for those who concentrate on farming (types 1 and 2) (see Table 5.16).

Most households state that they will continue farming and increase their involvement in non-farm activities (category 2 in Table 5.24). As a result from the model we find that the age of the household head, his or her education and the demographic composition of the households are important drivers for diversification. The probability to belong to category 2 is high for the middle-aged groups (indicated by the positive sign of the variable age and the negative sign of age squared). Furthermore, the more years in education a household head has spent, the higher is the probability that the household is going to enter non-farm jobs. The availability of work force in the household is a pre-condition for diversification and thus it does not surprise that a higher number of household members in active age increases the chance to belong to this group. The dependency ratio is significant and shows a positive sign. This means that households in the group of diversifiers have a comparably high number of dependent persons to take care of. These children and elderly seem to be one crucial reason why a household decides to adapt its income strategies towards multiple income sources when it can be expected that farming alone cannot support these relatively large families in the middle term.

A strategy that looks similar, but might have completely different triggers is depicted in category 3 in Table 5.24. Category 3 includes those who plan to continue their farming business as a subsistence or hobby activity while mainly relying on other income sources. Again, the number of household members in active age is a significant determinant. The bigger the work force the higher the chance that farming activities can be continued despite the main income sources of the household lying outside agriculture. The education variable is significant and indicates that better education increases the chance to go into the direction of hobby or subsistence farming. Although just missing the 10% significance level, there are two further interesting variables that could contribute to explaining the strategies of this group: The fact that this strategy is rather more frequent in Zagreb County than Bjelovar-Bilogora (together with the education variable) seems to be an indication that in a favourable environment, hobby farming becomes an

option. However, the income variable with its negative sign indicates that there are also poorer households falling in this group, who then might rather be subsistence farmers.

Those who intend to abandon their farm (category 1 in Table 5.24) are characterised by a rather negative attitude towards farming. Further determinants that increase the probability of farm exit are negative expectations about the prospects of the farm and no access to farm subsidies. The fact that the dependency ratio is significant in this group might be a hint that among those who give up farming, there are also pensioner households. Farm exit is normally only an option if a household is able to support the livelihood of the family otherwise. Therefore, it is not surprising that the probability to give up the farm increases for the wealthier Zagreb County as compared to Bjelovar-Bilogora. Although not significant, it is interesting that the odds for abandoning seem to increase if a household is more involved in farming (i.e. if farming is no sideline). We think that this is to be explained by the less proactive behaviour of subsidiary farmers in terms of their farms. For them the farm, although it might be an important source of subsistence production, is not that much in the focus of their economic decision-making.

Finally, there is a group of households that sees their farm as competitive and plans to expand their farming activities (category 4 in Table 5.24). Interestingly, not even in this group does the actual farm size play a decisive role. Instead it seems that the prospects in terms of successful adaptation and future competitiveness are crucial. The better these prospects are perceived, the higher the probability to fall into this group. Again, in these households the dependency ratio is an influential factor. This seems logical as more dependent household members lead to a higher pressure to increase the economic basis of the farm. Bad infrastructural links are a constraint to farm expansion and decrease the chance that a household plans to expand the farm.

We therefore conclude that the group, which plans no major changes does so, because the families are smaller and thus have lower work force. Also, they have to take care of fewer dependent household members, which reduces the pressure to adapt income strategies. They consider their farm prospects as more favourable than those who intend to give up farming, but lower compared to those who would like to expand their farm. The relatively low educational level of this group is another explanation of their unwillingness to change their employment strategies. Our model shows how any kind of change, be it diversification, farm expansion or farm exit, needs certain drivers such as economic needs, education or skills, or perceived opportunities in and outside agriculture.

5.4.3 Promoting farm expansion and farm exit

Farm expansion and farm exit are decisive to achieve structural change. As we could show in Section 5.4.2, not many farms are willing to take the risk to either invest in or completely give up their farm. Therefore we go one step further and look at external drivers which could be influenced by policy makers in the one or the other way in order to potentially influence the farm expansion and farm exit behaviour of farmers in the Croatian regions.

Clearly above 50% of all interviewed farm households stated that the probability for them to decide for a farm investment increases if a price increase of agricultural products, the possibility of secure sales or access to credit or subsidies would occur (Table 5.25). Although such statements of intent have to be treated with care, of course, there seems to be substantial potential to influence farmers' behaviour by offering certain incentives. Beside a price increase that would make farming generally more attractive, particularly secure sales (e.g. due to contract farming) seem to be a powerful incentive in the eyes of farmers to invest in farming. This is an indication that the production, price and policy related risks that farmer's have to bear lead to reluctance in terms of investments.

Table 5.25 Investment in farming in the Croatian regions

	How would the following influence the probability of your household to invest in farming? (% of households)				
	Low influence 1	2	3	4	5 High influence
Price increase	10.95	7.30	5.84	14.60	61.31
Secure Sale/contract farming	9.49	6.57	5.84	7.30	70.80
Access to credits	13.87	10.22	18.98	24.09	32.85
Access to subsidies	9.49	7.30	11.68	25.55	45.99

Source: Own calculation.

However, it also becomes clear that some farmers would be willing to invest if farm credits were available. This investment potential should be relatively easy to unlock. The fact that the access to subsidies leads to a higher probability to stay and invest in agriculture, is of high importance in terms of the increased possibilities in the course of the EU's IPA and the consecutive CAP. If structural

change is desired then (product and investment related) subsidies should be offered to specific target groups, i.e. those who are potentially competitive.³⁰

Despite the fact that the majority of farms is already involved in non-farm activities or will increasingly be so, farm exit is only an option for a small minority (Section 5.4.2). This is partly reflected in Table 5.26. Clearly, not all households could be convinced to leave the farm sector by offering them better opportunities in the non-farm sector. Nevertheless, more than 40% indicate by their rating that farm exit could become an option for them if the economic situation would allow it. Only a small proportion of farms (less than a quarter) seem to be interested in starting a non-farm business, if credit for this activity is available. This percentage is much smaller than the respective share of farms who would be interested to invest in their farm. This result is not surprising as evidence in other countries (as for example Slovenia or Macedonia, MÖLLERS, 2006) shows that business start-ups are much less preferred compared to waged employment by the rural population. Among the factors that influence this are risk averse behaviour and the feeling that one lacks skills and information.

EU regulations such as hygiene and animal welfare requirements could be the deathblow for some of the very small and rather subsistence oriented farms in Croatia. Table 5.26 shows that indeed, EU regulations that cannot be fulfilled by such small farms might lead to an increase probability to give up farming.

Not surprising, but a barrier to structural change, is the low willingness to sell land. Even out of the small proportion who actually intend to abandon their farm (9.5% of all farmers, see Table 5.23) one third say that they intend to keep the land unused instead of renting it out or selling it. Thus, it is not to be expected that a considerable amount of land will be released so that the unfavourable farm size structure could improve in the medium-term.

Early retirement schemes (ERS) address two important policy fields in the farming sector: They are designed to further structural change by explicitly enforcing farm exit, while at the same time support disadvantaged and often uncompetitive elderly farm holders. Table 5.26 seems to indicate a rather reserved interest in ERS. However, if we look at responses of potentially eligible farm household heads in the age group from 51 to 75 years, we find that out of this group, 45% state that the (hypothetical) existence of an ERS would increase the probability that they

³⁰ Interestingly, the EU is providing subsidies of around € 1,300 per annum to semi-subsistence farmers in Bulgaria and Romania presently that show an investment plan. Whether or not these farms are fit for the market is not checked.

give up farming to a high or very high degree. This has to be seen in contrast to only 11% of the same group who actually plan to close down their farm within the coming five years. Box 2 briefly discusses if ERS could be an interesting option for Croatian rural development policies.

Table 5.26 Farm exit in the Croatian regions

	How would the following influence the probability of your household to give up farming? (% of households)				
	Low influence 1 2 3 4 5 High influence				
	1	2	3	4	5
Better opportunities in the rural non-farm sector	23.53	11.03	22.06	19.85	23.53
Possibility to sell land	39.55	16.42	24.63	8.21	11.19
EU regulations that cannot be fulfilled	8.82	9.56	29.41	17.65	34.56
Access to credit for investment in non-farm business	32.09	11.94	31.34	15.67	8.96
Early retirement scheme	34.56	5.88	25.00	19.12	15.44

Source: Own calculation.

Box 2: Are early retirement schemes an option for Croatia?

Early retirement schemes (ERS) address two important policy fields in the farming sector: They are designed to further structural change, while at the same time support disadvantaged and often uncompetitive elderly farm holders. A couple of findings regarding rural households in Croatian regions are compared with drivers and impacts of ERS highlighted in the literature (based on FELLMANN and MÖLLERS, 2009):

The participation in ERS is region specific. Interestingly, the highest level of participation is found in prosperous farming regions (i.e. regions of least need). Furthermore, the regional uptake of ERS often increases proportionally with the population density of a region. The intra-sector participation in ERS is found to be varying, with a strong attraction for dairy and in intensive farming regions and/or high-yield regions, whereas cereal regions seem to be quite unresponsive to ERS. In Croatia, we did not find regional differences between the more peri-urban Zagreb region and the typically rural Bjelovar-Bilogora in terms of the exit probability induced by an (hypothetically offered) ERS.

Deadweight loss might arise when ERS are accessed by those who intend to transfer farms anyways. In this case, the structural effect of ERS is found to be little different from the one, which would have occurred anyway, although over a slightly longer time period. Furthermore, there is evidence that ERS rather do not promote farm transfer outside the family. Based on our farm sample, we expect that the introduction of an ERS in Croatia could also be hampered by windfall gains. While only a few farmers actually plan to abandon their farming activities in the coming years, many are generally interested in entering the non-farm sector, which implies that they might leave the farm if alternative income sources provide for their livelihood. The social benefits of an ERS could be considerable, though, as the potential ERS receivers are clearly disadvantaged in terms of farm sizes and incomes.

The main explanatory variable for those deciding to participate in ERS is a pension income that is higher than existing earnings from farming. Hence, farm households with lower than average incomes show a higher rate of participation in ERS. Also in the Croatian sample, there are indications that within the potentially eligible age group particularly farmers that are characterised by low education and very low incomes could be persuaded to give up farming by an ERS.

The likelihood to take part in ERS decreases with the absence of a successor and a farmer's single marital status. For the Croatian regions, we find that as many as 70% of farmers of the potentially eligible age group have designated successors. This might be another risk of windfall gains or even fraud if the land is transferred to a family member who is already working on the farm and the pensioner continues his farming activities.

The socio-economic data on Croatian farms that we use in this study is not representative on the national level and thus conclusions based on this data have to be handled with care. However, it seems safe to say that compared to the ERS in EU-15, such policies could be more successful in Croatia in terms of participation, if the payments are comparably high and thus more generous than national retirement schemes. In this sense ERS might be effective as a tool for addressing equity issues. Nevertheless, the risk of windfall gains and fraud remains high particularly because most farms have designated farm successors. In addition, ERS are generally considered to be administratively burdensome, hence limiting the efficiency as a social instrument. Furthermore, on equity grounds, it is highly questionable to treat poor farmers in a different manner than poor people outside the farming business. With respect to structural objectives, studies of ERS in the EU-15 indicate, that the effect of ERS on structural adjustment in agriculture is clearly limited. Also the Croatian case study seems to suggest that farm exit could be better addressed by promoting job opportunities in the non-farm sector than by ERS. Therefore, we conclude that the introduction of an ERS in Croatia would probably not be good value for public money as the likely costs and benefits of an ERS in Croatia make the economic case for its introduction rather weak.

5.4.4 Individual labour allocation decisions as indicator of structural change

Finally, we have a brief look at individual labour allocation decisions in the Croatian regions. Individual labour allocation is interesting due to two aspects: First, pluriactivity, i.e. an individual combines farm and non-farm work, is usually a hint of economic distress, because neither farm nor non-farm work seem to offer sufficient incomes. Second, while at the household level we observe diversified (mixed) incomes, at the individual level developments such as an increasing focus on the non-farm sector might be easier observed because they take place first at the individual level.

Table 5.27 shows that in the Croatian regions, similar to Slovenia, each active household member follows 1.3 activities (including farming activities as well as waged and self-employment in the non-farm sector). The figures are slightly smaller for the poorer households in both countries. Thus, it seems as if additional income sources actually help to increase incomes. In Croatia no regional differences are found.

The fact that the figure for farm activities reaches almost one, is an indication of the high involvement of farm household members in farming activities. 71% of all activities are farming activities, while non-farm activities make up 29%.

In Slovenia, the importance of non-farm activities is higher with a share of about 35%.

Table 5.27 Number of income-generating activities of active household members in the Croatian and Slovenian regions

	Croatian regions			Slovenian regions		
	Activities per capita			Activities per capita		
	Total	Farm	Non-farm	Total	Farm	Non-farm
Peri-urban region	1.32	0.92	0.40	1.35	0.86	0.49
Rural region	1.31	0.95	0.35	1.23	0.81	0.43
Tertile 1	1.26	0.91	0.35	1.14	0.77	0.37
Tertile 2	1.32	0.95	0.38	1.42	0.83	0.59
Tertile 3	1.35	0.94	0.41	1.33	0.91	0.42
Average	1.31	0.93	0.38	1.30	0.84	0.46

Source: Own calculation.

Note: Tertiles refer to per capita income calculated on the basis of equivalent household sizes.

Table 5.28 gives an overview on the main developments of individual employment decisions that are to be expected within the coming five years. It describes the distributions of the employment status of an individual; the possible status can be (1) working in the non-farm sector, (2) pluriactive (i.e. a combination of farm and non-farm employment, or (3) working in the farm sector. This employment status is then compared with the anticipated status of the individual after five years.

The majority of individuals in active age are involved only in farming activities (58%); almost 40% are pluriactive and as little as 4% are only working in the non-farm sector (Table 5.28). This distribution will probably change within the next years: While combined activities will not change much, pure non-farm activities will increase to over 20% and farming activities will decrease by more than one third.

The bold figures in Table 5.28 indicate the shares of individuals who will presumably not change their employment status in the next five years. The proportions are high in all categories, but there is a clear trend, that pure farming activities will decrease, while those who have once left the farming sector will rather not go back into farming. Similarly, pluriactivity seems to be a first step towards non-farm employment: 25% of people with the current status being pluriactive, intend to concentrate on non-farm work in the future, whereas only about 9% think that they will give up their non-farm work and go back into

farming. A considerable share of farmers (almost 40%) intends to either combine non-farm work with their farm work (16%) or give up their farming activity (23%).

Table 5.28 Status and anticipated future of farm family members in Croatian regions

Status	Anticipated future			Total	
	1	2	3		
1	Number	12	1	0	13
	% of status	92.3%	7.7%	0.0%	100.0%
	% anticipated future	14.8%	1.0%	0.0%	4.3%
2	Number	28	76	10	119
	% of status	24.6%	66.7%	8.8%	100.0%
	% anticipated future	34.6%	72.4%	8.6%	37.7%
3	Number	41	28	106	204
	% of status	23.4%	16.0%	60.6%	100.0%
	% anticipated future	50.6%	26.7%	91.4%	57.9%
Total	Number	81	105	116	302
	% of status	26.8%	34.8%	38.4%	100.0%
	% anticipated future	100.0%	100.0%	100.0%	100.0%

Source: Own calculation.

Note: 1 = non-farm employment, 2 = pluriactive (farm and non-farm employment), 3 = farm employment.

Only household members for whom both, status and anticipated future belong to one of the three categories are included in this Table. 32 persons not included in this table will retire within the next five years.

**Part C – Lessons learnt from Slovenia’s EU accession –
Conclusions and recommendations**

6 Lessons learnt from Slovenia's EU accession – Challenges and opportunities for Croatia³¹

EU accession is a complex and tedious process. As it is a one-time issue, a candidate country can only rely on experiences from previous accessions of other countries. Although only one out of a whole bundle of issues to be negotiated, the Agricultural Chapter certainly determines the weal and woe of the farming population to a large degree. In Slovenia, the accession process is deemed as successful from the point of view of the farmers as well as the involved parties of the negotiation. Therefore, there are lessons to be learnt for Croatia on what are important issues for its agricultural sector during and after the negotiations. Chapter 6 discusses outcomes of expert interviews conducted in Slovenia. Moreover, all successful policies must closely involve the farmers themselves. Therefore, Chapter 6 also presents results regarding the acceptance and perceptions of policy measures by the farmers in the research regions.

6.1 Negotiating the Agricultural Chapter in Croatia – A brief overview

The Agricultural Chapter covers a large number of binding rules, many of which are directly applicable regulations. The proper application of these rules and their effective enforcement by an efficient public administration are essential for the functioning of the CAP. This includes the setting up of management systems such as a paying agency and the Integrated Administration and Control System (IACS), and also the capacity to implement rural development actions. EU membership requires integration into the common market organisations of a range of agricultural products, including arable crops, sugar, animal products and specialised crops. All these issues are covered by *Chapter 11 – Agriculture and rural development* in the negotiation process of Croatia.

The negotiation technique applied in the accession process of Croatia has been slightly modified in comparison with the previous practice. The change is reflected in the introduction of a system of benchmarks that need to be met in order to either

³¹ Authors of this Chapter are Judith Möllers, Štefan Bojnec, and Patrick Zier.

Box 3: Key events in Croatia

November 2000	Zagreb Summit launches the Stabilisation and Association Process
29 October 2001	Stabilisation and Association Agreement signed
21 February 2003	Croatia applies for EU membership
June 2003	Thessaloniki summit confirms accession perspective of Western Balkans countries, including Croatia
April 2004	European Commission issues positive opinion on Croatia's application for EU membership application
June 2004	European Council confirms Croatia as candidate country
December 2004	European Council sets 17 March 2005 as start date for negotiations conditional upon full cooperation with the International Criminal Tribunal for the former Yugoslavia
1 February 2005	Stabilisation and Association Agreement enters into force
16 March 2005	EU postpones start of accession negotiations but adopts framework for negotiations with Croatia
26 April 2005	First meeting of Stabilisation and Association Council; meeting of extended "EU troika" on Croatia's cooperation with the International Criminal Tribunal for the former Yugoslavia (ICTY)
3 October 2005	ICTY Chief Prosecutor assesses Croatia is now fully cooperating with ICTY. Council concludes last remaining condition for starting negotiations is met. Accession negotiations are launched the same day.
20 October 2005	"Screening" stage of accession negotiations begins.
10 April 2006	Second meeting of Stabilisation and Association Council
12 June 2006	The first chapter of the accession negotiations – science and research – was formally opened and provisionally closed at an Accession Conference at Ministerial level.
18 October 2006	"Screening" concluded; accession negotiations continue.
End of 2007	Expected opening of the Agricultural Chapter for negotiations

Source: Adapted from http://ec.europa.eu/enlargement/croatia/key_events_en.htm (accessed in 2007).

open or close individual negotiation chapters. This mechanism has not been applied in the accession negotiations for the NMS-10 of the EU³².

Following the positive *Avis* and the opening of the negotiation process in 2005, the multilateral screening for Chapter 11 was held in December 2005. On this meeting the EC explained in depth the *Acquis* on agriculture. The bilateral meeting, where Croatia presented its legal framework for this chapter, was held early in 2006. Based on the bilateral screening, the European Commission (EC) prepared a screening report, giving a general overview of the degree of harmonisation and level of readiness of Croatia to start the negotiations on agriculture. The report contains a benchmark that requests the preparation of a detailed strategy to reinforce the collection and processing of agricultural statistical data. Croatia has already prepared a strategy draft which is currently undergoing consultations with the EC on its finalisation. It is expected that the chapter will be open for negotiations by the end of 2007. The key events of the EU accession process are summarised in Box 3.

6.2 Experiences from Slovenia – Insights from Slovenian experts

Slovenia's negotiation and accession experiences are valuable for Croatia for many reasons: First of all, both countries have a long common history; apart from being neighbours, they also share the characteristics of small nations and comparable economic characteristics. Moreover, many structural characteristics with regard to the agricultural sector are similar such as small farm sizes and important products.

The decisions on the main direction of agricultural support programmes and policy measures were made by the Slovenian government immediately after the Slovenian independence in 1991. They have resulted into the Strategy of Development of Agriculture of Slovenia, which was adopted by the Slovenian Parliament in 1993. In the same year, Slovenia re-negotiated a trade and cooperation agreement with the EU. Three years later (1996), Slovenia answered the EU questionnaire with regard to different chapters of the *Aquis*. This included Chapter 2 for agriculture, Chapter 3 for fisheries, Chapter 18 for financial control, and Chapter 9 for industry, including food-processing industry. Furthermore the Association Agreement with the EU was concluded. These documents already envisaged adjustments towards the EU and CAP. The agricultural policy

³² The NMS-10 comprise those NMS that have acceded before 2007: The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia, and Slovakia.

adjustments and the negotiation position on the Agricultural Chapter with the EU further strengthened the Slovenian agricultural policy evolution in the direction of the CAP of the EU-15.

Slovenia's EU accession is generally deemed successful. This success is based on the work of various stakeholders that were involved in the negotiation process in the one or the other way. Section 6.1 reviews expert information of several key persons in the negotiation process.³³ The information was collected by means of a semi-structured questionnaire. The experts could choose between a written or oral interview.³⁴ The rate of returned questionnaires was about 50%. Issues of high interest that were included in the questionnaire were:

- Who had influence on the contents design of the Agricultural Chapter?
- How were different interests considered?
- How are outcomes of the negotiation evaluated?
- What lessons are to be learnt for Croatia?

³³ The key persons were directly or indirectly involved in either the core team of the negotiation process of Slovenia's EU accession, the administration of the rural sector or EU related measures such as for instance SAPARD, the rural extension services or academia.

³⁴ Written responses: *Prof. Dr. Emil Erjavec*, University of Ljubljana (member of the core negotiation team for the Agricultural Chapter for accession of Slovenia to EU); *Mr. Marko Verbič*, MAFF (member of the Slovenian working group for screening on multilateral and bilateral trade agreements; guardian of PHARE and Transitional Facility – pre and post accession programmes – in agricultural sector in Slovenia since 1998: Institutional Building, IACS development; permanent secretary of subsectoral monitoring committee on Agriculture and of the Slovenian delegation at Joint Monitoring Committee EC-SLO; the project leader for the project CARD Jable – best practice in transfer of knowledge from the research institutions to Advisory Service and further to farmers); *Mr. Martin Nose*, Director of Cooperative Association of Slovenia and Agricultural and Forestry Chamber of Slovenia; *Prof. Dr. Franc Avsec*, Head of Legal Department, Cooperative Association of Slovenia and Agricultural and Forestry Chamber of Slovenia; *Mr. Miroslav Rednak*, Head of Agricultural Economics Department, Agricultural Institute of Slovenia, Ljubljana.; *Mrs. Maja Rakič*, Department of Public Relations of Agency for Agricultural Markets and Rural Development.

Verbal responses: *Mr. Viktor Krek*, Head of Livestock Department at MAFF; *Prof. Dr. Jernej Turk*, Dean of Faculty of Agriculture at the University of Maribor; *Dr. Tina Volk*, Agricultural Institute of Slovenia; *Dr. Andrej Udovč*, University of Ljubljana; as well as other unnamed rural stakeholders.

The core negotiation team of the Agricultural Chapter for the EU accession of Slovenia was supported by experts who provided studies, analyses and specific expertise on agricultural and rural development policy. Experts were also involved in the provision of documents concerning the preparation of the SAPARD plan and empirical analyses supporting the negotiation process. Civil servants were mainly engaged in the screening of multilateral and bilateral trade agreements, in the pre- and post-accession programs in the agricultural sector (PHARE and Transitional Facility), and in the sub-sectoral monitoring on agriculture, forestry and food.

The Cooperative Association of Slovenia took part in the negotiation process as free association of agricultural service cooperatives. The organisation is – through its members and as a legal body – part of the Agricultural and Forestry Chamber of Slovenia, which represents interest groups from of agriculture and forestry. It is based on compulsory membership of farmers, agricultural organisations and agricultural cooperatives. Both institutions, the Cooperative Association of Slovenia and the Agricultural and Forestry Chamber of Slovenia, took part in the negotiation process by an exchange of information on the conduction and contents of negotiation. This information was not only transmitted to their members, but also proposals on specific questions were drafted, adopted by their respective bodies, and provided to the responsible state institutions and members of the core negotiation team.

6.2.1 The negotiation process of the Agricultural Chapter

Clearly, the negotiation process of Croatia's accession is complex and its outcomes depend to a high degree on the power of the different interest groups involved on both sides. According to the opinion of the ***non-core negotiation team*** (Cooperative Association of Slovenia and the Agricultural and Forestry Chamber of Slovenia), not the Slovenians had the highest influence on the contents of the Agricultural Chapter but the EC. The main reasons for this were seen in the EC's superior information access and human resources in comparison to the accession countries. A small country such as Slovenia had little leeway in the negotiation process in comparison to the EC.

On the Slovenian side, the highest influence on the contents design of the Agricultural Chapter had the Ministry of Agriculture, Forestry and Food (MAFF), followed by the core negotiation team in the field of agriculture. Furthermore, experts and some formal and informal groups that were lobbying for specific issues had influence in their fields.

A working group of experts was established to support the MAFF and the Slovenian negotiation team in the preparation of the content of the Agricultural Chapter for the negotiation process. Jointly with other domestic experts, necessary evidence and support material were gathered for the core negotiation activities. The MAFF and its expert group, composed of the eminent persons involved in the agricultural sector, had the leading role in designing the Slovenian Agricultural Chapter negotiation positions. The main lines were discussed and agreed upon in the Government and by the Parliamentary Committee for agriculture and by the representatives of farmers and their above mentioned organisations (Chamber of Agriculture and Forestry of Slovenia, Cooperative Association and Farmers Union).

The issue of agricultural policy and budgetary issues was worked on by a group of agricultural economists from research institutes and academia (MIRO REDNAK and his team at the Agricultural Institute of Slovenia, EMIL ERJAVEC and his team at University of Ljubljana, and some others). Civil servants of different fields were engaged in specific issues on the subjects of veterinary, phytosanitary, food quality, and food safety. The responsible civil servants of different MAFF departments played a crucial role in formulation and implementation of the *acquis communautaire* of the EU. They considered both, opinions that have been expressed by representatives of academic institutions, but particularly opinions of non-governmental organisations, i.e. the Agricultural and Forestry Chamber of Slovenia and Cooperative Association of Slovenia. For some questions such as for putting in order a quota system for milk or the implementation of direct payments, non-governmental interest groups substantially influenced the final implementation procedures. However, the fact that the crucial role in setting the rules was with the civil servants, led – according to the experts’ opinions – to a situation in which the principles of economic efficiency, simplicity and flexibility were not sufficiently considered (EMIL ERJAVEC).

Interests of regional and local levels were considered only indirectly in the decision making process. In different state institutions such as the State Council and State Parliament, representatives of local communities are members, including some elected mayors of municipalities. Regional representation is also constituted in the Governmental Office for Local Self-governance and Regional Development³⁵ and, specifically in the field of agriculture, through statutory adopted regional representation of members in bodies of the Agricultural and Forestry Chamber of Slovenia and Cooperative Association of Slovenia. The former is the most

³⁵ <http://www.svlr.gov.si>.

powerful non-governmental organisation in the Slovenian agriculture; its main aim is to influence different agricultural and rural development programmes. The main agricultural policy reform goals were presented and discussed with the farmers' representatives during many public events and occasions.

Local and regional interests did not play an important role in the negotiation according to the core negotiation team and its experts, who themselves considered this aspect as rather negligible (e.g. EMIL ERJAVEC, MIROSLAV REDNAK). This is explained by the fact that Slovenia is a relatively small country, which – according to them – is not regionally differentiated to a high degree. However, the non-core negotiation team's opinion on the consideration of the local or regional level interests is different. They argue (e.g. Cooperative Association of Slovenia and Agriculture and Forestry Chamber of Slovenia) that the Slovenian negotiation team benefited from the competences and feedback responses of regional representatives, as well as from regular "brainstorming" of parliamentary bodies, from civil society institutions, and organisations such as the Agricultural and Forestry Chamber of Slovenia and the Cooperative Association of Slovenia. These bodies could influence the Slovenian negotiation team and issues, which were not yet finally decided upon and negotiation results through regular consultation of state bodies: Regular meetings and exchanges of views and negotiations positions were important for certain adjustments in searching for a compromise solutions to be acceptable for Slovenia and the EU. These formal and informal meetings were bridging possible internal tensions to find a Slovenian negotiation position to be agreed upon with the EC. Also, intensive expert work with simulations of possible solutions and their implications for Slovenian agriculture and cooperation with representatives from other EU countries and associated candidate countries for EU membership³⁶ had an influence on the negotiations.

6.2.2 Farmers, extension service, and academia: Their role and opinions

The Slovenian extension service has played an important, although only indirect role in the whole process of Slovenian accession to the EU and in negotiation of the Agricultural Chapter with the EU. This indirect engagement took place through seminars, presentations and other public transmission of information. After the EU accession, the main part of applications for agricultural and rural development

³⁶ The Cooperative Association of Slovenia and the Agriculture and Forestry Chamber of Slovenia argued, for instance that they have had a very important role in collecting information on practices, lobbying and similar activities with similar institutions and organisations in other EU member and EU associated countries.

subsidies has been processed with the assistance of extension service staff in regional offices of the Chamber of Agriculture and Forestry of Slovenia. The extension service is also important in providing sufficient and up-to-date information on new measures of relevance for an application procedure for subsidies in Slovenia. Subsequently to the accession, its importance has increased as the Slovenian extension service is one of the most important institutions in the implementation of the CAP measures.

However, according to the experts, it would have been desirable if the extension services had been involved more intensively already during the negotiation process and preparation of programmes. This opinion is supported not only by the interview partners of the core negotiation team, but also by all other experts including representatives of the civil servants. With their thorough knowledge of farms and rural people, the farm advisors should have had a direct and more influential role during the negotiations.

The farmers themselves are described as only moderately interested in and knowledgeable on the CAP and its measures during the negotiations. The majority of farmers are not particularly proactive. However, Slovenia started relatively early with the simulations of implications of the CAP on Slovenian agriculture. Therefore, since 1998, the farmers and their associations have had access to information on possible outcomes of the implementation of CAP measures after the EU accession. The main information sources are several scientific and policy related studies on the implications of the Slovenian agro-food sector entry into the EU (among others, FAO, 1998; ERJAVEC et al., 1998; BOJNEC, 1999; BOJNEC and MÜNCH, 1999), different publications on EU policies and practices issued by research groups (among others, KAVČIČ et al., 2003; REDNAK et al., 2003; AVSEC and ERJAVEC, 2005), as well as information offered by the Slovenian advisory services and media. EMIL ERJAVEC describes Slovenia as a country, where political interests in agricultural policy are generally very present also on account of economic efficiency, equity and equality. The actual influence that farmers had was through their relatively conservative attitude towards the CAP reforms, which was known to the core negotiation team. In this context, the farmers' interests can be and are considered for the design of financial packages and support measures, but less in the implementation of rules of food safety, where the EU rules are very strict. Farmers in Slovenia are by now familiar with CAP measures. However, it seems that they are mainly interested in an optimisation of different subsidies to maximise their income, while they are less interested in understanding the objectives behind the CAP.

The usefulness of the CAP measures for the target groups, i.e. mainly the farmers, and their acceptance by them is due to augmenting subsidisation mainly positive. Slovenia, during the adjustments to the EU membership, rapidly increased the budget for agriculture.

In 2002, subsidies paid to Slovenian farmers stood at 60 percent of EU levels and were continuously increased until the accession to the EU. For 2004-2006, Slovenia has received about \$409 million, which were supported with about the same amount from the national budget and used for farmer payments, agricultural environmental programs and organic farming. Until 2013, the Slovenian government will make direct payments to farmers and already in 2007 Slovenian farmers should reach the EU level of direct payments. Currently, around 250 million Euros are available for direct payments in Slovenia as result of the CAP implementation. This amount represents around one-fourth of gross output in agriculture and more than half of all agricultural incomes in Slovenia (UDOVČ, 2004).

Due to additional subsidies, some agricultural sub-sectors could indeed increase their competitiveness. Further opportunities are offered by the borderless Single European Market which provides new possibilities particularly for the sale of beef, milk, and some other agro-food produce to buyers and processors in the neighbouring Italy and Austria. However, the benefits and the welfare implications of the CAP implementation in Slovenia vary between branches of the agro-food production. The major gains, it is argued, went to large cereal producers, as well as beef and milk producers. Also smaller farmers in areas with limited production capacities (marginal areas), who opted for ecological production, have clearly benefited. A minority of farmers are declared losers of the EU accession. Due to real price declines, the competitiveness of pig and poultry production has deteriorated. The most substantial change is seen in the sugar market, which is a major loser of the CAP reform in Slovenia.

Generally, from the point of view of the agricultural interest groups the outcome of negotiation for Slovenian agriculture and rural development is positive. The acceptance of the CAP, which is seen as a subsidy system in the first place, is very significant. Discontent is mentioned in terms of the implementation of certain measures, delayed subsidy disbursements, and excessive administrative requirements, which are attributed to the national implementation.

In academia, however, there is the opinion, that the results of negotiation from today's point of view were designed short-sighted and income related aspects. Long-term and development oriented considerations have been neglected. Although the huge subsidies allowed an increase in competitiveness this was rather artificial

and will only work in the short-run. It bears a high risk of raising false expectations, namely that it is possible to survive in farming under the current conditions also in future.

Due to its unfavourable natural conditions, Slovenia's farming sector has no substantial possibilities to become highly competitive. The main reasons for this are the large proportion of less favoured areas and forests on hilly terrain, Karst areas, and sensitive areas for drinking water, in which non intensive use of pesticides, chemicals or manure is recommendable. However, the increase in subsidies which certainly leads to a re-investment in farm development is not sufficiently exploited, because no sharp differentiation is made between potentially competitive farms and others. Agricultural policies thus hinder more substantial, targeted structural change. Nevertheless, structural change is observable in a positive direction of farm concentration and survival of more efficient and development oriented farms. In order to further accelerate agricultural development in Slovenia, it is important that the agricultural production sector establishes better links to the Slovenian food processing industry and that its competitiveness is equally promoted by appropriate support measures.

6.2.3 Was the Slovenian EU accession a success story?

The outcome of the negotiations with regard to the overall national point of view and the point of view of the agricultural sector in general is evaluated as positive by the interviewed experts. There is a common consent that Slovenia has concluded a favourable negotiation package deal.

The efficiency of the negotiation process has to be judged against the initial objectives of Slovenia. With regard to agriculture, one of the most important negotiation objectives, namely to maintain real income levels in the agricultural sector, could be achieved. Indeed, as a result of the negotiation process, agricultural incomes in Slovenia have increased since 2004. EMIL ERJAVEC points out that the success of the negotiations also materialises in production quotas and reference quantities that so far have not represented any limitations to agricultural production in Slovenia.

Slovenia was successful to convince the EU that the negotiation agreement considers two facts:

First, the country as a whole is eligible for utilisation of structural funds, and most of the Slovenian territory represents less favoured areas with limited potential for agricultural production and development. This classification is

important for the eligibility of measures and funds that are allocated for rural development.

Second, Slovenia's efforts to adjust its agricultural policy to the CAP were so advanced that faster adjustments in terms of the level of payments to the EU-15 standards were required. Thus, Slovenia was allowed a higher level of agricultural support than was originally envisaged.

The effects of the negotiation process are argued to be visible at local, regional and national level after Slovenia's EU-membership. The most positive aspects of the EU accession are seen in gradual adjustments without big bang stresses during transition and adjustment to the EU membership. More concretely, positive effects and outcomes of the EU accession programmes on the Slovenian agro-food sector are

- The level of direct payments, which so far are the highest among the NMS of the EU;
- The large financial package available for agricultural environmental programmes and for rural development, and
- Large support for restructuring of agriculture and food industry.

Among the positive effects are also mentioned the young farmers programmes and at least some minor restructuring of farms. The trend is that the number of farms is decreasing and the farm size is growing in Slovenia with some stabilization after the introduction of the CAP measures of the EU-15 (Table 6.1).

The way for this achievement was paved already prior to the entry into the EU, when Slovenia adjusted its agricultural policy to the CAP of the EU-15. However, as mentioned earlier, around half of all agricultural incomes are derived from subsidies. This high subsidisation level is seen as one of the reasons why the process of structural change and, within this process, the reduction of the relatively large number of small-sized farms is proceeding slowly (see Table 6.1). The issue of structural change was not so much in the focus at the time of the accession preparations and during the Agricultural Chapter negotiation of Slovenia with EC. Clearly, until today, this shortfall is responsible for relatively small improvements in terms of the necessary structural adaptations.

Despite this, CAP reforms do affect structural change: One factor that accelerates exit rates of farmers is for example the huge paper work that is a particular burden for small-sized farms and for elder generations of farmers. Also, the higher costs of production due to new food safety norms and standards speeds

up exit rates. An example for these developments is the dairy production and dairy farms concentration due to quality and price competition issues.

Table 6.1 Number of agricultural farms in censuses, by utilised agricultural area

	Number of farms in Slovenia				
	1991	1997	2000	2003	2005
Total	111,951	90,611	86,467	77,149	77,175
Without utilized agricultural area	20	34	44	23	34
up to 1.00 ha	15,576	8,448	7,999	5,375	5,731
1.01-3.00	41,062	31,040	27,255	22,220	23,206
3.01-5.00	22,868	20,073	18,130	16,777	16,868
5.01-10.00	24,251	22,469	22,058	20,633	19,775
10.01-20.00	7,251	7,619	9,165	9,695	8,819
over 20.00 ha	923	928	1,816	2,427	2,743

Source: STATISTICAL YEARBOOK OF SLOVENIA 2000-2006.

Another indirect positive effect on structural change arises from the recent shifts of subsidisation towards environmental measures. On the one hand, the reduction of intensity of agricultural production reduces the market competition in comparison to the situation that would prevail without environmental limitations. On the other hand, ecological measures based upon cross-compliance require additional farm investments and expenses that some small-scale farms are not able or willing to cover. Moreover, if policies and support measures change frequently this has a negative effect on the farms in the sense that they see their future livelihood insecure and instable. Although insecurity is generally undesirable, it might encourage farm exit in the medium or long-term.

The impact of the CAP on the competitiveness of Slovenian farms has to be seen in comparison with the EU-15 countries in the Single European Market. The fact that Slovenia is able to provide a comparable level of subsidy payments as in the EU-15 is a possibility to assure competition with the EU-15 members on equal terms. On the other hand, as mentioned above, these payments create distortions by slowing down necessary structural changes that are necessary to increase competitiveness. In the view of the core negotiation team, the positive short-term agricultural income developments are among the most important positive outcomes of the negotiation process on the Slovenian agriculture. At same time, from an economic efficiency point of view, this development can also be evaluated as questionable in terms of medium- to long-term efficiency. However, without doubt, subsidy payments have mitigated social pressure in rural areas and by this helped to reduce political pressure by agricultural and farm lobbying groups.

The most negative aspects of Slovenian adjustment to EU membership are seen in the sugar reform and particularly the closing down of a sugar factory in Ormož, affecting a large number of farmers in the North-Eastern part of Slovenia. Furthermore, also the very high costs of veterinarian service due to new, more demanding tests and analyses, and delays in subsidy disbursement from the Slovenian budget (so called clearance subsidy payments) lead to discontent (MARKO VERBIČ).

The interviewed experts pointed out that there were requirements in implementation of agricultural and rural development measures introduced that turned out partly unnecessary; also the asymmetry in some measures such as for some environmental measures, and the already mentioned delayed payments, which are caused by liquidity problems in the Slovenian budget are deemed negative aspects. Moreover, the Primorska wine growing region, which is situated in western part of Slovenia bordering with Italy, was included into the wine zone C³⁷, which required changes in technology and wine sorts.

The agricultural and forestry associations underlined the underestimated role and neglect of some organisational aspects in agriculture such as on the status of agricultural cooperative savings and credit institutions. Because this was not resolved on a regulatory basis, it caused the closing down of their operations. Furthermore, the limited support to cooperative arrangements and food industry for the trade reorientation from traditional former Yugoslav markets towards the entry into the Single European Market, and some negative implications on the food sector from increased concentration in food retailing have been emphasised. According to the Cooperative Associations' opinion, more attention should have been given to producers' organisations; a firm link between the food sector and the primary sector in agriculture would have been desirable. Moreover, MARKO VERBIČ points at the fact that a long-term export strategy, particular with regard to the Balkans and states on the ground of the former Yugoslavia is still missing.

An issue that is still on the agenda is the implementation of the *acquis communautaire* of the EU. Hence, the main challenge that remains is the implementation of the negotiated solutions into daily practice: how can farmers and farmers' organisations get the best results out of the political agreements? These questions and the role of producers' organisations have been underestimated

³⁷ The wine zones in the EU are arranged in accordance with the EU rules and regulations. Wine zone C defines the Western Slovenia under a similar wine regime as the neighbouring wine areas in Italy, but different from the Southern and Eastern parts of Slovenia.

during the accession process and negotiation for the Agricultural Chapter. Particularly the issues related to veterinary services and the proper functioning of payment agencies cause dissatisfaction among farmers who find the requirements hard to achieve and the transaction costs too high whereas the payment agency disburse with delay. To address these issues, it would have been desirable to introduce solutions that are adapted to the national conditions and the chosen implementation procedures (Agriculture and Forestry Chamber and Cooperative Association of Slovenia, MARKO VERBIČ).

6.2.4 What can be improved in negotiation process?

The core negotiation team believes that negotiations were successful and that regional and local interests were considered sufficiently. Therefore, even if a new start from scratch was possible, not many changes would be necessary. Methods, approaches and demands were almost optimally considered. However, the main problems lie in the implementation of policies. With regard to direct payments a gradual introduction of regional single area payment would have caused less distortion. Greater consistency would have been desirable for environmental measures in agriculture, which is mainly a question of internal implementation in each EU member state. Furthermore, EMIL ERJAVEC states that the attention that was given to less-favoured area payments should be moved to development related measures that include the wider rural sectors, including non-farm issues.

The experts' views support the conclusion that during the negotiation process, it is necessary to achieve a uniform action of the core negotiation team and experts that are engaged in these activities. Realistic expectations on outcomes of negotiations have to be formulated. Prior to the negotiation process itself, a reliable information database of statistical and similar data has to be established to assure their consistent use between the core negotiation team, experts, civil servants and others that are engaged into the negotiation process.

The agro-food and forestry associations and organisations express a slightly more critical opinion. The fact that after the negotiations were completed, the EU adopted a reform of the CAP leads them to the conclusion that a better access to internal information and a generally more intensive information flow between the country representatives and the EC would have saved time and cost for Slovenia in the negotiations. According to them, if Slovenia had been fully informed about this pending CAP reform, this could have influenced the negotiation outcomes: Most probably, Slovenia would have decided for a Single System of Payments much faster and with considerably smaller administrative costs.

6.3 Perception and acceptance of policy measures by Croatian and Slovenian farmers

Traditionally, the agricultural sector is the target of various specific policy measures. The policy objectives are manifold and have changed a lot during the last years. The EU, for instance, is giving more room to second pillar measures, i.e. the focus is now less on traditional support measures under pillar 1, but on rural development and the "wider rural economy". In Croatia, beside national agricultural policy measures, the EU offers IPA to assist Croatian farmers (see Section 3.3).

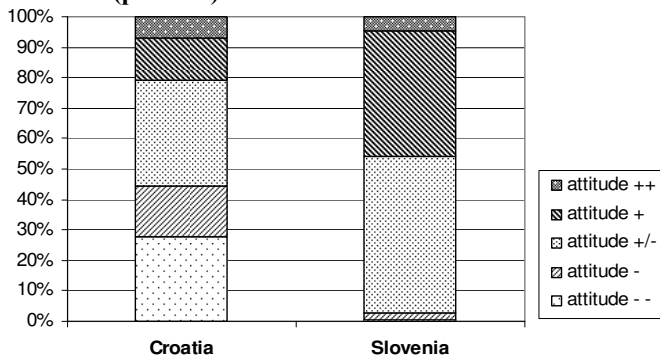
6.3.1 Attitudes towards the EU

Not surprisingly, the prospect of the EU accession causes insecurity and fears among Croatian farmers. The small-scale and partly uncompetitive farms in Croatia will have to adapt to increased competition on the single market as well as to higher quality and production standards, or – if they are unable to adapt – exit farming. To get a better impression of how the EU accession and the connected developments are perceived, all adult household members of the surveyed farms were asked for their attitudes towards the possible EU accession. The attitudes are given on the basis of a scale from one to five ranging from very positive (++) to very negative (--). Only 21% of the 378 household members in the Croatian regions included in this analysis have a positive or very positive attitude towards a possible EU accession of their country, whereas 45% are negative or very negative (Figure 6.1).

We compare the results with the sample of Slovenian household members, who have another perspective, because they already look back at the accession experience. The difference between the two countries is striking: About 46% of the Slovenian household members have a positive or very positive attitude towards the EU, and only 3% of the interviewees see the accession as negative. In contrast to Croatia, there is no very negative attitude at all.

When asked about positive aspects related to the EU accession, as many as 21% of the Croatian interviewees explicitly said "none" because they could not yet think of any positive aspect of an EU membership. Moreover, 45% did not respond at all. The improvement of law and order in the country was the most often stated positive effect (23% of all responses). Also the favourable impact of open markets was mentioned by 21% of all respondents. Further mentions, each with a share close to 10%, were the expected improvement of the living standard, better labour markets as well as access to EU agricultural support schemes (Figure 6.2).

Figure 6.1 Attitude of Croatian and Slovenian farmers regarding the (possible) EU accession

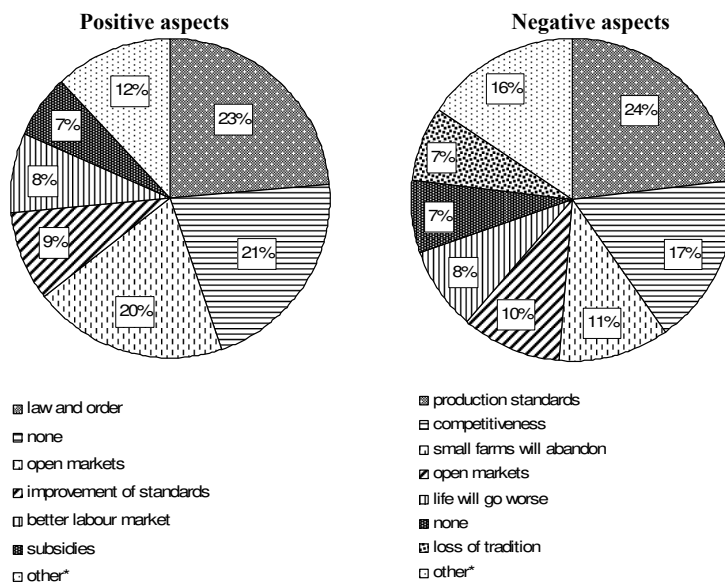


Source: Own calculation.

In line with the generally rather negative attitudes towards the EU, negative aspects of a possible EU membership lead to less "none" answers (7%) compared to positive aspects. The non-response rate (20%) is significantly lower as well. Farmers are most concerned about expected difficulties in terms of the necessary adoption of their farm activities to EU regulations. Nearly one quarter of the interviewees considered this as the most unfavourable outcome of an EU membership for themselves (Figure 6.2). Further important aspects that cause worries among farmers in the Croatian regions are the lack of competitiveness (17% of all farms) as well as the fear that small farms will not be able to survive (11%). 8% of all households think that their life will generally go worse if Croatia joins the EU. Another 7% are afraid of losing traditions due to the accession. Even though mentioned by other farmers as a positive aspect, 10% of the respondents feel worried about the idea of open markets; probably they fear that open markets threaten their competitiveness.

In Slovenia, in contrast to the farmers in the Croatian regions, nearly 60% did not mention any negative aspects. The Slovenian interviewees particularly saw the introduction of the Euro as a positive event. This was mentioned by 49% of the respondents. Further positive aspects mentioned were the advantages of open borders (16%) and markets (13%). With a share of 16% in all replies the eligibility for EU agricultural measures is another important positive outcome of the EU accession (Figure 6.3).

Figure 6.2 Most positive and negative aspects of the possible EU accession for farm households in Croatia



Source: Own calculation.

Note: * Positive: Organised production, better access to production factors, better pension, bigger production, less hours of work, small farms disappear;

Negative: Croatia is not prepared for the membership, increasing input prices, inequality regarding the old member states, Croatian labour force will be too cheap, Croatia will go bankrupt, foreigners will become owners of everything/selling out of national wealth, Croatia will lose power.

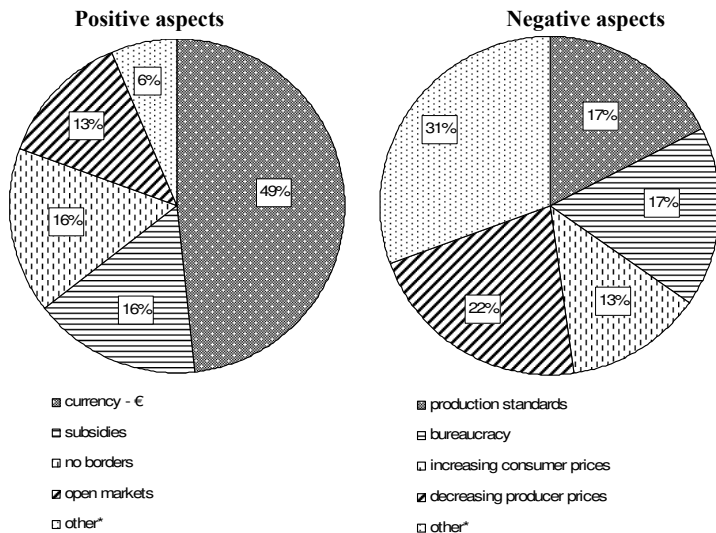
Non-response rate: Positive aspects (45%); negative aspects (20%).

In contrast to the Croatian farmers in the two research regions, Slovenian farmers describe problems that they actually have to deal with. Figure 6.3 shows that decreasing producer prices (22%) and increasing consumer prices (13%) as well as the high degree of bureaucracy (17%) and the rigorous EU production standards (17%) are outcomes of the EU membership that were mentioned as negative by the Slovenian interviewees.

Figure 6.4 gives some more insights into expected and experienced difficulties with regard to EU production standards. It looks at four fields of regulations, which had to be rated according to the severity of difficulties in dealing with them: (a) veterinary and phytosanitary standards, (b) food safety and quality regulations, (c) animal welfare regulations and (d) production quotas. We find

that the actual difficulties experienced by Slovenian farmers are generally slightly less severe than the expected difficulties expected by Croatian farmers. However, difficulties in the adoption of all fields of regulations were considered as severe.

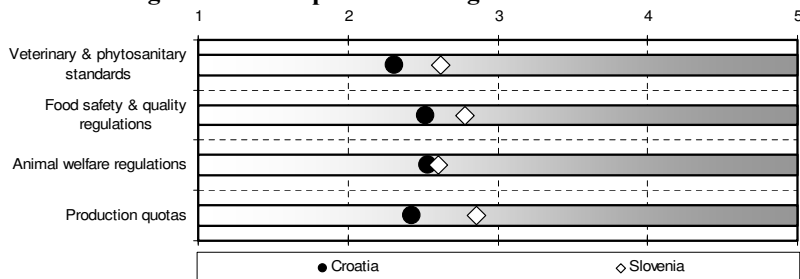
Figure 6.3 Most positive and negative aspects of the EU membership for farm households in Slovenia



Source: Own calculation.

Note: * Positive: none, adaptation of salaries to EU; negative: none, open markets, adaptation of EU laws to Slovenian conditions, closing of sugar refinery, inequality of wages, common financial policy with EU, competition on the EU market.
 Non-response rate: Positive aspects (44%); negative aspects (58%).

Figure 6.4 Rating of difficulties farmers expect or already experienced with regard to the adoption of EU regulations



Source: Own calculation.

Note: 1 very severe ▶▶ 2 severe ▶▶ 3 bad ▶▶ 4 not too bad ▶▶ 5 easy to deal with.

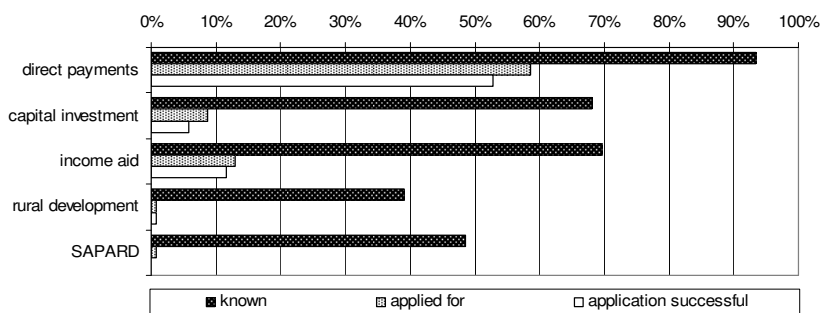
6.3.2 Assessment of Croatia's agricultural policy measures

The acceptance of the agricultural support schemes by farmers is an important indicator of the success of the adaptation process. Information was collected on national agricultural policy measures and the EU program SAPARD to get an indication of the level of awareness regarding the programs, the usefulness and actual applications for funds. Furthermore we were interested in how farmers rate the application process of certain measures.

Figure 6.5 shows the results of the survey regarding the level of awareness, applications and acceptances on five policy measures in the Croatian regions. Since the direct payment scheme is the measure with the highest share in the overall expenditures in this field of policy support, it is not astonishing that it is the best known of the investigated measures. 129 (93%) of the 138 interviewed farmers knew of the program and 81 (59%) had applied for funds. 73 (53%) of the agricultural households were granted aid after application, the applications of eight households (6%) were rejected.

The level of awareness of the capital investment measure as well as the income aid scheme is nearly the same with 68% and 70%, respectively. Twelve farmers (9%) applied for investment support. Eight of them (6%) finally received finance through this program and four (3%) did not succeed in their application. Furthermore, 18 of the surveyed farmers (13%) applied for the income aid scheme for non-commercial farms. Only two of them were rejected, whilst 16 agricultural households (12% of all surveyed farmers) were granted benefits through this program.

Figure 6.5 Level of awareness, applications and acceptances of agricultural policy measures in Croatia



Source: Own calculation.

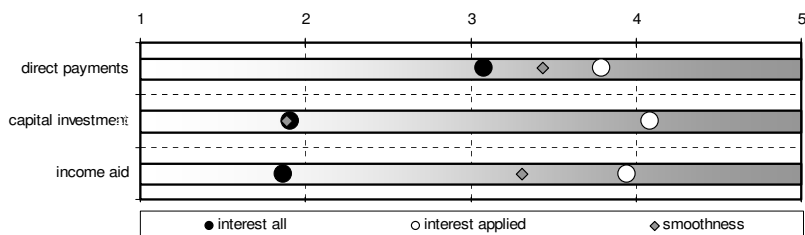
With a share below 50%, the level of awareness regarding the rural development scheme (39%) and SAPARD (49%) is comparatively low. Moreover, only one of the surveyed farmers applied for rural development and SAPARD funds.

The usefulness of or interest in support schemes and the smoothness of the application process (if a farm has applied for the respective funds) were rated on a scale from one to five where (1) = not useful/interesting at all and (5) = very useful/interesting. The application process was evaluated on the basis of a similar scale which ranges from (1) = complicated to (5) = very smooth.

Figure 6.6 shows results regarding the evaluation of current (national) support schemes in Croatia. All surveyed households that were aware of the three most important subsidies, whether they applied for funds or not, considered the programs as rather not interesting and useful. Only the direct payment scheme reached a rating of over three; this goes along with the higher number of applicants in this field compared to the other measures. Not surprisingly, those farmers who have actually applied for a program give significantly higher ratings compared to those who did not. Farms which actually applied for funds give rating at around four (interesting/useful).

Figure 6.6 also shows ratings regarding the smoothness of the application process. It can be seen that the application for funds within the direct payment and income aid schemes are not too hard to perform. In contrast, the application process for capital investment support was assessed to be difficult by those twelve farmers who applied for it. The most important reason for this rating was the discontent with a high level of bureaucracy that farmers have to deal with.

Figure 6.6 Interest in agricultural policy measures in Croatia and evaluation of the application process



Source: Own calculation.

Note: Interest: Not interesting/useful at all 1 ▶▶ 2 ▶▶ 3 ▶▶ 4 ▶▶ 5 very interesting/useful;
Smoothness: Complicated/difficult 1 ▶▶ 2 ▶▶ 3 ▶▶ 4 ▶▶ 5 very smooth/no problems.

For policy makers the impact of a measure is important to evaluate its efficiency and effectiveness. We therefore asked, if investments done under the capital investment scheme, would have been undertaken in the same manner if no support was available. The empirical analysis showed that most of the respondents state that they would have undertaken the investments for agricultural machinery and facility independently from the co-financing under the support measure. However, the amount of invested money would have been smaller for most households. This is the case for about two thirds of the households who received capital investments. Nevertheless, one third of the beneficiaries from capital investment funds would have made their investments in the same way.

We conclude that there is a sufficient level of awareness regarding the national agricultural policy measures in Croatia. However, the number of applications is low except for the direct payment scheme. A lack of information about the application process and a high degree of bureaucracy seem to be major constraints for higher application rates. Similar to the experiences in other countries, SAPARD is underperforming in Croatia as well. In Section 6.3.4 we offer some more detailed information about the interest of farmers in the Croatian regions in IPA, which is available in Croatia since 2007.

6.3.3 Assessment of Slovenia's agricultural policy measures

The national agricultural support schemes in Slovenia consist of three major areas. In the following we will have a closer look at two fields of measures, which are particularly relevant for the researched households: the direct payment schemes and the rural development measures (including SAPARD). The support scheme focusing on market development will not be further investigated.

Figure 6.7 shows a whole range of measures that the surveyed farmers were asked to evaluate with regard to the level of their awareness about them, whether they have applied for funds and if their application was successful. Similar to the Croatian results, the direct area and animal payments are the most common and most often granted subsidies in Slovenia. Almost every of the surveyed households knew these support schemes. 48 farmers (87%) applied successfully for direct area payments; 32 (58%) of the surveyed households were granted aid by the direct animal payment scheme. None of the farmers who applied for funds was rejected.

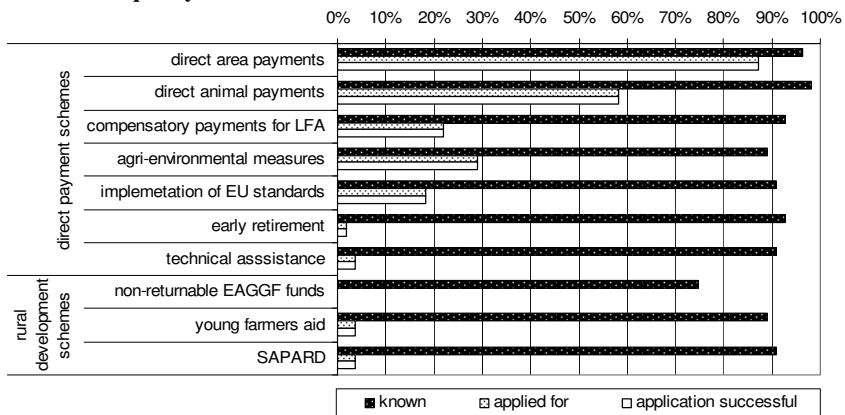
There is a relatively high level of awareness also regarding the other investigated policy measures in Slovenia. About 90% of the farmers know about the listed measures. Solely, the scheme of non-returnable funds from the European Agricultural Guidance and Guarantee Fund (EAGGF) is less known (75%). Generally,

the awareness and knowledge about support schemes is clearly higher in the Slovenian regions than in Croatia.

The number of applications, however, is lower. Nonetheless, all were successful. 12 of the surveyed Slovenian households (22%) received compensatory payments for Less Favoured Areas (LFA), 16 farmers (29%) received funds of the agri-environmental measures and ten of the respondents (18%) were granted aid for the implementation of EU standards on agricultural holdings. The lowest interest seems to be attached to rural development schemes as well as the early retirement and technical assistance measures for which only up to four farmers applied.

Information on the usefulness of and the interest in the policy measures is found in Figure 6.8. As in the Croatian case we distinguish between all respondents who know the measure and the group of farmers who actually applied for a certain measure. Clearly, these two groups give significantly different ratings (Figure 6.8). This trend goes in line with the findings of the Croatian sample. Only for direct area payments the ratings are similar, because of the high proportion of applicants. Nevertheless, the general assessment of the support schemes in Slovenia is more positive in comparison to the Croatian evaluation.

Figure 6.7 Level of awareness, applications and acceptances of agricultural policy measures in Slovenia

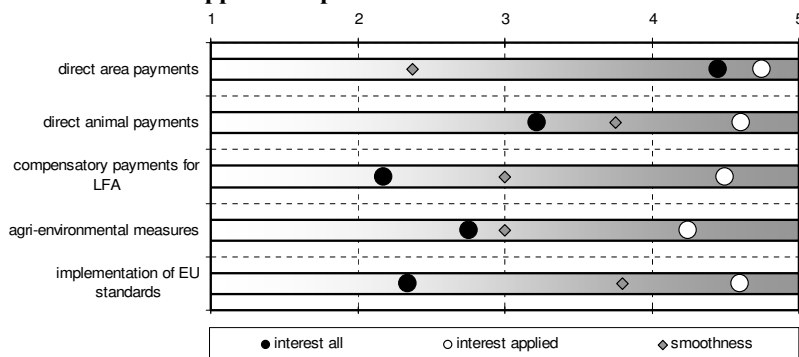


Source: Own calculation.

The smoothness of the application process for agricultural policy measures in Slovenia was similarly rated by the Slovenian interviewees as by the Croatian farmers (Figure 6.8). Applications that go smooth are particularly those for funds from the direct animal payment scheme and for the implementation of EU

standards on agricultural holdings. The application process for direct area payments, which is the most adopted support scheme, was rated as rather difficult. Comparable to the findings of the Croatian survey, Slovenian farmers, which rated the smoothness of the application process bad or very bad, indicated the red tape as the most important problem regarding this issue.

Figure 6.8 Interest in agricultural policy measures in Slovenia and valuation of the application process



Source: Own calculation.

Note: Interest: Not interesting/useful at all 1 ▶▶ 2 ▶▶ 3 ▶▶ 4 ▶▶ 5 very interesting/useful;
Smoothness: Complicated/difficult 1 ▶▶ 2 ▶▶ 3 ▶▶ 4 ▶▶ 5 very smooth/no problems.

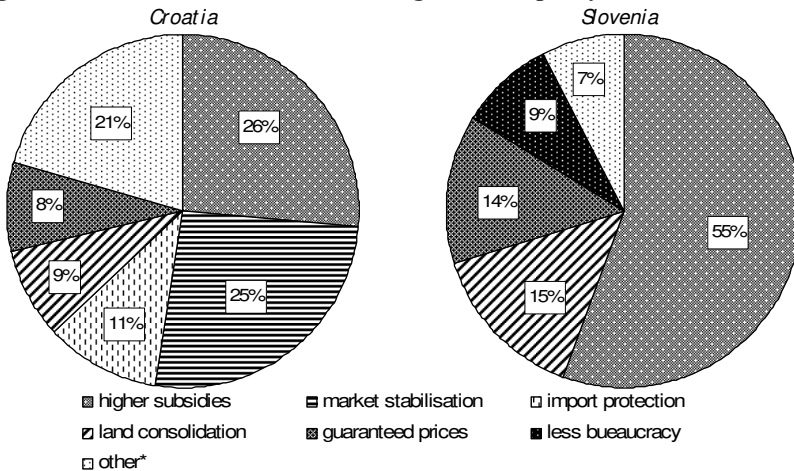
Figure 6.9 shows results with regard to the three most needed agricultural policy measures in the Croatian and Slovenian regions from the point of view of the farmers. All in all, the farmers offered 200 items in Croatia and 81 in Slovenia.

In Croatia, the highest share of the respondents (26%) mentions that the current level of subsidies is too low. In Slovenia, the share of farmers who thinks like this is even bigger (55%). Furthermore, a quarter of the Croatian interviewees consider policies regarding the stabilisation of agricultural markets to be very important. This is closely related to the stabilisation of agricultural producer prices which is another required measure by Croatian farmers (8%). 14% of the Slovenian respondents consider the latter to be important in their country, too.

Moreover, Figure 6.9 shows that 11% of the Croatian households want more import protection from foreign suppliers as well as 9% of the respondent think that land consolidation is a crucial issue. In Slovenia, the issue of insufficient land consolidation is the second most mentioned measure (15%). Furthermore, 9%

of the Slovenian respondents think that the administrative requirements are generally too high and improvement is needed in this field.

Figure 6.9 What are the most needed agricultural policy measures?



Source: Own calculation.

Note: * Croatia: Information policy, education programmes, irrigation, less bureaucracy.
Slovenia: EU programmes, no rentable land, decrease costs.

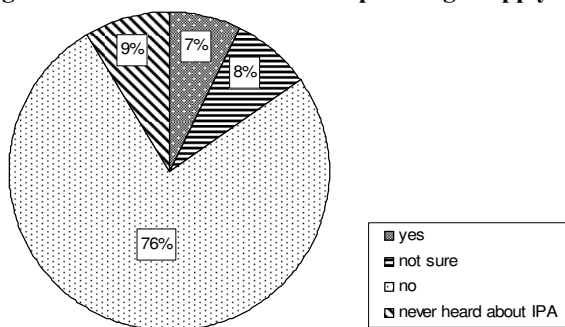
Recapitulating the assessment of national and EU agricultural policy measures in Slovenia we conclude that the overall performance appears quite similar to the Croatian situation. In both countries the application process is constrained by the high degree of bureaucracy. Moreover, the relatively poor performance of the rural development schemes in Slovenia, for instance SAPARD, resembles the situation in Croatia. Beside the understandable desire of farmers to get access to higher subsidies, that land consolidation as well as price and market policies are important policy fields for farmers in both countries.

6.3.4 Attitudes towards the IPA program and aims in national agricultural policy

In Croatia, the Instrument for Pre-accession Assistance of the EU, IPA, has been implemented since January 2007. The interviewees were asked whether they know this measure and if they plan to apply for IPA funds. The level of awareness of IPA is high: 91% of the surveyed farmers state that they know the IPA

program (Figure 6.10). This a promising increase compared to SAPARD (Figure 6.5). However, only a very little proportion of 15% (21 households) is actually planning to apply for pre-accession aid or is not sure about it yet (Figure 6.10). Most interest was reserved for the investment in agricultural holdings to restructure and to upgrade to community standards (11 households). Four farmers considered the investment in processing and marketing of agricultural products as interesting and another three farmers showed interest in actions to improve the environment and the countryside.

Figure 6.10 Are Croatian farmers planning to apply for IPA measures?



Source: Own calculation.

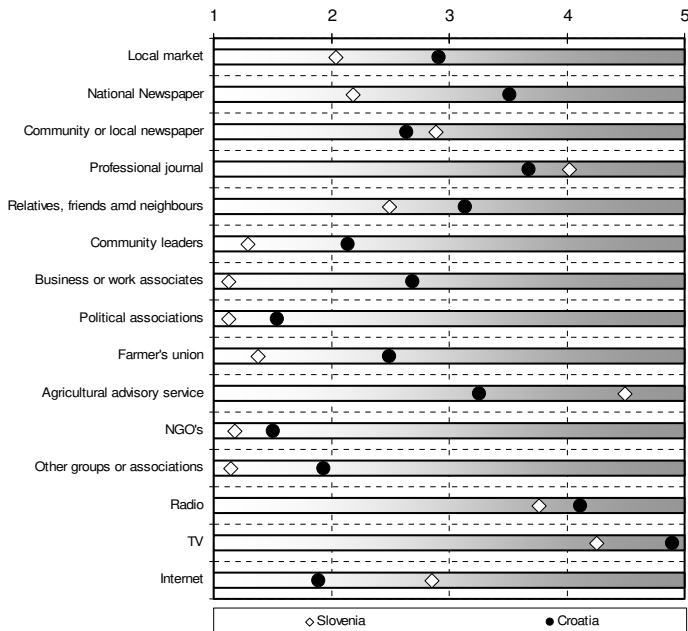
Why do the majority of households not intend to participate in IPA? Reasons for their lack of interest IPA were described as follows:

- 16% of respondents in this group think that they are too old for an application;
- 10%, even though aware of the EU program, find that IPA is not of interest for them at all;
- 7% did not feel sufficiently informed about IPA and therefore have no basis to plan an investment;
- 7% considered their farm to be too small to receive funds.

Among other mentioned reasons we find that slightly less than 5% of all farmers have the opinion that the application process is too complicated. Further reasons mentioned are "no plans to invest in the farm anymore", "no trust in the EU", "do not want money from the EU", and "conditions for farming are too bad".

The Slovenian example shows that the opinion towards the EU and its agricultural policy will probably improve as soon as the (financial) benefits become obvious to the farmers. Therefore, the negative attitude could also be seen as a sign of lacking information. Nonetheless, it might be desirable to inform farmers and take fears from them already in advance. This might also help to increase the interest in IPA measures, which could be an important tool for the preparation of Croatia to the EU accession. One hint that the extension service is not sufficiently involved in this process currently, can be seen from Figure 6.11 which clearly shows that farmers feel better informed about policy developments and support measures that are relevant for farmers by TV and radio, whereas in Slovenia the most important source of information for farmers is the extension service.

Figure 6.11 Importance of different information sources for policy developments and support measures relevant for Slovenian and Croatian farmers



Source: Own calculation.

7 Synthesis of findings and policy recommendations³⁸

All analyses discussed in this report aim to provide useful policy recommendations for Croatian policy-makers and stakeholders in rural and agricultural sector development. Chapter 7 summarises the most important results of the study and puts forth policy recommendations. The latter refer to the different fields of policies based on the conceptualisation described in 7.2.1: (1) policies to develop, structurally adjust and diversify agriculture, and (2) territorial approaches for policies to create and secure employment.

7.1 Summary of research findings

Croatia's farmers will eventually have to cope with EU accession and adapt to the resulting EU regulations. One of the main agricultural policy challenges is the small-scale farm structure. A considerable number of farmers work on farms of three hectares or less and only very few cultivate more than ten hectares. The empirical survey in Zagreb County and Bjelovar-Bilogora County reveals that most of the farms are part-time farms, deriving the majority of their incomes from non-farm sources or social programs rather than from agriculture (see p. 77). Livestock plays an important role for these farmers' livelihood, but the competitiveness of dairy, for instance, is low. In the following, a summary of research findings and related conclusions with regard to certain fields are important for the rural and agricultural sector's development is given:

Labour mobility and education. It is widely recognised that rural prosperity depends, to a large extent, on a functioning labour market that is able to absorb the labour force that structural change in agriculture releases. In the Croatian regions, almost one-third of rural farm households' income comes, on average, from non-farm employment. This indicates that inter-sectoral labour mobility is already a reality in rural Croatia. However, the dependence and the drivers of non-farm employment vary among farm types. Those that undertake farming on a part-time, subsidiary level depend more on income from non-farm employment than do part-time farms with complementary farming. Interestingly, the level of

³⁸ Authors of this Chapter are Judith Möllers and Gertrud Buchenrieder.

education does not seem to significantly influence farming success. Households that attended only elementary school do well in terms of their farm incomes per unit of labour used. This differs from the non-farm sector: Non-farm labour is clearly better rewarded if a person is better educated. This implies that structural change in the rural economy, at least as far as the non-farm sector is concerned, is closely linked to general education and professional training in the adult population. Thus, education is important for all rural development efforts, and its importance will increase when the farm sector further shrinks and the non-farm sector gains relevance for rural livelihoods. Professional education and training in the farm sector, which hardly exists in Croatia, could also contribute to better performance for those who remain in the agricultural sector. In this regard, it is important to point out that the farm extension service should be strengthened to be able to fulfil its information and training tasks.

Farm and non-farm incomes. Farm household incomes in the Croatian regions (based on per-capita calculations) are, on average, low compared to the national average, but show large extremes in both directions. Incomes are higher in the peri-urban Zagreb County compared to the typically rural Bjelovar-Bilogora County. Not surprisingly, infrastructural links and access to labour markets seem to be decisive determinants of incomes. Considerable income differences also exist between farm types. Most of the very small farms are operated on a part-time basis. Consequently, only a subsidiary income is derived from farm activities. These farms are characterised by low total incomes and low incomes per hectare of land. Further, their livelihood depends to a certain degree on (semi-)subsistence farm activities due to the lack of sufficient alternative incomes. This makes it quite unlikely that they will give up farming in the medium-term. Interestingly, full-time farms are much better off. These farms' higher economic performance is reflected by, on average, four times higher incomes per hectare than those of small-scale subsidiary farms.

Looking at the sample of subsidiary, complementary, and full-time farms as a whole, the proceeds from farming contribute the most to total income, followed by non-farm incomes. It is likely that the non-farm income share of 30% will rise in the medium-term. But currently, farming income plays the key role and returns on farm land and labour units are the key determinants of household incomes.

Structural change and farm development. A prospective look at probable developments within the next five years shows that a significant share of farms plans to take further steps towards employment diversification into the non-farm sector. This means that the income structure of farm households will become

increasingly mixed, with higher shares of non-farm income sources. Only a small percentage of farms intend to expand their farming activities, and even fewer plan to exit farming. Although we find that farm exit might be promoted by an early retirement scheme that compensates otherwise low pension payments, most potentially eligible households indicate that they have designated farm successors, which decreases the chance that such a scheme would considerably contribute to a redistribution of farmland.

Farm exit is important in terms of structural change in the sector, because it offers an opportunity for farmers who want to expand; it can be supported by a pension system that supports farm owners who exit due to age, or by a flourishing non-farm sector that pulls the labour force out of the farming sector. It is, of course, necessary for the exiting farmers to either rent out or sell their land and not simply let it fall fallow. In Croatia, there is considerable land that is currently unused and should be activated to support farm expansion. We find that farm exit becomes more probable if the farm is located close to an urban centre (here, Zagreb), because the urban proximity offers better non-farm job opportunities. Also, negative attitudes towards farming, unfavourable farm prospects and no access to farm subsidies work in the same direction. While one would intuitively suspect that larger farms are also those more likely to expand, the study showed that the likelihood of expansion is independent from the current farm size. Determinants that increase the chance of a farm expanding are a positive perception about the capability of the farm to adapt and good infrastructural links. For those who would like to stay in agriculture, the underdeveloped land rental market might cause problems in terms of farm expansion and competitive farm sizes.

As mentioned above, education is crucial for non-farm diversification, which is the prevailing employment strategy. Furthermore, simultaneous household income strategies based on farm and non-farm activities require a minimum household size; larger families can more easily engage in non-farm activities than smaller families. It seems probable that the increasing share of diversified incomes is partly temporary. Particularly if individual employment choices are considered, pluriactivity, i.e. the combination of farm and non-farm work, can be seen as a first step out of farming. However, even if (semi-)subsistence farms disappear gradually, the Slovenian developments show that hobby farming could become a non-negligible factor keeping small farms alive.

Technological progress, innovation and extension services. Small-scale farming structures do not have to be excluded from technological progress and innovations. Nevertheless, the structure as such clearly makes it more difficult to diffuse the information, managerial and technical capabilities to farmers that are necessary

for successful adoption. This is all the more problematic if the extension service stands on weak feet, be it due to the trainers' insufficient training or a pure lack of manpower. Both aspects seem to apply to the Croatian situation. Compared to the Slovenian respondents, Croatian farmers rate the importance of the agricultural extension service as low. The manpower and background of the extension service in Croatia is sub-optimal and needs to be strengthened substantially in order to come to terms with the challenge of structural change in the Croatian farm sector.

EU accession and adaptation efforts in Croatian farms. Despite the fact that offers exist which aim to help farmers adapt to the new challenges awaiting them, for instance IPA, we find that the attitudes of Croatian farmers towards EU accession are largely negative. There are only very few positive aspects, such as law and order, that are expected from EU accession. Among the negative aspects, the one most frequently mentioned was that farmers consider EU regulations, for example in the fields of hygiene standards, phytosanitary requirements and animal welfare, as threats to their farms. They also fear becoming uncompetitive due to open markets and the small size of their farms. Despite this, the interest in applying for IPA measures, which co-finance farm investments and investments into the upgrade of community standards, is very low. We find that the old-age of many farm owners, a lack of detailed information and, once again, the small-scale farm structure, explain this reluctance. The Slovenian example shows that the opinion towards the EU and its agricultural policy will probably improve as soon as the (financial) benefits become obvious to the farmers. Therefore, the negative attitude could also be seen as a sign of lacking information. However, as in Slovenia and many other EU candidate countries, the offered EU measures underperformed during the accession process. Efforts are thus needed to better involve the extension services in awareness and information campaigns and generally facilitate the application processes for such measures.

Lessons learnt from Slovenia's accession experience. Slovenia's experience in the EU negotiation process is valuable for Croatia and other countries from the former Yugoslavia. One can state that Slovenia's accession process was smooth and its outcomes can be rated a success; many related lessons can therefore be learnt. One general but important lesson from the Slovenian accession experience is that the harmonisation of legislation is not only an issue of adopting relevant laws and regulations. It is also about harmonising institutions and policies. Although the EC is clearly the negotiation partner with more weight when it comes to influencing the content of the Agricultural Chapter, it is important that the national interest groups formulate their objectives very clearly and act in

concert. Consequently, the negotiation team must have a coherent strategy and rely on the same background information for the negotiations.

The earlier the preparations for accession start and the more pronounced the accomplished facts are, the better the chances are of reaching the anticipated negotiation outcomes. In the Slovenian case, this has led to an extraordinarily high level of direct payments after EU accession. However, a shortfall of Slovenia's negotiation of the Agricultural Chapter was that the issues of structural change and the importance of the non-farm sector were widely disregarded. Furthermore, the implementation of policies after accession was associated with problems such as market distortions due to the high level of subsidies in the farming sector³⁹, and delayed payments – both of which led to discontent among farmers.

7.2 Policy recommendations and outlook

7.2.1 Conceptual issues for successful rural development policies

It is widely recognised that the redistribution of incomes and agriculture-based sector policies alone are not sufficient for inducing successful rural development. Moreover, policy-makers increasingly take into account the diversity of rural regions, which calls for tailor-made solutions instead of one-size-fits-all approach. The OECD (2006) summarises these developments under the title *New Rural Paradigm* (Table 7.1), which calls for "a new focus on places rather than sectors and an emphasis on investments rather than subsidies" (OECD, 2006: 3). Table 7.1 outlines the differences between the old and new approaches to rural development policies. Interventions are less distorting when policy-makers target regions that are to be developed instead of directly interfering with sectoral developments. This also means that the focus should be on market organisation rather than policies that influence allocation.

³⁹ In 2002, subsidies paid to Slovenian farmers stood at 60 per cent of EU levels and were continuously increased until accession to the EU. From 2004-2006, Slovenia received approximately € 327 million, which were supplemented with roughly the same amount from the national budget and used for farm payments, agricultural environmental programs and organic farming. Until 2013, the Slovenian government will make direct payments to farmers, and by 2007 Slovenian farmers should have reached the EU level of direct payments.

Table 7.1 The new rural paradigm

	Old approach	New approach
Objectives	Equalisation, farm income, farm competitiveness	Competitiveness of rural areas, valorisation of local assets, exploitation of unused resources
Key target sector	Agriculture	Various sectors of rural economies (eg. Rural tourism, manufacturing, ICT industry, etc.)
Main tools	Subsidies	Investments
Key actors	National governments, farmers	All levels of government (supra-national, national, regional and local), various local stakeholders (public, private, NGOs)

Source: OECD, 2006: 60.

Rural areas in Croatia and all over Europe are facing both threats and opportunities. Rural regions typically lag behind their urban counterparts in economic terms. Factors which drive this development are, for example, out-migration of the young and subsequently, a rapidly aging rural population, lower educational attainment, and lower labour productivity. However, there are also particularly successful rural regions which are developing even faster than urban ones. Often it is the transport infrastructure or proximity to a major urban centre that makes the difference (OECD, 2006). What is clear today is that the development of the agricultural sector does not necessarily result in the prosperity of rural regions.

With regard to this report and the recommendations that we draw from the analyses, it is important to point out that it mainly refers to two regional case studies in rural Croatia and similarly structured empirical data from Slovenia as a reference. Considering the immense diversity of rural regions, this means that not all conclusions can easily be passed on or generalised to other regions. Each rural region needs to define its own objectives and must identify its own strengths and weaknesses. However, there are general trends that all rural actors, be they farmers, entrepreneurs or policy-makers, should be aware of.

Almost everywhere in Europe's rural areas, and particularly in the transition economies, one of the most challenging policy tasks with regard to rural development is the promotion of structural change and, at the same time, avoiding excessive out-migration, social exclusion, and poverty. Thus, rural development policies and strategies aim to (a) improve rural regions' competitiveness in maximising their contribution to domestic economic development; (b) implement an acceptable and intra-regional comparable living standard for the rural population;

and (c) maintain and develop natural resources and cultural heritage in rural regions. To realise these objectives, a variety of instruments and policies can be used. In our discussion of policy recommendations, we refer to the first two fields of measures mentioned in Table 7.2: (1) policies to develop, structurally adjust and diversify agriculture and (2) policies to create employment and secure intra-regional acceptable and comparable living standards. The reason for this is that our data allow us to draw results and recommendations mainly for these fields.

Table 7.2 Rural development policies

(1)	Policies to develop, structurally adjust and diversify agriculture
	<ul style="list-style-type: none"> • Structural policies • Income policies • Social policies
(2)	Territorial policies to create and secure employment
	<ul style="list-style-type: none"> • Employment policies • "Human capital" policies • Infrastructural policies
(3)	Policies to protect natural resources
	<ul style="list-style-type: none"> • Environmental policies • Other policies related to natural resources

Source: Adapted from HAARBECK and BOGER (1997: 7) in POHLAN (1998: 24).

7.2.2 Policies to develop, structurally adjust and diversify agriculture

One of the key points of the *New Rural Paradigm* is that a sector approach alone is not helpful. However, this is not to say that structural adjustment in the farm sector is to be neglected. Structural adjustment is influential for competitiveness within the farming sector, but particularly for the non-farm labour market. The main reasons for this are that farm labour is permanently released by structural change processes and agricultural development might also be able to trigger non-farm development, for example due to its vertical links. This is often referred to as the trickle-down effect.

The unanimous view today is that agricultural sector measures, particularly agricultural subsidies, should not solely determine the public policy portfolio for rural regions. This is recognised in Croatia, but nonetheless traditional sector measures still play the largest role. In the remainder of this Section, we discuss recommendations that refer to policies targeting the farming sector and structural change in agriculture.

Statistical data availability and analyses. This study is based, in large part, on primary data collected especially for this purpose in 2007 (Chapters 4 to 6). Other important data sources were CROSTAT and EUROSTAT (Chapter 2). In the analysis process, it became evident that results may vary depending on the data source. This implies the need for the EU's Agricultural Chapter negotiation team to come to terms with the data base that it intends to use in the negotiation process. It is known that Croatia has to enhance or newly establish several identification and registration systems, e.g. land parcel identification systems using Geographic Information System (GIS) techniques. A Farm Accountancy Data Network (FADN) has not yet been implemented, and the EC still observes a need for staff and financial resources to ensure sufficient administrative capacity for preparing and implementing the CAP. That these issues are not only important for the fulfilment of EU requirements is made clear from the Slovenian experience as expressed in the expert interviews, in which the experts stated that it is of utmost importance to use a solid and unique data base for argumentation during the EU negotiation process.

Structural policies. Measures that support factor mobility are needed in Croatia. This includes capital, land and labour markets, as well as infrastructure (for the latter, see Section 7.2.3). Labour mobility could be enhanced by human capital policies because education particularly increases employment opportunities in the rural non-farm sector (see also Section 7.2.3). Credit markets are particularly important in the course of structural change. Although this study does not explicitly deal with the credit market situation, it must be stressed that investments necessary for the adaptation process can only be achieved if capital markets are functioning and accessible to the rural people. In this regard, properly training the extension service staff could certainly help to avoid misdirected investments. From the empirical results of this study and also from similar studies in South Eastern Europe, it appears that farmers shy away from credit in order not to endanger their assets. In addition, small farm units are unattractive as a market segment for commercial banks, even though they are often the better credit risk. This market segment is rather served by cooperative or specialised state-owned financial intermediaries. Developing credit lines for small farm units, however, is full of pitfalls that can be expensive for the public budget. Therefore, care is advised here, especially as long as the financial intermediation infrastructure is still in its developmental phase.

With regard to land, the low percentage of rented land in the researched Croatian regions confirms that land markets are not fully functioning. Probably the high fragmentation also plays a role here, and land consolidation would be desirable.

As in many other transition countries, the land market (rental and sale) seems inactive. The reasons for this are easily understood, though activation may be time-intensive and relatively difficult. Structural policies should be at the heart of the sector-related policies, as we do not find indications that the problem of fragmented land and small-scale farms will be solved "naturally". Despite the fact that the majority of farmers are aware of the fact that they are, or will become, uncompetitive, or at least will have considerable difficulties to adapt, only very few households actually intend to give up farming. Structural policies should be designed to promote the development of potentially competitive farms and encourage those units to exit which are very small and that possess very low factor productivity. We find a very broad variation of land and labour returns (measured as farming income gained per hectare of land and annual work unit) in different farm types: Particularly small subsistence or hobby-oriented part-time farmers often lack competitiveness, while full-time farms clearly have a better standing.

With regard to national policies, it seems that investment-related measures that could further structural change are adopted by only a small minority of farmers. Moreover, the efficiency of these instruments is questionable because of the possibility of substituting for private investment. All farmers who took advantage of these programmes stated that they would have also invested without public support, either in the same way or at least on a smaller scale. Nevertheless, they may have invested earlier if they had not had the investment aid. This can be considered a positive aspect, as it contributes to the acceleration of structural change.

EU regulations and quality standards. It is of the utmost importance for Croatia's farm sector to closely observe whether its markets are sufficiently integrated and to closely follow price developments. Farmers in the researched Croatian regions state that they are particularly afraid of the upcoming demands in terms of the adoption of EU regulations and higher quality standards. From the policy-makers' point of view of, these necessary adaptations should be introduced as fast and as smoothly as possible. Both positive effects in terms of triggering structural change, and possible problems in terms of social hardship for farms that cannot adapt and compete should be considered during the introduction of regulations.

The IPA measures that are currently offered by the EU are designed to assist in the necessary adaptations. However, many farmers consider them unattractive in one way or another and do not apply. Therefore, participation in IPA will probably be too low to impact structural improvement.

As this study has a particular focus on the dairy farm sector, we suggest that with regard to the introduction of milk quotas, Croatia would be better off by negotiating the non-adoption of the scheme. Arguments supporting this conclusion are that milk quotas are introduced under high administrative efforts, while it is rather probable that the EU will drop this measure within the coming decade. A particular problem for Croatia would be the unavailability of data that are necessary to properly allocate quotas. Furthermore, the introduction of milk quotas would rather hamper structural adjustment as needed in the dairy sector. In fact, it can be expected that quotas would hinder growth and conserve the small-scale structure as it is. Generally, it is questionable whether the allocation of quotas is justifiable from a distributional point of view, because dairy farms would be offered a value without actually offering any equivalent.

The high subsidy level of Croatia's dairy sector is expected to drop after the EU accession. It is important to communicate this clearly to the sector in order to ensure that farmers can prepare to lower support in the future.

Market information and extension services. Farmers in the researched regions stated that they receive most of their market and other production-relevant information from the mass media, such as radio and TV. Other than in Slovenia, professional associations seem not to play an important role for lobbying and information distribution in Croatia. Also, production or marketing associations in the legal form of cooperatives do not presently play a significant role. The manpower-weak extension service is battling with the task of reaching out to huge numbers of small farmers, many of whom attended only some years of school and are rather unwilling to face the necessary adaptations that would make their farms competitive in the medium- and long-term. This implies a daunting task for the near future: to build up (bottom-up and/or top-down) a diverse institutional environment for the agricultural sector that assists small farm units in adapting to the changes that EU accession brings along. There seems to be a need for well-trained extension staff, particularly in the field of business development, farm management, issues related to EU regulations, as well as investment.

Similar to the situation in other EU accession countries, farmers in the Croatian regions articulate fears and a feeling of uncertainty that the prospective EU accession causes. Thus, as in Slovenia, Croatian farmers do not use the pre-accession measures on a broad scale. A targeted information policy might help to alleviate farmers' concerns, as well as increase the general interest in IPA measures; this could be very useful in Croatia's preparation for EU accession.

Income and social policies. Currently-existing direct payments for production stimulation in Croatia are of a distorting nature as they are product-specific and not decoupled. Such payments usually cause a heavy burden on the public budget. Doubts in terms of the efficiency and effectiveness of these measures also arise because agricultural subsidies are not intended to trigger rural development directly and, in most cases, they do not (OECD, 2006). Therefore, in general it seems reasonable to use the limited funds available for making rural places more competitive by mobilising rural assets instead of concentrating on the (shrinking) agricultural sector and on a relatively small segment of the rural population.

In Croatia, slightly more than 50% of the interviewed farmers have access to national direct payments. The Slovenian experience shows that a strong focus on the EU's direct payment scheme indeed increases farm incomes, at least in the short- and medium-term. However, Slovenia must now cope with delayed structural change and market distortions. Moreover, it is not clear if the transfer efficiency is sufficient, i.e. how much of the total government outlays actually reach farmers is not certain (see, for example, DEWBRE, 2002). It also remains unclear to what extent income support leads to an increase in farm investments. We therefore recommend more targeted measures focusing on investments instead of subsidy transfers and, as mentioned above, addressing both the farm and non-farm sector.

Income and social policies should be clearly labelled as such and their objectives should not be mixed up with competitiveness and structural policy objectives (although complementary effects are possible). The problem of aging, which is often seen as closely related to the problem of lacking social security and the persistence of (semi-)subsistence farming, is addressed in Croatia by the income aid scheme for non-commercial farms. It is generally appropriate to avoid social hardships through such social payments. However, compared to an early retirement scheme, as offered, for example, within the EU, it is not reasonably combined with beneficiaries' farm exit decisions. This link could also be introduced in Croatia.

7.2.3 Territorial policies to create and secure employment

The wider rural economy is becoming more and more important in rural development policies. To avoid out-migration to urban centres, as is also observed in Croatia, policies that strengthen the attractiveness and competitiveness of rural regions are needed. Employment-related policies are thus focussed on rural development.

Employment policies. Various measures can be used to promote the general economic development of a rural region. These include technical aid, information, credit lines, new technologies, service sector advancement, and diversifying activities, e.g. into tourism. Which of these measures will be chosen is highly region-specific. According to the *New Rural Paradigm*, employment policies in rural areas focus more and more on the non-farm sector because farming loses its relative importance in the development process. The widely-observed recourse to non-farm income means that farm households are interested in diversifying their income portfolio (OECD, 2006). However, risk-averse behaviour and a lack of specific knowledge and skills often hamper self-employed business start-ups. Therefore, the labour markets for waged employment play an important role in rural areas. Thus, incentives for investors who are willing to create rural employment opportunities, as well as capacity building for small- and medium-sized enterprises, should be considered. For structural change in agriculture, it is important that those who successfully gain a foothold in the non-farm sector are provided incentives to exit farming and subsequently offer their land on the rental or sales market. This also implies that the second pillar of the CAP, the rural development policies, could play an important role in creating a rural economic environment favourable for diverse employment opportunities.

Human capital policies. Policies that aim to increase human and social capital development are important in farming, particularly for those who are deemed to be the "survivors" of structural change. Up-to date knowledge and advanced skills, for example with regard to production technology, but also bookkeeping and investment appraisal, are crucial. Indeed, interest in the rural non-farm sector is very high, and will certainly play a crucial role for the future development of Croatia's farm households. Further, for entering the non-farm labour market, education is essential. General and professional education should therefore be strengthened parallel to supporting the rural labour market environment, as it paves the way for leaving the farm sector.

Infrastructural policies. Hard infrastructure (such as roads, markets and public transport, etc.) and information technologies (IT, such as telephone, internet, etc.) are generally considered among the most important factors that distinguish successful regions from those lagging behind. Therefore, investments in this area are deemed to be of high effectiveness. Besides regional investments in infrastructure and IT, internet access in the farm households could also be explicitly supported and thus provide farmers the opportunity to be informed about relevant markets and policies.

Decentralisation and tailored rural policies. Rural regions are heterogeneous. Therefore, there is little scope for general prescriptions with regard to rural economic development policies. A variety of policy interventions may be required and these interventions ought to be tailored to local requirements. Decentralised and participatory decision-making may be necessary to identify the right policy mix for each region. In this context, not only the absorption capacity of local governments with regard to policy measures has to be improved, but also the promotion of local action groups (LAGs) à la LEADER (= *Liaison entre actions de développement de l'économie rurale*) prior to EU accession (as was done in Poland or Romania) can greatly facilitate regional policy decision-making. The challenge in the context of decentralised decision-making will be to ensure that greater decentralisation does not compromise the government's distributional objectives. Obviously, small-scale farm families may not particularly benefit from decentralisation since it is possible that better endowed farm families and rural communities will be better placed to take advantage of decentralised funding and implementation mechanisms, or that within a given community the priorities of the local economic or political elite are more effectively articulated than those of the marginalised population groups.

Cross-border cooperation & networking. In the context of regional rural development, the work of the Regional Rural Development Standing Working Group (RRD SWG) needs to be pointed out (<http://www.seerural.org>). The RRD SWG was founded based on a common wish to establish an informal organisation, consisting of representatives of those institutions responsible for rural development in the respective countries and territories of South Eastern Europe (SEE), to work on rural development based on sustainable principles, through networking and permanent cooperation between all stakeholders of rural development in the region. By the end of 2008 Croatia has joined this network.

7.2.4 Lessons to be learnt from Slovenia's negotiation experience

Tightly organising the negotiation process, as well as employing "negotiation tactics", coherent language, and negotiation solutions are among the factors that formed the basis for Slovenia's successful negotiations. Thus, these are the issues that Croatia should focus on, and are areas from which lessons can be learnt from Slovenia. It is very important to clearly define policy objectives and express demands for rural development funds. Negotiation tactics refer to a clear strategy, based on analytical results and political considerations, in terms of what the negotiation team should achieve, including minimum and maximum outcomes.

Croatia is therefore well advised to place much effort in making early decisions regarding the introduction of the CAP's main lines – possibly before the negotiations are finalised. Besides promoting the usage of IPA funds, this includes the use of the national budget to bring such policies forward. As one of the interviewed experts in Slovenia puts it, "The EU Commission certainly is not in favour of a position stating "‘we are going to introduce the CAP measures immediately after accession’." Furthermore, it is important to have access to a well-developed statistical data base and scientifically-based analyses (see above).

Similar to Slovenia, it makes sense for Croatia to place a strong focus on a high level of rural development funds. Contrary to Slovenia, however, Croatia would be well advised to concentrate not so much on less-favoured area payments, but rather on measures related to regional development that encompass the wider rural sector, i.e. including non-farm issues. Further, rapid equalisation of the level of payments with other EU countries could also be desirable in terms of income goals, although the trade-off with structural goals might be considerable. On the other hand, it could be desirable to limit the influence of different interest groups when defining and designing measures if there is a risk that overall national interests are neglected in favour of single interest groups. Generally, it is important to ensure that the chosen policy measures are not contradictory. Since the cause and effect of certain measures are not always identifiable and results may only appear in the medium- and long-term, indicators that fairly capture the impacts of policies should be defined. Furthermore, greater focus should be placed on the implementation of negotiation outcomes.

References

- AGRICULTURAL CENSUS (2003): Central Bureau of Statistics of the Republic of Croatia, Zagreb, CROSTAT, <http://www.dzs.hr>, accessed January 2007.
- AVSEC, F. and ERJAVEC, E. (2005): Evropsko kmetijsko pravo (European Agricultural Law). Ljubljana: GV Založba.
- BEŠIREVIĆ, N. (2006): Adjustment to European Standards Paves the Way to higher Competitiveness of Croatian Agriculture. In: *Newsletter of the Ministry of Foreign Affairs and European Integration of the Republic of Croatia, No. 11/2006*, p. 6-9, Zagreb, <http://www.mvpei.hr/ei/download/2006/08/16/Euroforum-11-engleski.pdf>, 06.12.2006.
- BOJNEC, Š. (1999): The Competitiveness of Slovenian Farms and Food Processing Activities. *Agrarwirtschaft, 48(8/9)*: 295-303.
- BOJNEC, Š. and FERTŐ, I. (2007): Comparative advantages in agro-food trade of Hungary, Croatia and Slovenia with the European Union. *IAMO Discussion Paper No. 106*, Halle (Saale): Leibniz Institute of Agricultural Development in Central and Eastern Europe.
- BOJNEC, Š. and MÜNCH, W. (1999): Implications of Agricultural Accession to the European Union: The Case of Slovenia, *Moct-Most, 9(3)*: 345-371.
- BRYLA, P. (2005): The impact of SAPARD on the Behaviour of Farms and Food-Processing Enterprises in the Lodz Region. Paper prepared for presentation at the 94th EAAE Seminar, Ashford (UK), ageconsearch.umn.edu/bitstream/123456789/11198/1/sp05br02.pdf, accessed 08.05.2007.
- CEEC AGRIPOLICY (2006): D12-2 Second 6-monthly report: Monitoring of Agricultural Policy, Market and Trade Developments in Croatia, <http://www.euroqualityfiles.net>, accessed 04.05.2007.
- CENSUS (2001): Data from the Statistical Yearbook of the Republic of Croatia 2006, Central Bureau of Statistics of the Republic of Croatia, Zagreb.
- CHEN, K., XU, L. and DUAN, Y. (2000), Ex-Post Competitiveness of China's Export in Agri-Food Products: 1980-1996. *Agribusiness, 16 (2)*: 281-294.
- CROSTAT (2006): Statistical Information 2006, Central Bureau of Statistics of the Republic of Croatia (CROSTAT), http://www.dzs.hr/Hrv_Eng/StatInfo/pdf/StatInfo2006.pdf, accessed May 2007.
- CROSTAT (2007): Database of the Central Bureau of Statistics of the Republic of Croatia (CROSTAT), <http://www.dzs.hr>, accessed 2007.
- CSAKI, C. and NUCIFORA, A. (2003): Chapter 9 – Food and Agricultural Policy in European Perspective. In: Country Economic Memorandum – A Strategy for Growth through European Integration. *World Bank Report No. 25434-HR*, July 2003.

- DEMEKAS, D. G. (2005): Foreign Direct Investment in Southeastern Europe: What Do the Data Tell Us?, in LIEBSCHER, K. et al. (eds.): European Economic Integration and South-East Europe, Edward Elgar, London.
- DEWBRE, J. (2002): The incidence and income transfer efficiency of farm support measures. Working Party on Agricultural Policies and Markets, Organisation for Economic Co-operation and Development (OECD), Paris.
- EC (2006): Screening report Croatia: Chapter 11 – Agriculture and Rural Development, European Commission (EC), http://ec.europa.eu/enlargement/pdf/croatia/screening_report_11_hr_internet_en.pdf, accessed May 2007.
- EC (2007a): Croatia – EU-Croatia relations, EU Pre-accession assistance, European Commission (EC), http://ec.europa.eu/enlargement/croatia/eu_croatia_relations_en.htm, accessed 07.05.2007.
- EC (2007b): Communication from the Commission to the Council and the European Parliament – Instrument for Pre-Accession Assistance (IPA) Multi-annual indicative financial framework for 2009-2011, European Commission (EC), http://ec.europa.eu/enlargement/pdf/key_documents/2007/nov/miff_en.pdf, accessed 07.03.2008.
- EC (2007c): Screening report Croatia: Chapter 11 and 12, European Commission (EC), http://ec.europa.eu/enlargement/key_documents/reports_nov_2007_en.htm, accessed 04.12.2007.
- ERJAVEC, E., REDNAK, M. and VOLK, T. (1998) The European Union Enlargement – The Case of Agriculture in Slovenia, *Food Policy*, 23(5): 395-409.
- ERJAVEC, E., JUVANČIČ, L., OBLAK, O., KOŽAR, M., MOLJK, B., KOLAREK, P. and KAVČIČ, S. (2002): Economic Diversification and Labour Adjustment in the Rural Households in Slovenia. Working Paper Phase Ace Research Project P98-1090-R, mimeo.
- EUROSTAT (2007 & 2008): Database of the European Statistics Office, <http://epp.eurostat.ec.europa.eu>, accessed 2007 and 2008.
- FAO (1998): Policy Options for Slovenian Agriculture in an EU Accession Environment. FAO Project TCP/SVN/6713(A). Rome: Food and Agricultural Organisation of the United Nations.
- FAOSTAT (2007): Database of the Food and Agricultural Organisation, <http://faostat.fao.org/>, accessed 2007.
- FELLMANN, T. and MÖLLERS, J. (2009): Structural Change in Rural Croatia – Is Early Retirement An Option? *International Advances in Economic Research*, 15: 125-137.
- FRANIĆ, R. (2006): Rural areas and agriculture in Croatia. In: Croatian Agriculture, Food and Food Processing Industry, 4th edition (MAJA CVETKOVIĆ, ed.). Protim, Zagreb, pp. 18-47.
- FROHBERG, K. and HARTMANN, M. (1997): Comparing Measures of Competitiveness. *IAMO Discussion Paper No. 2*, Halle (Saale): Leibniz Institute of Agricultural Development in Central and Eastern Europe.
- GEORGIEVA, M. (2005): Report on the Effectiveness and Relevancy of Investment Activities under SAPARD in Bulgaria and its Role as a Pre-accession Financial Assistance Instrument. In: SAPARD Review – Impact Analysis of the Agriculture and Rural Development, European Institute Foundation, Sofia (BG), p. 7-36, http://www.europeum.org/doc/publications/SAPARD_book_eng.pdf, accessed 8.05.2007.

- GRZEGORZ, T. (2005): National Review of SAPARD Pre-accession Assistance Impact on national Agriculture and Rural Development in Poland. In: SAPARD Review – Impact Analysis of the Agriculture and Rural Development, European Institute Foundation, Sofia (BG), p. 175-198, http://www.europeum.org/doc/publications/SAPARD_book_eng.pdf, accessed 8.05.2007.
- HAARBECK, P. and BOGER, S. (1997): Europäische Politik für die Entwicklung ländlicher Räume, Bonn, D: Agrarsektoranalyse (ASA).
- HENRICHSMEYER, W. and WITZKE, H. P. (1991): Agrarpolitik Band 1. Agrarökonomische Grundlagen, Eugen Ulmer, Stuttgart.
- HILLMAN, A. L. (1980): Observations on the Relation between "Revealed Comparative Advantage" and Comparative Advantage as indicated by Pre-Trade Relative Prices, *Weltwirtschaftliches Archiv*, 116: 315-321.
- HINLOOPEN, J. and VAN MARREWIK, C. (2005): Empirical Relevance of the Hillman Condition for Revealed Comparative Advantage: 10 Stylized Facts, *Discussion Paper Series No. 05-24*, Tjalling C. Koopmans Research Institute, University of Utrecht.
- JACKMAN, R. (1994): Economic Policy and Employment in the Transition Economies of Central and Eastern Europe: What have we learned?, *International Labour Review* 133 (3): 327-345.
- KAVČIČ, S., ERJAVEC, E., MERGOS, G. and STOFOROS, C. (2003): EU Enlargement and the Common Agricultural Policy: The Case of Slovenia, *Agricultural and Food Science of Finland*, 12(1): 3-29.
- KERSAN-ŠKABIĆ, I. (2007): Regional development in Croatia and utilisation of EU programmes, Paper presented at the Joint Congress of the European Regional Science Association (47th Congress) and ASRDLF (Association de Science Régionale de Langue Française, 44th Congress), PARIS – August 29th-September 2nd, 2007.
- KOVÁCS, K., MAGÓCS, K. and BIHARI, Z. (2005): Planning and Implementing the SAPARD Programme in Hungary, In: SAPARD Review – Impact Analysis of the Agriculture and Rural Development, European Institute Foundation, Sofia (BG), p. 105-140, http://www.europeum.org/doc/publications/SAPARD_book_eng.pdf, accessed 8.05.2007.
- ILO (INTERNATIONAL LABOUR ORGANIZATION) (2007): International Labour Office database on labour statistics operated by the ILO Bureau of Statistics, <http://laborsta.ilo.org/>.
- IMF (2007): Database of the International Monetary Fund (IMF) <http://www.imf.org/external/data.htm#data>, accessed 2007.
- MAFWM (Ministry of Agriculture, Forestry and Water Management of the Republic of Croatia) (2005): SAPARD program – Agriculture and rural development plan 2005-2006, Zagreb, http://www.mps.hr/pdf/projekti/SAPARD_PROGRAMME_-_Agriculture_and_rural_development_plan_2005-2006.pdf, accessed 01.11.2006.
- MAFWM (Ministry of Agriculture, Forestry and Water Management of the Republic of Croatia) (2007): A review of the first two application rounds of SAPARD programme in Croatia, unpublished manuscript.
- MÖLLERS, J. (2006): Außerlandwirtschaftliche Diversifikation im Transformationsprozess – Diversifikationsentscheidungen und -strategien ländlicher Haushalte in Slowenien und Mazedonien, *Studies on the Agricultural and Food Sector in Central and Eastern Europe*, Vol. 35, Halle (Saale).

- OECD (1996): Better Policies for Rural Development, Paris, F: Organisation for Economic Co-operation and Development (OECD).
- OECD (2006): The new rural paradigm: Policies and governance, Paris, F: Organisation for Economic Co-operation and Development (OECD).
- POHLAN, J. (1998): Politiken zur Entwicklung von ländlichen Räumen, Halle (Saale), D: Institut für Agrarentwicklung in Mittel- und Osteuropa (IAMO), 1998.
- REDNAK, M., KAVČIČ, S., VOLK, T. and ERJAVEC, E. (2003): Complementary CAP Direct Payments from the National Budget and Farm Income Issue in Slovenia, *Eastern European Economics*, 41(6): 26-42.
- STOIAN, M. (2005): National Review on the Implementation of the SAPARD Programme in Romania, In: SAPARD Review – Impact Analysis of the Agriculture and Rural Development, European Institute Foundation, Sofia (BG), p. 199-241, http://www.europeum.org/doc/publications/SAPARD_book_eng.pdf, accessed 8.05.2007.
- STRATEGIJA (2006): Strategic development framework for 2006-2013 published by the Central State Office for Development Strategy and Coordination of EU Funds of the Republic of Croatia (STRATEGIJA), <http://www.strategija.hr>, accessed October 2006.
- SORS (STATISTICAL OFFICE OF THE REPUBLIC OF SLOVENIA) (2007): Statistical Yearbooks of the Republic of Slovenia 2000-2006, http://www.stat.si/letopis/index_letopis_en.asp.
- UDOVIČ, A. (2004): Assessing the effects of Slovenia's EU accession, *AgExporter*, July, 2004.
- UNEP/GRID-ARENDA (1998). Croatia, topographic map, UNEP/GRID-Arendal Maps and Graphics Library, http://maps.grida.no/go/graphic/croatia_topographic_map, 16.05.2007.
- UNSD (2008): Database of the United Nations Statistics Division, <http://comtrade.un.org/db/>, accessed 2008.
- VINCENZ, V. and KNOGLER, M. (2004): EU-Erweiterung: Die wirtschaftliche Beitrittsfähigkeit der Balkanländer, *Working Paper Nr. 249* (January 2004), Osteuropa-Institut München.
- WEINGARTEN, P., FROBERG, K., WINTER, E. and SCHREIBER C. (2002): Quantitative Analysis of the Impacts of Croatia's Agriculture Trade Policy on the Agri-food Sector, Report prepared for the Deutsche Gesellschaft für technische Zusammenarbeit (GTZ).
- WORLD BANK (2000): Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia, World Bank, Washington, D.C.
- WORLD BANK (2003): Croatia Country Economic Memorandum. A Strategy for Growth through European Integration, *Report No. 25434-HR*, World Bank, Washington, D.C.
- WORLD BANK (2007): Database of the World Bank, <http://www.worldbank.org/>, accessed 2007.

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