

# SEMIGRA

## Selective Migration and Unbalanced Sex Ratio in Rural Regions

Targeted Analysis 2013/2/15

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# 1. Introduction

The starting point of the ESPON SEMIGRA project was the observation that there is a pronounced “deficit” of young women in a number of rural regions in different European states. Regions with a “surplus” of males in early adulthood tend to be peripheral rural areas, while females outnumber men in the urban centres and their hinterland. Certain territorial peculiarities seem to correlate with the problem like e.g. the accessibility of urban centres, extremely low population densities, location along the external border of the EU or economic monostructures. Unbalanced sex ratios with a “deficit” of young women – in other words a “deficit” of potential mothers – tend to aggravate already existing demographic problems like depopulation, low fertility and ageing. Hence, a deficit of young women is detrimental to territorial cohesion which is an important objective of the EU spatial development policy. A general goal of the SEMIGRA project is the provision of knowledge concerning the interrelations between imbalanced sex ratios in early adulthood and socioeconomic development of certain regions. In this report, the problem of sex-selective migration and unbalanced sex ratios in rural regions is analysed in a European perspective and related to drives like the educational system and the labour market. We will discuss the reasons why young women are more likely to leave and/or less likely to return to rural regions. We will also address the question if unbalanced sex ratios in rural regions are a pan-European phenomenon with comparable causes and consequences in all ESPON states or if the national context plays a decisive role. A second objective of this report is to set the situation in the case study regions Sachsen-Anhalt [DE], Västernorrland [SE], Kainuu [FI], Észak-Alföld and Észak-Magyarország [HU] in the European context. As a start, we will define the phenomenon “unbalanced sex ratio” and explain how a “surplus” or “deficit” of young women in a given region comes about and why a shortage of young women is detrimental for regional development.

A demographic disequilibrium determined by selective migration can be regarded as a result of basic societal and economic changes leading to a reappraisal of certain territorial structures. Rising female labour force participation, the transition from industrial to post-industrial economies, the growth of the information society, the post-socialist transition and new frameworks for social relations in a globalising world are to be regarded as important reasons for changes in gendered migration patterns on the macro-level. At the regional level, missing job and career opportunities as well as non-employment-related aspects like the image of the region, the cultural infrastructure, social structures and predominant lifestyles are commonly held responsible for the selective out-migration of young

women. Age- and sex-selective out-migration from rural regions counteracts the overall concept of territorial cohesion and balanced development. The supposed consequences of the mismatch between the female and male population are multi-layered negative demographic, economic and social impacts on regional development such as:

- The intensification of demographic shrinkage. Regions with imbalanced sex ratios are challenged by low fertility and – as a consequence – pronounced ageing processes due to the loss of potential mothers. The depopulation and ageing of rural areas may lead to a triple loss: A loss of cultural landscapes, local traditions and infrastructure as well as educational and cultural facilities. It increases the need for an adaptation of the existing infrastructure to the needs of the elderly and the provision of care facilities (RICO GONZÁLEZ & GÓMEZ GARCÍA 2003; WEBER & FISCHER 2010).
- Negative impacts on the economic development such as a lack of human capacity and female workers as well as negative spirals when establishing companies. Beyond that, the out-migration of young women also poses a threat for the continuity of family farms (CAMARERO et al 2009; RICO GONZÁLEZ & GÓMEZ GARCÍA 2003).
- Negative effects on the social cohesion of communities not least due to the fact that women are an indispensable element in the formation of families and traditionally play an important role in the provision of care for the dependent population, namely children and the elderly (CAMARERO et al 2009). The negative impact of sex-selective out-migration on the care for the remaining senior citizens is especially a problem in conservative and familialistic welfare states where reproductive labour is expected to be carried out by family members and care facilities provided by the state or private enterprises are rare. Additionally, women traditionally play an essential part in sustaining the rural community, e.g. by organising social events and doing voluntary work, which may be a strategy to counteract cuts in public and private service provision. Thus, selective out-migration of women could negatively affect the public and social life of rural settlements (LITTLE 1997; WEBER & FISCHER 2010).
- Negative impacts on the self-confidence of the remaining population. The question arises of whether the lack of potential partners makes young men turn to deviant behaviour, substance abuse, violence and political extremism. Partner-market imbalances especially affect men with lower socio-economic status having serious problems finding a partner due to the female tendency to “marry up”, i.e. to form a family with a man of higher social status. However,

politically or socially deviant behaviour may first and foremost be an indicator for deprivation, that is there may be no *direct* link, but an indirect causal connection: economic factors are both responsible for deviant behaviour among young males and the out-migration of young women (EDLUND et al 2007; HESKETH & ZHU 2006; HUDSON & DEN BOER 2002; KRÖHNERT & KLINGHOLZ 2007; KRÖHNERT 2009).

The sex ratio of the population in a given age group depends on three factors:

- the sex ratio at birth;
- differential age-specific mortality rates between the sexes and
- different sex-specific migration patterns.

If not artificially manipulated by infanticide and sex-selective abortion, the sex ratio at birth is relatively constant at 93.5 to 95.2 girls per 100 boys<sup>1</sup> across human populations. Previous research has shown that the sex ratio at birth is influenced among others by family size, parental age and occupation, birth order, race, coital frequency, hormonal treatments, stress, diseases and exposure to environmental toxins (HUDSON & DEN BOER 2002; HESKETH & ZHU 2006). These factors take effect at the individual or the local level and are therefore unlikely to systematically influence the sex ratio at birth at the national or regional levels.

Distortions of the sex ratio at birth at the national or regional level may be caused by culturally conditioned sex preferences of prospective parents that lead to infanticide and sex-selective abortion. The effect of sex preferences on the sex ratio at birth will be most pronounced in low fertility societies with a high proportion of only children, as can be observed in mainland China, Hong-Kong, Taiwan or South Korea (PARK & CHO 1995, LIN 2009).

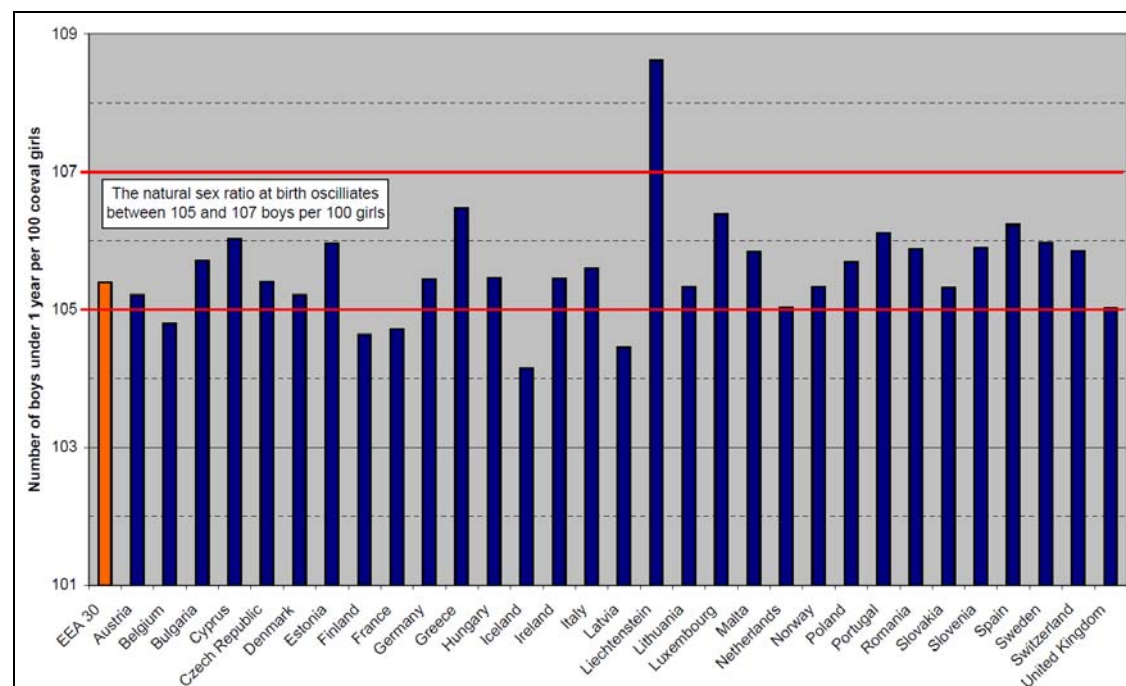
In Europe, parents either desire an equal number of children of both sexes or they do not have any sex preferences at all. There seems to be a tendency among men and non-pregnant women that the first child should be a boy, first-time pregnant women, however, tend to prefer a girl. Parental gender preferences seem to be a deeply-rooted cultural phenomenon that is relatively stable even in times of social and economic modernisation. In contrast to East Asia, parental gender preferences are not strong enough that parents would consider sex-selective abortion. Survey data indicates

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<sup>1</sup> In demographic literature, the sex ratio is usually defined as the number of males per 100 females. Since the focus of SEMIGRA is on the out-migration of young women from rural regions, we have decided to define the sex ratio the other way round, i.e. as the number of females per 100 males. Hence, the lower the sex ratio, the higher the "surplus" of men and the "deficit" of women in a given region.



that it is out of question for an overwhelming majority of prospective parents using reproductive technology to select the sex of their children. Given the strong preference for a family with the same number of boys and girls it is, unlikely that the sex ratio at birth would change significantly even if a service for preconception sex selection was freely available. The literature suggests that there is no effect of the sex of the first-born child on second births. The influence of parental sex preferences seems to be stronger for higher-order births as the odds of having a third child increase for parents of two girls or two boys (ANDERSSON et al 2004; ANDERSSON et al 2007; DAHL et al 2003a; DAHL et al 2003b; HANK & KOHLER 2000; HANK & KOHLER 2003; MARLEAU & SAUCIER 2002).



**Figure 1: Average sex ratio at birth in the EEA 30 states 2000-2009. Own calculation; data source: EUROSTAT (2011)**

Figure 1 clearly demonstrates that the sex ratio at birth is within the natural range in almost all states of the ESPON area between 2000 and 2009. Only Liechtenstein has a relatively unbalanced sex ratio, which may be ascribed to the low number of births in this small country. The sex ratio at birth can vary considerably over time as a result of natural variations that can neither be influenced nor predicted. It can therefore not be ruled out that local and regional sex-ratio imbalances are the consequence of an unusually high proportion of newborn girls or boys in a given year. The mean sex ratio at birth is between 104 and 108 boys per 100 newborn girls in the large majority of NUTS2-regions in the period 1999-2009.<sup>2</sup> There is a very small number of regions with an above-average share of newborn girls in the analysed period, and only one region – Ionia Nisia

<sup>2</sup> Own calculations based on EUROSTAT data

(GR) – with a “surplus” of newborn boys. We can, therefore, conclude that the sex ratio at birth does not *systematically* influence the sex ratio in young adulthood. The sex ratio at birth may however explain variations in regional sex ratios over time.

	Women per 100 men in the age-group				Women per 100 men in the age-group		
	20 to 24	25 to 29	30 to 34		20 to 24	25 to 29	30 to 34
<b>EU member states</b>				Portugal	95.9	97.8	98.7
Austria	98.1	98.5	100.5	Romania	95.4	95.4	95.1
Belgium	99.3	99.5	98.3	Slovakia	96.2	96.0	96.1
Bulgaria	95.3	95.0	96.3	Slovenia	94.9	93.0	93.5
Cyprus	103.7	100.6	99.2	Spain	95.6	94.0	92.7
Czech Republic	93.8	94.6	95.2	Sweden	95.4	95.5	96.0
Denmark	96.6	99.4	99.3	United Kingdom	95.1	98.2	99.9
Estonia	96.6	97.2	99.8	<b>EFTA states</b>			
Finland	95.6	95.1	94.8	Iceland	95.2	90.1	88.4
France	99.3	102.2	101.6	Liechtenstein	99.6	96.4	98.3
Germany	96.7	97.6	97.2	Norway	95.8	97.7	96.9
Greece	92.2	91.9	93.4	Switzerland	97.9	100.6	100.6
Hungary	96.8	95.3	96.6	<b>Candidate countries</b>			
Ireland	100.8	98.7	97.5	Croatia	95.8	96.5	97.9
Italy	96.1	98.0	98.1	FYR Macedonia	95.2	94.3	95.6
Latvia	96.7	96.5	97.8	Montenegro	94.6	97.6	102.6
Lithuania	96.3	95.8	100.5	Serbia	96.3	96.8	99.3
Luxembourg	95.6	100.0	100.4	Turkey	96.3	97.5	97.7
Malta	92.5	93.6	92.9	<b>Other countries</b>			
Netherlands	97.7	99.6	100.0	Albania (2007)	101.2	106.9	108.7
Poland	96.7	97.2	97.5	Andorra	93.2	94.1	95.0
Mean EEA 31	96.5	97.4	97.5	Mean EEA 31	96.5	97.4	97.5
Sex ratio 5.0 to 10.0% below EEA 31 mean							
Sex ratio 2.5 to 5.0% below EEA 31 mean							
Sex ratio 2.5 to 5.0% above EEA 31 mean							
Sex ratio 5.0 to 10.0% above EEA 31 mean							

**Table 1: Sex ratios in young adulthood at the national level 2008. Own calculations; data source: EUROSTAT (2011)**

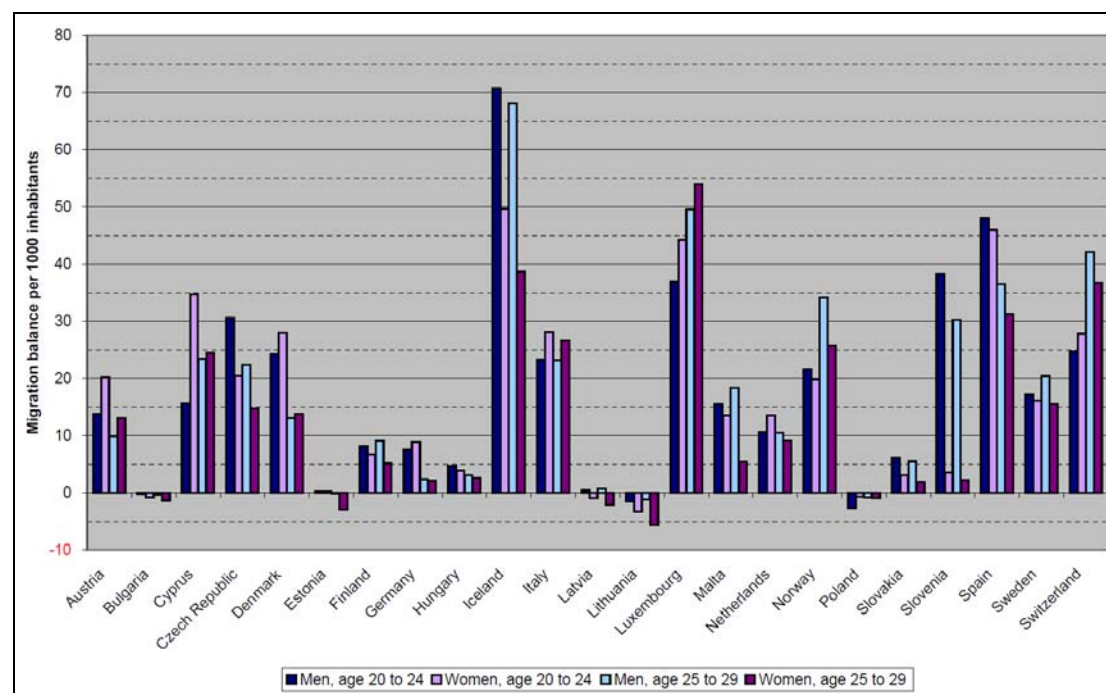
While the sex ratio at birth favours males, girls and young women are less likely to die young. In the absence of differences in nutrition and health care, they have a higher resistance to disease and greater overall longevity and are less likely to engage in risky behaviour<sup>3</sup> and violence, two important factors which increase the odds of premature mortality for young men (HESKETH & ZHU 2006). Given the higher survival rates of women, the sex ratio of a cohort increases over time. The influence of sex-specific differences in mortality is, however, rather moderate in Europe. The socio-economic conditions in a particular region can nevertheless influence the sex ratio in young adulthood, although it is difficult to determine in which direction. It has to be noted that people under 45 usually die due to external factors. Research results<sup>4</sup> on the development of gender differences in accident mortality over time are often contradictory, which indicates that there are no general trends in the developed world. This can be explained by the fact that gender differences in mortality and morbidity are influenced by changing gender roles, gender differences in behaviour, societal trends, public policies, economic conditions

<sup>3</sup> Men are more likely to use illicit drugs, to be heavy drinkers, to drive under the influence, to commit suicide or to be murdered (COMMISSION OF THE EUROPEAN COMMUNITIES 2009; WALDRON et al 2003).

<sup>4</sup> For an overview see WALDRON et al (2005)

and the diffusion of innovations with differing gender role compatibility (WALDRON et al 2005).

If neither the sex ratio at birth nor age- and sex-specific mortality patterns significantly and systematically influence the sex ratio of young adults in Europe, sex-selective migration patterns are the most likely explanation for an unbalanced sex-structure of the population both at the regional and national levels. Since the sex ratio at the national level is in the range of the 'natural' average in most ESPON countries (Table 1), we can assume that international migration is of minor importance. Figure 2 shows that there are large differences in the volume and the sex- and age-structure of international migration. Western European states seem to be more attractive for women, especially in the age group 20 to 24, while migration to Northern and Eastern Europe is by trend more male-dominated. The differences between the sexes are, however, in most cases rather small. It is nevertheless possible that international migration significantly affects the regional sex ratio. The destination choice of male and female immigrants may be quite different, for example if women from abroad fill positions in the urban service sector and men work in agriculture or construction.



**Figure 2: International net migration rate by age and sex for selected<sup>5</sup> European countries 2007. Own calculations; data source: EUROSTAT (2011)**

Women are more inclined to leave Bulgaria and the Baltic States while men are more likely to migrate to the remaining Central and Eastern

<sup>5</sup> For reasons of clarity and readability, not all countries in the ESPON area are depicted in this figure.

European (CEE) states. Poland is the only exception to this rule. The effect of international migration on the national sex ratio in the CEE states is, however, small given the rather low number of (officially registered) international migrants per 1000 inhabitants in young adulthood. The only exception is Slovenia, which is – relative to the population figure – the destination of quite a large number of international migrants and at the same time much more attractive for male than for female immigrants.<sup>6</sup> The rather low sex ratio at the national level can consequently be explained by the highly skewed sex ratio of the immigrants. Given the high “surplus” of men among migrants, the effect on the overall sex ratio is, however, surprisingly small. Sex selective international migration patterns may also explain the “surplus” of men in Malta, Iceland and the Czech Republic and the “surplus” of women in Cyprus (Table 1).

It would be necessary to analyse a time series of migration data to better understand the effect of international migration on the national and regional sex ratios, especially against the backdrop that the current financial and economic crisis has altered international migration patterns. Unfortunately, the data in the EUROSTAT database does not allow for an analysis of the effects of international migration on national and regional sex ratios over time as it is fragmentary and incomplete.

The SEMIGRA research concept is built on an explanatory model of the migration process based on LEE’s (1966) push-pull model. It is assumed that people will consider migration if they negatively evaluate the situation at their present location and are convinced that moving would significantly improve their situation. Spatial mobility will only occur if the social and financial costs of moving are lower than the expected monetary and non-monetary gains and if other ‘intervening obstacles’ on the way between the present and desired place of residence can be overcome (LEE 1966; SJAASTAD 1962). The assessment of the situation at the origin and destination as well as the expected difficulties to overcome the ‘intervening obstacles’ is influenced by structural conditions and individual aspects such as values, expectations, gender role attitudes, and so on. The decision to migrate also has a subjective dimension. Knowledge is limited and personal preferences may lead to economically sub-optimal migration behaviour.

Additionally, it has to be taken into consideration that social networks influence the decision to migrate. Living together with a partner, having children or caring for elderly relatives tend to lower the propensity to migrate (BAILEY et al 2004). Structural and economic push- and pull-factors

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<sup>6</sup> The data available in the EUROSTAT database show that a high “surplus” of males among the immigrants has been a distinctive feature of Slovenia at least since 2005 and – to a lesser degree – also between 1998 and 2001. Data for 2002 to 2004 is missing.

are important explanations of migration streams, but they are experienced by individuals in the context of culture, community, and family. Under similar socio-economic circumstances, some young women may opt to stay while others decide to leave (CORBETT 2005). Other aspects operant at the individual level that may influence migration decisions may be social class-affiliation, as well as the amount of cultural, economic and social capital an individual disposes of (RYE 2006a; RYE & BLEKESAUNE 2007). The regional statistical analysis can only regard the effects of the structural conditions on migration behaviour which is not enough to fully understand the complexity of age- and sex-selective mobility patterns in contemporary Europe. In the following report, we describe the regional patterns of unbalanced sex ratios in the countries of the ESPON area and discuss possible explanations. A multivariate regression analysis with theoretically relevant indicators will be prepared for the Final Report.

The structure of the remainder of this paper is based on the idealised life-course of young adults: Getting an education and entering the labour market (age group 20 to 24), getting a foothold in the labour market and forming a stable romantic relationship (age group 25 to 29), having children (age group 30 to 34). The life-course of young adults is, of course, usually not that clearly structured and straightforward, there is a great deal of variability both in cross-national comparison and between different regions of the same nation, but also between educational, occupational or ethnic groups to name just a few. First, we provide a short overview of hypotheses that are put forward in the scientific literature to explain why urban areas are particularly attractive for young women.

## 2. Why do young women move to urban areas?

In literature, several alternative hypotheses are discussed of why urban regions are especially attractive for young women that go beyond the employment- and education-focused explanations offered so far. In the following section, we focus on three theses that have been discussed in recent papers: (1) rural areas are male-dominated and offer women little leeway to deviate from traditional gender roles; (2) urban areas are more attractive marriage markets than rural regions and (3) formal education causes young women to leave.

Rural out-migration may be motivated by the quest for the increased personal freedom urban life-styles offer and the dissatisfaction with social control and the absent or hesitant economic and social progress in rural areas (RICO GONZÁLEZ & GÓMEZ GARCÍA 2003). Rural life in itself may also be more attractive for boys and young men. Since rural areas offer better leisure opportunities for young men and young women are more affected by gossip and informal social control (KLOEP et al 2003, HAUGEN & VILLA 2006), living in rural regions may be more satisfying for young men which may in turn explain the lower proportion of migrants in this group. Gossip and social control are also connected to a specific vision of femininity and the place of women in rural societies. Hence, young rural women have less leeway than their urban contemporaries to challenge the traditional gender roles (HAUGEN & VILLA 2006). JONES (1999) argues that *"there is a tendency for 'dissenters' to leave and 'conformists' to remain"*. For DAHLSTRÖM (1996) the strong patriarchal structures embedded in rural areas are an important explanation for sex-selective out-migration: *"Perhaps women are not just attracted by the opportunities in urban areas but pushed out from a male rural area in which there is little place for them culturally or concerning work opportunities"*. A rural area becomes "male" because the local power relations, dominant values and norms, and activities are determined or dominated by men, while female activities are less visible and valued. DAHLSTRÖM notices an increasing cultural gap between modern women and more traditional men which may eventually lead to a situation in which *"the young men may be left behind as losers [and] become marginalised"*.

According to EDLUND (2005), the "surplus" of women in their 20s in cities can be explained by a combination of marriage and labour market factors. She argues that urban labour markets offer both skilled women and men better-paying jobs. Consequently, cities offer women better jobs as well as better marriage opportunities since high-earning men are also concentrated in urban areas. Therefore moving to urban regions would also be a rational behaviour for unskilled women, as they may be able to marry a man with a good job and high income there. In her analysis based on

Swedish data, Edlund finds that a higher male income in a municipality is associated with a higher sex ratio. Municipalities with a "surplus" of men, on the other hand, are not only characterised by a low level of income of the resident male population, but also by a high proportion of women that have never been married. Hence, one can argue that young men in regions with a low sex ratio are not only more likely to be economically deprived; they are also faced with lower prospects of finding a partner - not (only) because competition is keener but because they are considered unwedable. This argument is in line with research results suggesting young men with low human capital are increasingly faced with a poor labour-market position at the beginning of their professional life due to industrial restructuring, rising economic inequality, and growing occupational insecurity making it more difficult for them to enter a cohabiting or marital union (OPPENHEIMER 2003; OPPENHEIMER et al 1997). KRÖHNERT (2009) suggests that the 'mismatch' between the high percentage of female school-leavers with upper secondary certificates and the above-average proportion of early school leavers in Eastern Germany is an important explanation for the strong out-migration of young women from the New Federal States and their low likelihood of returning after they have left. He finds that female migrants to Western Germany are more likely to enter a relationship than young men which – as a consequence – significantly reduces the odds of them coming back to Eastern Germany after they have finished their education or professional training.

There are also authors that hold the education system responsible for the out-migration from rural regions of young people in general and young women in particular. Young women are, as shown above, more inclined toward training and education and tend to reach higher educational levels than rural young men. The education system is sometimes accused of *"promoting the abandonment of rural life and sacralising the values and forms of urban life"* (CAMARERO et al 2009). This would, in consequence, result in a progressive distancing and uprooting of girls and young women from rural lifestyles and the values and life expectations of rural boys and young men. CORBETT (2009) argues that *"formal education is designed for those who leave"* and that *"the multiple skills and intelligences that it takes to make it in a rural community [are] largely misunderstood and dismissed within formal educational contexts"*. These skills are transmitted through 'informal' education systems that integrate young men into local employment and cultural traditions and practices. This localised social capital is, however, far less useful for girls, because the main sources of well-paid employment are 'male' jobs in the primary and secondary sectors. Consequently, rural women need to be successful in formal education to escape the economic marginality they would face in rural regions with male-oriented labour markets; the jobs they are prepared for are, on

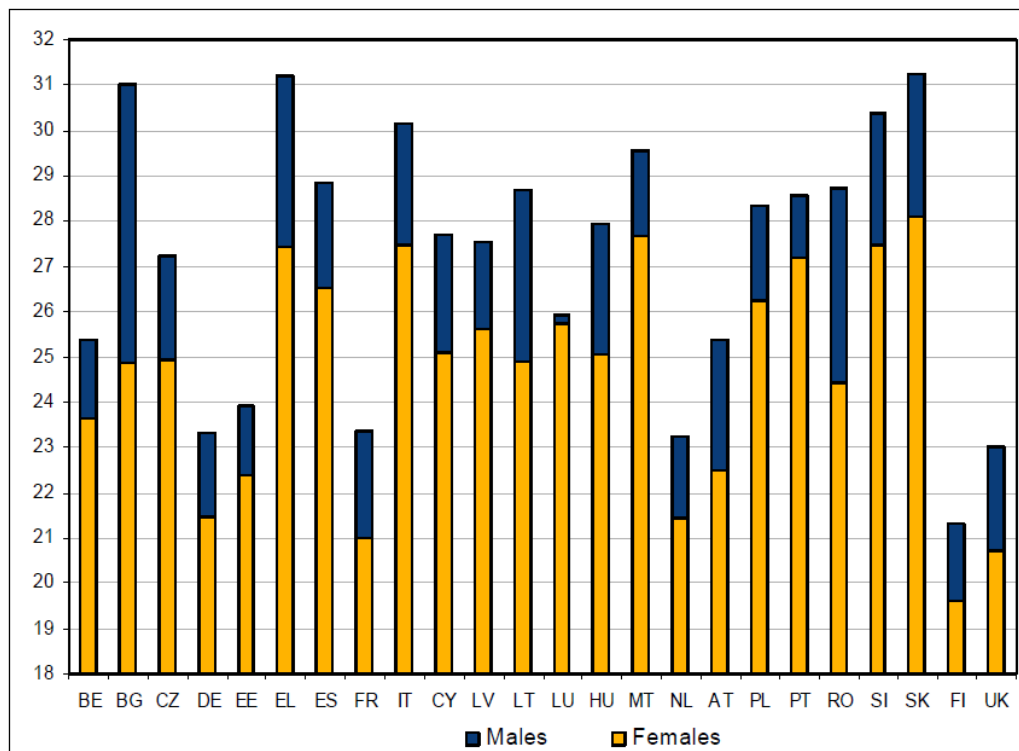
the other hand, usually not locally available which – in turn – prompts them to leave (CORBETT 2005; 2009).

The urban preferences of young women may be restricted to young adulthood. RYE (2006b) finds in his survey of Norwegian pupils that significantly more girls than boys express a preference for living in a city in their 20s, although there are only minor differences in residential preferences in later stages of life. The out-migrants seem to have the intention to return to the countryside in their 30s or when they have children.



### 3. Age 20 to 24: Getting an education

The age between 20 and 24 is the period of life in which young people finish their education and enter the labour market. Consequently the regional sex-ratio patterns in this age group are strongly influenced by the location of higher education facilities and regional labour market conditions for young professionals. Cultural and political factors also play an important role, especially in explaining cross-national differences in the regional sex-ratio patterns.



**Figure 3: Mean age of young people leaving home by gender 2007; Source: COMMISSION OF THE EUROPEAN COMMUNITIES (2009)<sup>7</sup>**

The basic pre-condition for imbalanced sex ratios is of course that young people leave the parental home. There are distinctive differences in the patterns of leaving the childhood home in Europe as BILLARI (2004) points out: *"In a time of overall social and economic convergence in European countries, it is hard to find social indicators with such striking differences among EU countries as those relating to the transition to adulthood. The differences between societies are striking, but intra-society heterogeneity is massive as well."* In Southern Europe, young people, especially young men, leave the parental home very late ("latest-late pattern"; also see Figure 3). A substantial proportion of people in their 30s still live with their parents. Young Scandinavians, on the other hand, leave their childhood home in their late teens or early 20s and rarely co-reside with their par-

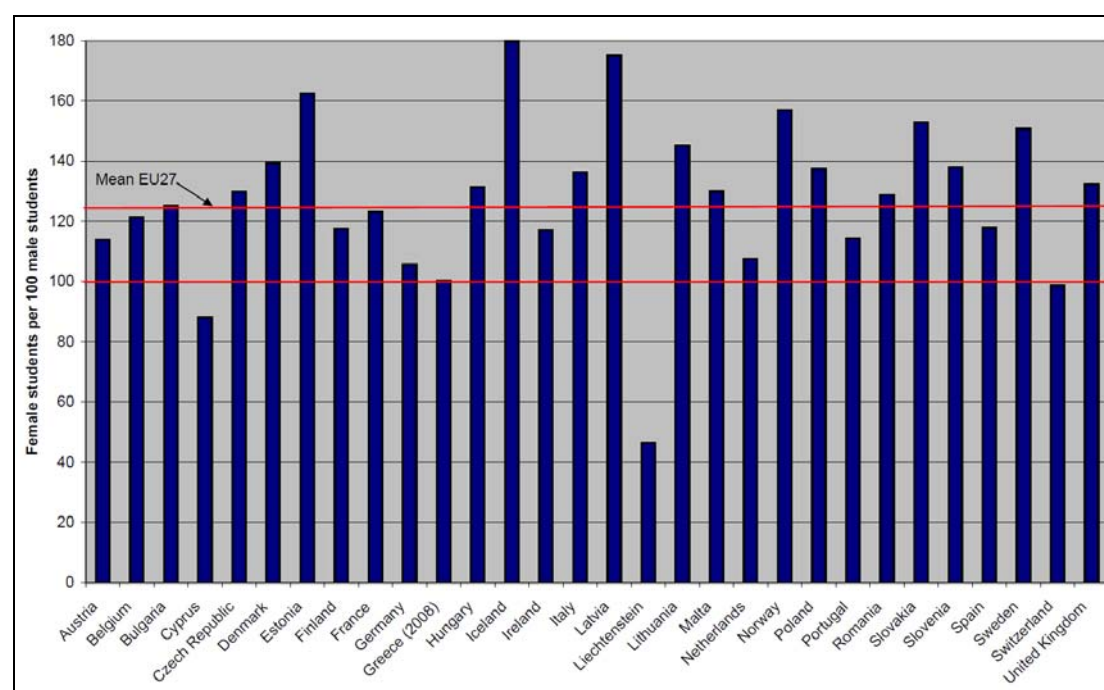
<sup>7</sup> No data available for Sweden

ents in their 30s ("earliest-early pattern). Important determinants of leaving the parental home are parents' resources, conditions on the labour market, the availability of housing, and the welfare state. The age of leaving home is low in the social-democratic and liberal welfare states (the Nordic countries and the UK) where the welfare regime is oriented towards the individual, medium in the family-oriented conservative welfare states of central Europe and very high in the familialistic welfare states of Southern Europe which are characterised by a lack of social policies and weak family policies. Another important determinant that is closely related is the strength of family ties and values and beliefs about the 'correct' timing and sequencing of life trajectories. It is very likely that these values and beliefs are strongly gendered and that the influence the cultural context exerts on the decision to leave the parental home differs between young women and men (CHIURI & DEL BOCA 2010; BILLARI et al 2001; BILLARI 2004; SOBOTKA & TOULEMON 2008).

There does not seem to be a strong connection between leaving home and the regional economic situation. In Italy, young people in the poor South where the youth unemployment rate is extremely high leave the parental home at younger ages than their compatriots in the wealthy North where the economic situation is much better. Another indicator that leaving home is more strongly governed by cultural norms than by economic rationalities is the fact that young people living on their own are disproportionately affected by poverty in the Nordic countries. Youth poverty rates are among the highest in Europe in Scandinavia although the general level of poverty is very low. Against this backdrop, the economically rational behaviour would be a prolonged co-residence with the parents. However, young Scandinavians seem to value their residential independence so much that they are willing to accept a period of poverty (AASSVE et al 2006; SANTARELLI & COTTONE 2009).

There are also enormous differences with regard to which transition in the life-course triggers leaving the parental home. In Northern and Western Europe young women and men move out when they go to university or earn their own money. Previous research suggests that young Czechs, Italians, Hungarians and Poles of both sexes rarely leave their childhood home before ending their education. Leaving home is more closely connected to family formation, although co-residence with in-laws is quite common for cohabitants and married couples in the Czech Republic and Hungary (BILLARI et al 2001). The long co-residence of adult children with their parents is mainly caused by economic insecurity and the low affordability of housing and hence involuntary in Eastern Europe. In Southern Europe, strong family ties between the generations are an additional explanation for the high age of leaving the parental home. A sizeable pro-

portion of young adults living in the parental home is economically independent and could afford to buy a flat or a house of their own. The Southern 'family culture' is said to be based on a mutual exchange of affection and tangible goods between parents and their offspring. It has been reported that an adult child moving out negatively affects the psychological well-being of his or her parents (DALLA ZUANNA & MICHELI 2004; DE ROSE et al 2008; MORENO MÍNGUEZ 2003; SANTARELLI & COTTONE 2009). The long co-residence of adult children with their parents seems to be more "voluntary" in the Mediterranean area. The large differences in leaving-home patterns will strongly affect the regional sex ratio. We can expect that regional gender imbalances will be less pronounced in the age group 20 to 24 and – maybe to a lesser extent – in the age group 25 to 29 in Southern and Eastern Europe where the 'latest late' pattern prevails. In Western and Northern Europe, especially in the liberal and social-democratic welfare states, disparities in the regional sex ratio should be more distinct.

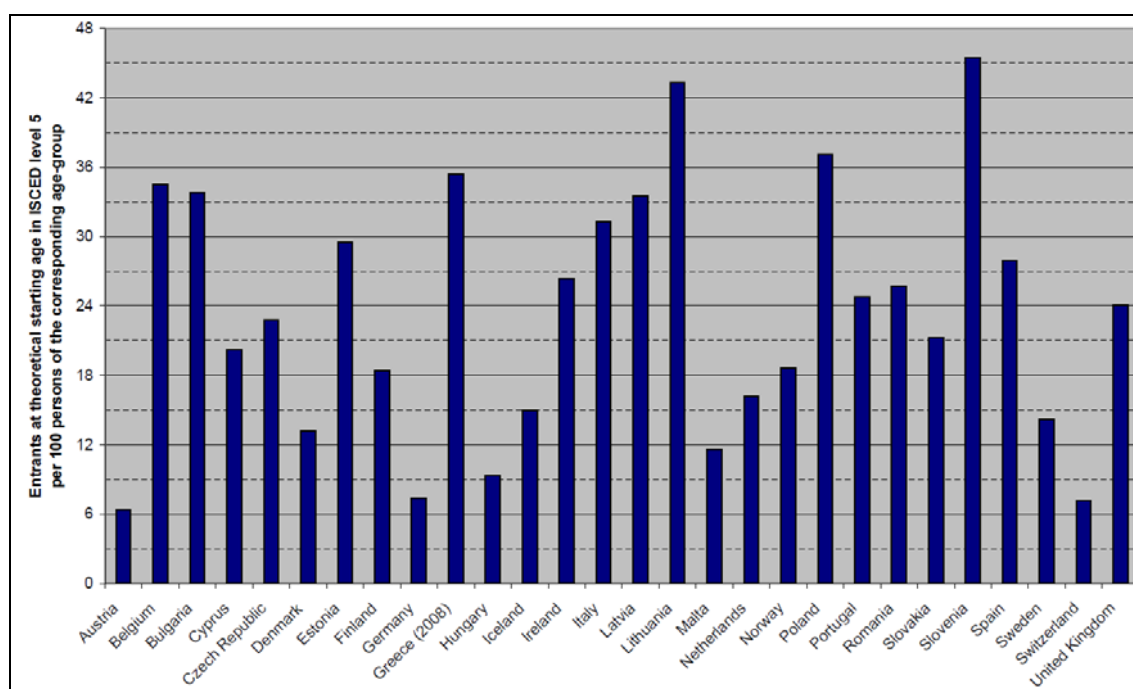


**Figure 4: Female students per 100 students in ISCED levels 5-6<sup>8</sup> 2009. Source: EURO-STAT (2011)**

With respect to education, gender differences in attending upper secondary education are low. However, strong differences across sexes emerge when the educational orientation is taken into account. In all European states, girls are in a majority in general upper secondary education, which prepares for further education. Boys, on the other hand, outnumber girls in vocational programmes. Their focus is therefore on entering the labour market. This pattern is especially distinct in Bulgaria, Cyprus, Greece,

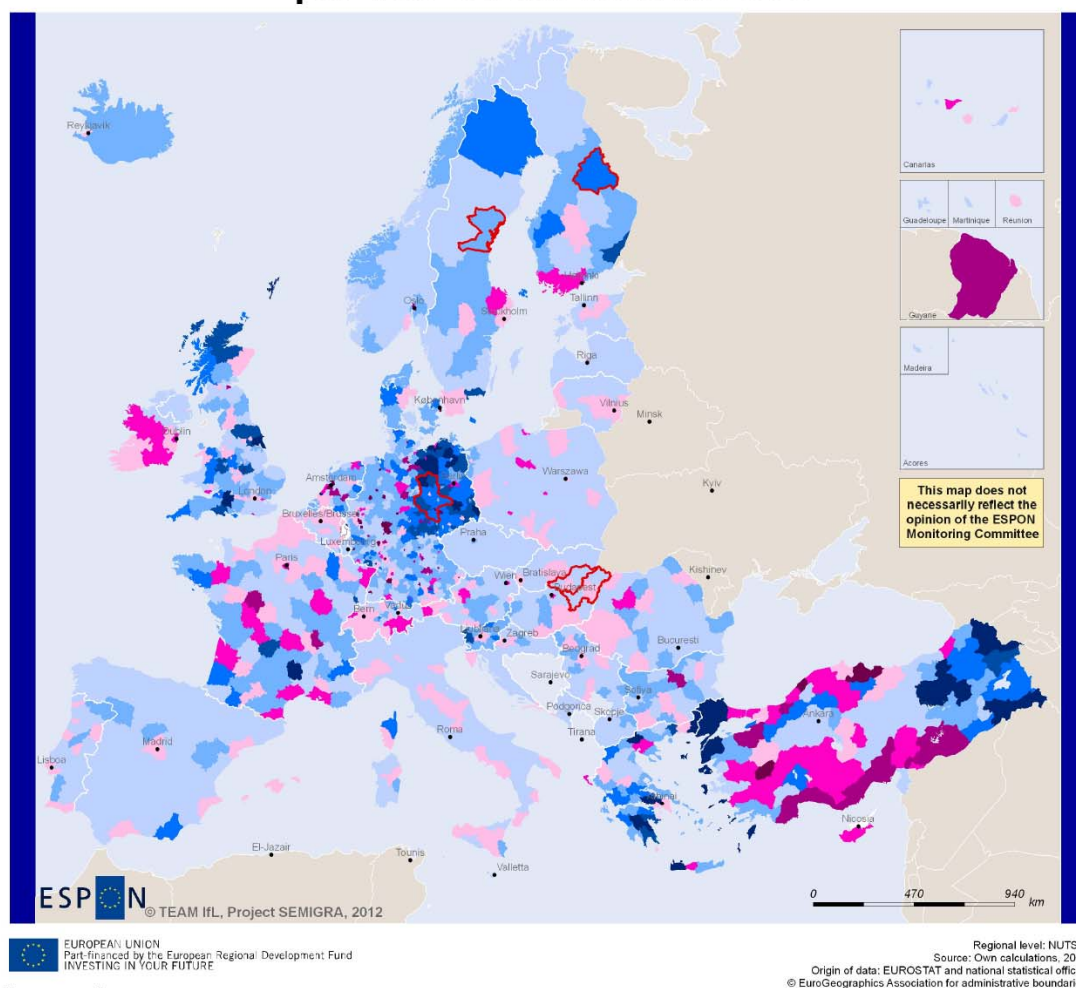
<sup>8</sup> ISCED level 5: First stage of tertiary education (not leading directly to an advanced research qualification); ISCED level 6: Second stage of tertiary education (leading to an advanced research qualification)

Hungary, Malta, Poland and the Baltic States. Men are also over-represented among those who leave the education system with at best lower secondary education and participate in no form of further education or training in all EU states but Bulgaria. At the European level, 15% of young people between 18 and 24 belong to this group. In Malta, Portugal and Spain the proportion of early school leavers is well above 30% (COMMISSION OF THE EUROPEAN COMMUNITIES 2009). As a consequence we can assume that the residence of women between 18 and 24 is determined by the location education facilities, while the location of young men is more strongly influenced by job opportunities. Early school leavers are especially immobile, either because they cannot afford to be mobile due to their low socio-economic status or because they have found a very specific niche to make a living that builds on specific talents and skills or social networks that are tied to special locality. Rural labour markets tend to offer better job opportunities for men with a low formal education, e.g. in agriculture or handicraft enterprises where manual skills, personal relationships and the inheritance of occupational capital matter more than school leaving certificates (BYE 2009; LØKEN et al 2011).



**Figure 5: Entrants at theoretical starting age in ISCED level 5 per 100 persons of the corresponding age group 2009. Source: EUROSTAT (2011)**

## Number of women in the age group 20 to 24 per 100 coeval men in 2008



### Legend



**Map 1: Number of women in the age group 20 to 24 per 100 coeval men 2008<sup>9</sup>. Own calculation; data source: EUROSTAT (2010) and national statistical offices**

The influence of higher education on regional sex-ratio patterns is determined by the proportion of women in the student body (Figure 4) and the percentage of young adults attending university (Figure 5). Young women are over-represented among students in Italy, the United Kingdom, the Nordic countries and most of the post-socialist states. In most of these countries, a largely female student body and a relatively high proportion of young adults enrolled in university suggest a significant influence of higher education on regional sex-ratio patterns, provided that attending university is connected to leaving the parental home and the region of origin. This is, however, not the case in most of the countries mentioned

<sup>9</sup> Greece: 2001; Romania: 2002 (Census data).

above (The regional pattern of gender imbalances in the age group 20 to 24 mirrors – as expected – the urban-rural gradient and is closely linked to the spatial distribution of higher education facilities (**Error! Not a valid bookmark self-reference.**). The capital regions – with the exception of Prague, Rome, Sofia and Tallinn – are characterised by a “surplus” of females in all EU and EFTA states. In most cases the same applies to other major urban centres. The capital city regions are, however, not necessarily the regions with the highest sex ratios. In some states, the “surplus” of women is most pronounced in NUTS3 regions with university towns, e.g. Veliko Tarnovo (BG), the cities of Heidelberg and Würzburg (DE), Thessaloniki (GR), Cluj (RO), Uppsala län (SE) as well as the City of Edinburgh and Leicester City (UK). There are, on the other hand, some regions with important universities which are characterised by very low sex ratios, e.g. the City of Aachen, Delft en Westland (NL) or Blekinge län (SE). The regions in question are home to technical universities whose student body is largely male. At the Blekinge Tekniska Högskola, 60% of the students are male, at the RWTH Aachen 70%, at the TU Delft even 80%. Additionally, Blekinge län is also home to Sweden’s largest naval base.

Sex ratios in rural and intermediate regions tend to be below the ‘natural’ mean all over Europe – with the exception of the Republic of Ireland. The “pink spots” on the map are mostly regions with minor urban centres – usually university towns – or the hinterlands of the metropolises. The “deficit” of women is, however, usually moderate. Regions with sex ratios below 87 (i.e. more than 10% below the ‘natural’ mean) usually do not form a contiguous area. The major exception to this rule is Eastern Germany. A comparable spatial concentration of very low and extremely low sex ratios cannot be found elsewhere in Europe. Extraordinarily low sex ratios in a given region seem to be the consequence of specific local conditions. A high “surplus” of males can, for example, be the result of the location of important military bases in a rural region, like in North Yorkshire or Wiltshire (UK).

The regional pattern becomes clearer if the national mean is used as benchmark instead of the ‘natural’ mean (Map 4). The percentage of young women is significantly above the European average in some countries, most notably in Belgium, France and Ireland. The general “surplus” of women “masks” unbalanced sex ratios at the regional level in the European perspective. Such a relative “surplus” of men is of course less problematic, because it does not reduce the reproductive potential of a region. We can conclude low sex ratios in young adulthood are a common feature of rural regions in Europe.

) where a dense network of higher education facilities enables students to commute to university from their childhood home. A more even distribu-

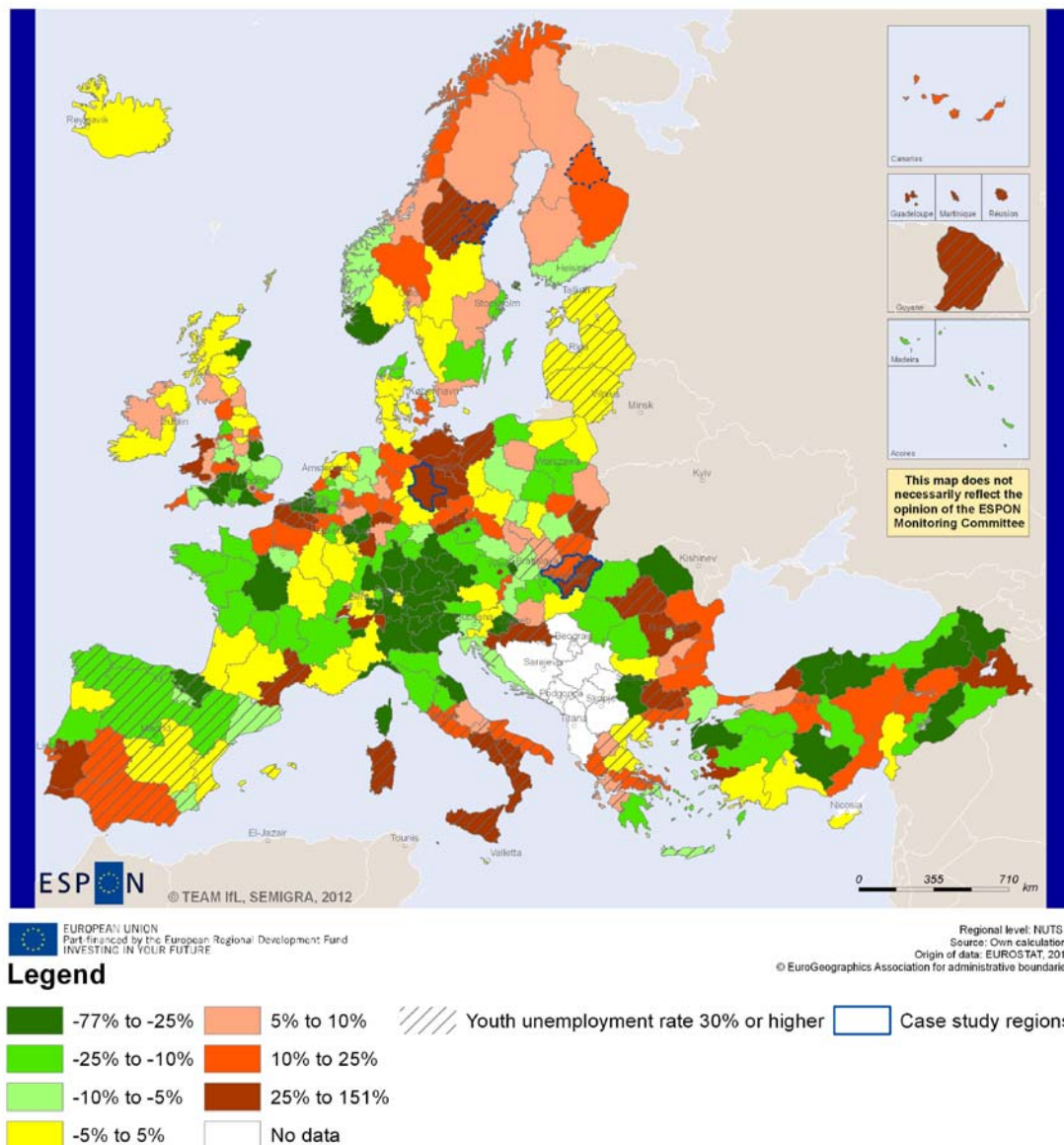
tion of universities over the national territory is frequently connected to missing on-campus accommodation for students. The causal relation is, however, not clear. There may be few halls of residence because building student accommodation would violate the cherished social norm that (at least younger) students continue to live with their parents. A lack of halls of residence can of course also be the consequence of missing demand (BILLARI et al 2001; BILLARI 2004). Since the student body is predominantly female in almost all EU states, we expect that regions with larger universities will have a “surplus” of women. There may be exceptions to this rule, notably in regions that are home to technical universities where male students will outnumber female students.

Many of the 20 to 24 year-olds that have already entered the labour market hold unstable jobs. Almost 40% of employed 15 to 24 year-olds have on a temporary contract – and the number is rising. There is a risk of young employees becoming ‘trapped’ in temporary employment. At the EU level, there do not seem to be significant gender differences, although young women are more likely to have fixed-term contracts. Frequently labour market entrants only work part-time. While part-time employment can be desirable for some, e.g. to finance one’s studies or to look after children or family members needing care, others are forced to accept part-time employment because full-time positions are not available. Women are much more likely to work part-time in all EU countries except Romania (COMMISSION OF THE EUROPEAN COMMUNITIES 2009).

Cross-national differences in youth unemployment are considerable. Before the financial crisis, unemployment rates in the age group 15 to 24 were especially high in Greece, Italy, Poland, Romania and Slovakia. In these countries – as well as in Bulgaria and Hungary – long-term youth unemployment is also a major social problem. In the latter two countries, the proportion of ‘NEETs’ (**N**either in **E**ducation, **E**mployment nor **T**raining) is also very high. The statistics on youth unemployment only partly describe the extent of young people’s economic inactivity because not all ‘NEETs’ are registered as unemployed. As a rule of thumb, the unemployment rate is higher for women across Europe. The gender gap is particularly large in Greece, Spain and Portugal. Greece is not only an extreme case because the unemployment rate for young women is almost twice as high as for young men, but also because it is the only EU member state where the risk of being unemployed increases with the level of education. Women with completed tertiary education are the most disadvantaged group on the labour market (COMMISSION OF THE EUROPEAN COMMUNITIES 2009; GREKOPOULOU 2010).



## Regional youth unemployment rates relative to the national mean in 2010



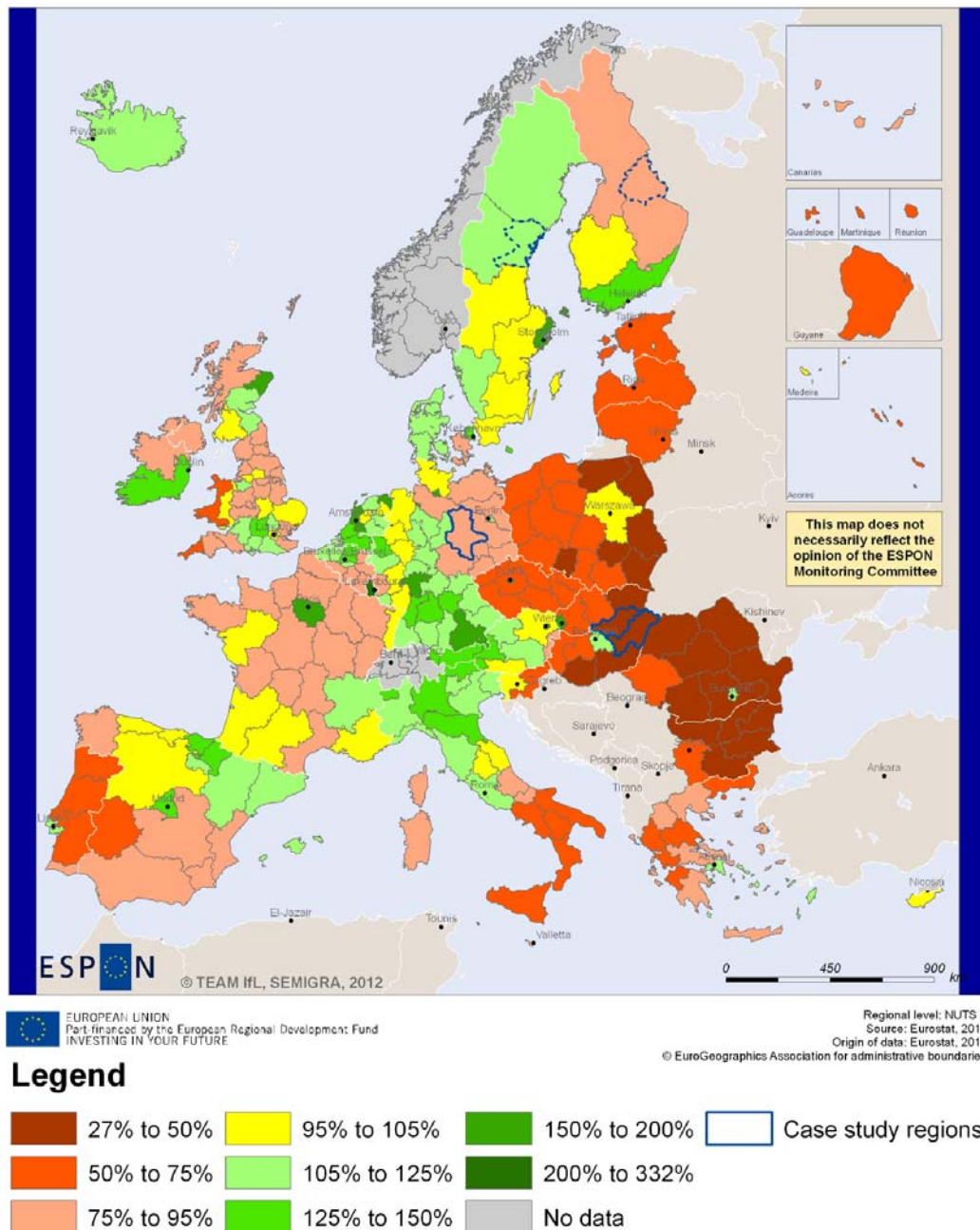
**Map 2: Regional youth unemployment rates relative to the national mean in % 2010. Own calculations; data source: EUROSTAT (2012)**

To summarise, we can expect that urban areas will be more attractive for young women in their early 20s because they are more likely to participate in higher education and universities and other institutions that offer post-secondary and tertiary education which are usually located in cities. Urban areas are also characterised by more 'women-friendly' labour markets due to a more diversified industry structure. Getting an education and entering the labour market in a specific region is, however, in many cases not a long-term geographical commitment; it is therefore very likely that the spatial pattern of sex-ratio imbalances changes in the age groups 25 to 29 and 30 to 34. The national welfare state context, predominating



values vis-à-vis gender roles and patterns of leaving the parental home will also influence the migration behaviour of young women and may lead to a fuzzier picture that cannot be easily interpreted in economic terms.

### Gross domestic product in purchasing power parities per inhabitant relative to the EU27 mean (=100%) in 2009



**Map 3: Gross domestic product in purchasing power parities per inhabitant relative to the EU27 mean 2008. Source: EUROSTAT (2011)**

The regional pattern of gender imbalances in the age group 20 to 24 mirrors – as expected – the urban-rural gradient and is closely linked to the spatial distribution of higher education facilities (**Error! Not a valid bookmark self-reference.**). The capital regions – with the exception of

Prague, Rome, Sofia and Tallinn – are characterised by a “surplus” of females in all EU and EFTA states. In most cases the same applies to other major urban centres. The capital city regions are, however, not necessarily the regions with the highest sex ratios. In some states, the “surplus” of women is most pronounced in NUTS3 regions with university towns, e.g. Veliko Tarnovo (BG), the cities of Heidelberg and Würzburg (DE), Thessaloniki (GR), Cluj (RO), Uppsala län (SE) as well as the City of Edinburgh and Leicester City (UK). There are, on the other hand, some regions with important universities which are characterised by very low sex ratios, e.g. the City of Aachen, Delft en Westland (NL) or Blekinge län (SE). The regions in question are home to technical universities whose student body is largely male. At the Blekinge Tekniska Högskola, 60%<sup>10</sup> of the students are male, at the RWTH Aachen 70%<sup>11</sup>, at the TU Delft even 80%<sup>12</sup>. Additionally, Blekinge län is also home to Sweden’s largest naval base.<sup>13</sup>

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<sup>10</sup>

<http://www.bth.se/valkommen.nsf/sidor/e441199b2e774bc0c1256e4b00394911!OpenDocument> (09/01/2011)

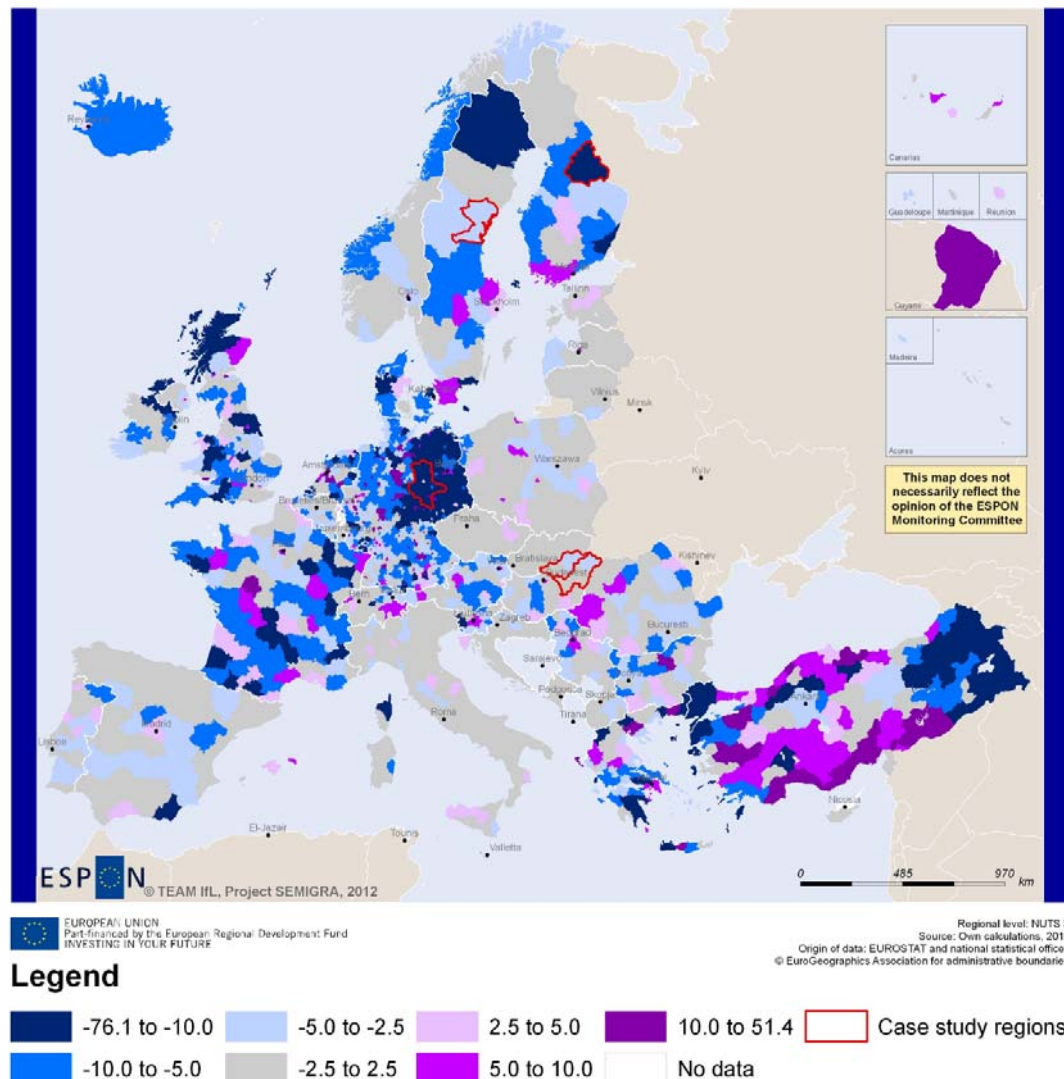
<sup>11</sup> [http://www.rwth-aachen.de/global/show\\_document.asp?id=aaaaaaaaacyvbl](http://www.rwth-aachen.de/global/show_document.asp?id=aaaaaaaaacyvbl) (09/01/11)

<sup>12</sup> <http://home.tudelft.nl/over-tu-delft/visie-feiten-en-cijfers/feiten-en-cijfers/onderwijs/> (09/01/11)

<sup>13</sup> <http://www.forsvarsmakten.se/en/Organisation/Training-units/Naval-Base-MarinB/> (09/01/11)

We can conclude low sex ratios in young adulthood are a common feature of rural regions in Europe.

### Deviation of the sex ratio in the age group 20 to 24 from the national mean in % in 2008



**Map 4: Age group 20-24: Deviation of the regional sex ratios from the respective national mean in % 2008. Own calculations; data source: EUROSTAT (2010) and national statistical offices**

The differentiation between regions with a “surplus” of young men and a “surplus” of young women is, however, not equally strong across Europe (Map 4). Regional disparities tend to be higher in Western and Northern Europe, while regional sex ratios are more uniform in most Southern and Eastern European countries. Regional disparities are especially weak in the Baltic States, the Czech Republic, Italy, Poland and Slovakia. Regional economic disparities are, on the other hand, far from weak in these states, especially in the case of Italy and Slovakia where differences in youth unemployment (Map 2), economic power (Map 3) and income (Map 14) are more pronounced than in most other European states. The eco-

nomically more uniform Nordic States, on the other hand, are characterised by rather distinctive regional gender imbalances. Obviously, the regional sex-ratio patterns are strongly influenced by the respective national context. The sex ratio is influenced by the age- and sex-specific patterns of leaving the parental home, the educational system and the support young people can expect from the welfare state. There are huge differences in state support for young people's autonomy and welfare across Europe. Additionally, home-leaving patterns are culturally coded and hence also very diverse.

The out-migration of young women and a moderate "surplus" of young men do not necessarily threaten the sustainability of the countryside. Since the availability of appropriate human capital is a crucial aspect of endogenous regional development, the out-migration of young adults to acquire the skills and knowledge to participate in the economic regeneration of rural regions is not only a problem, but a necessity. The problem is that too few young women return later to use their human capital regionally. Return and in-migration can bring new ideal, enthusiasm and rejuvenation to depopulating rural regions. In this sense, discouraging school leavers to leave to get an education and to improve their human capital would eventually be detrimental to rural areas; policy makers should instead focus on creating the conditions that their regions become or remain attractive places with a high quality of life to encourage in- or return migration (STOCKDALE 2006).

We should also bear in mind that regional disparities in the sex ratio (or a lack thereof) can also have administrative reasons. Cross-national differences in the intensity of regional disparities can, for example, be related to the delimitation of the NUTS3 regions. In most states, urban regions are combined with their hinterland. This can lead to an equalisation of urban-rural differences. The examples of Germany and the UK illustrate that "female" cities can exist within a "masculinised" hinterland. Another aspect is the registration system. Students living in a hall of residence may not regard on-campus accommodation but their parental home as their primary residence, so they may still be registered there and not be counted as a resident of the town where their university is located. If there are significant differences in the likelihood of retaining the childhood home as primary residence while studying or being trained elsewhere, the gender composition of the registered and the de facto of the same region or municipality population may be rather different.

## 4. Age group 25 to 29: Gaining a foothold in the labour market

The age group 25 to 29 is a transitional period in the course of life. According to the ideal typical life course, young adults finish their education in their early 20s and enter the labour market. The first years of professional life tend to be characterised by marginal and precarious employment such as part-time jobs, internships or fixed-term jobs and spells of unemployment. After gaining a foothold in the labour market, young women and men eventually find a permanent position. Professional and economic stability is an important pre-condition for forming a family for most people. The average age of becoming a parent is between 25 and 29 in the ESPON area. We can therefore expect that both labour market conditions, patterns of family formation and residential preferences influence the spatial pattern of sex-ratio imbalances in this age group. We will focus on the labour market in this chapter and discuss the effects of family formation on the regional sex ratios in the following section.

It has been argued that the out-migration of young women is especially pronounced in rural labour markets that are characterised by a dominance of male-oriented jobs in the primary and secondary sectors. Regions affected by de-industrialisation processes, with industrial mono-structures, or predominated by agriculture and forestry often show a pronounced mismatch between young men and women. Urban labour markets, on the other hand, offer more career opportunities for women, especially in the service sector (KRÖHNERT & KLINGHOLZ 2007). We have developed a typology of labour markets<sup>14</sup> at the NUTS 2 level (Map 5) to gain an impression of whether regions with distorted sex-ratio structures are characterised by specific labour market structures that make them particularly (un)attractive for young women or men. The NUTS2 level is unfortunately not particularly well-suited for this analysis because regional labour markets are usually smaller than NUTS2 regions, especially for employees with low and medium qualification levels. Currently, Europe-wide harmonised data is not available at the NUTS3 level. Due to data restrictions, we have not been able to restrict this analysis to women and young jobholders. The typology is intended rather as an overview than an exhaustive analysis.

Generally speaking, **Cluster 1** is characterised by labour markets with an average industry structure. However there is a relatively high share of

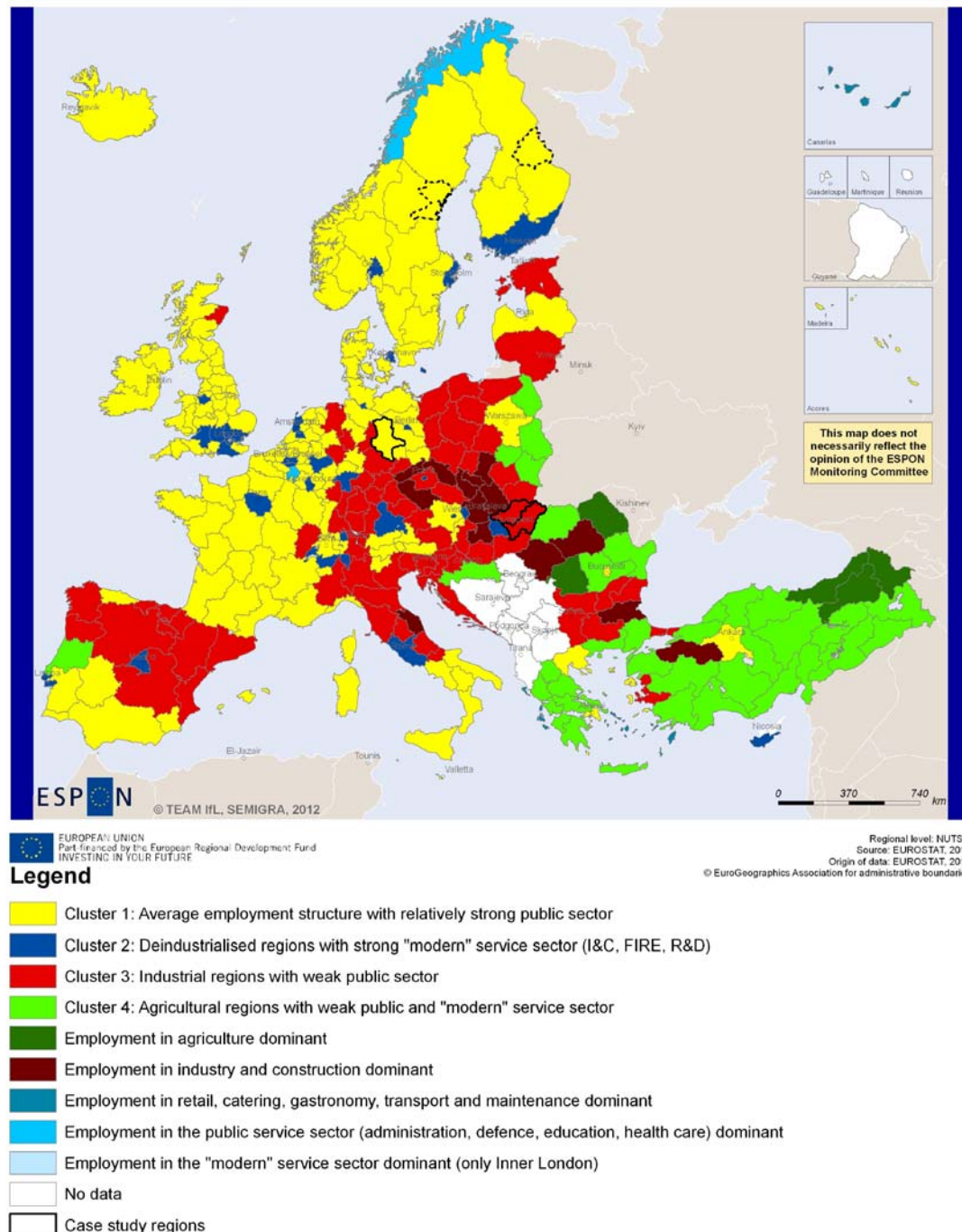
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<sup>14</sup> Hierarchical cluster analysis (Ward method) with subsequent discriminant analysis. Variables used: share of the workforce employed in industry and construction; share of the workforce employed in retail, maintenance, transport, catering and gastronomy; share of the workforce employed in public administration, defence, education and healthcare; share of the workforce employed in other services (e.g. I&C, FIRE, art and entertainment and so on).



employees working in the public sector. These types of labour markets facilitate offer both attractive jobs for men in the manufacturing trade and for women in the service sector and can consequently be considered as relatively women- and family-friendly. Cluster 1 regions are mostly located in Western and Northern Europe.

## Typology of regional labour markets 2009



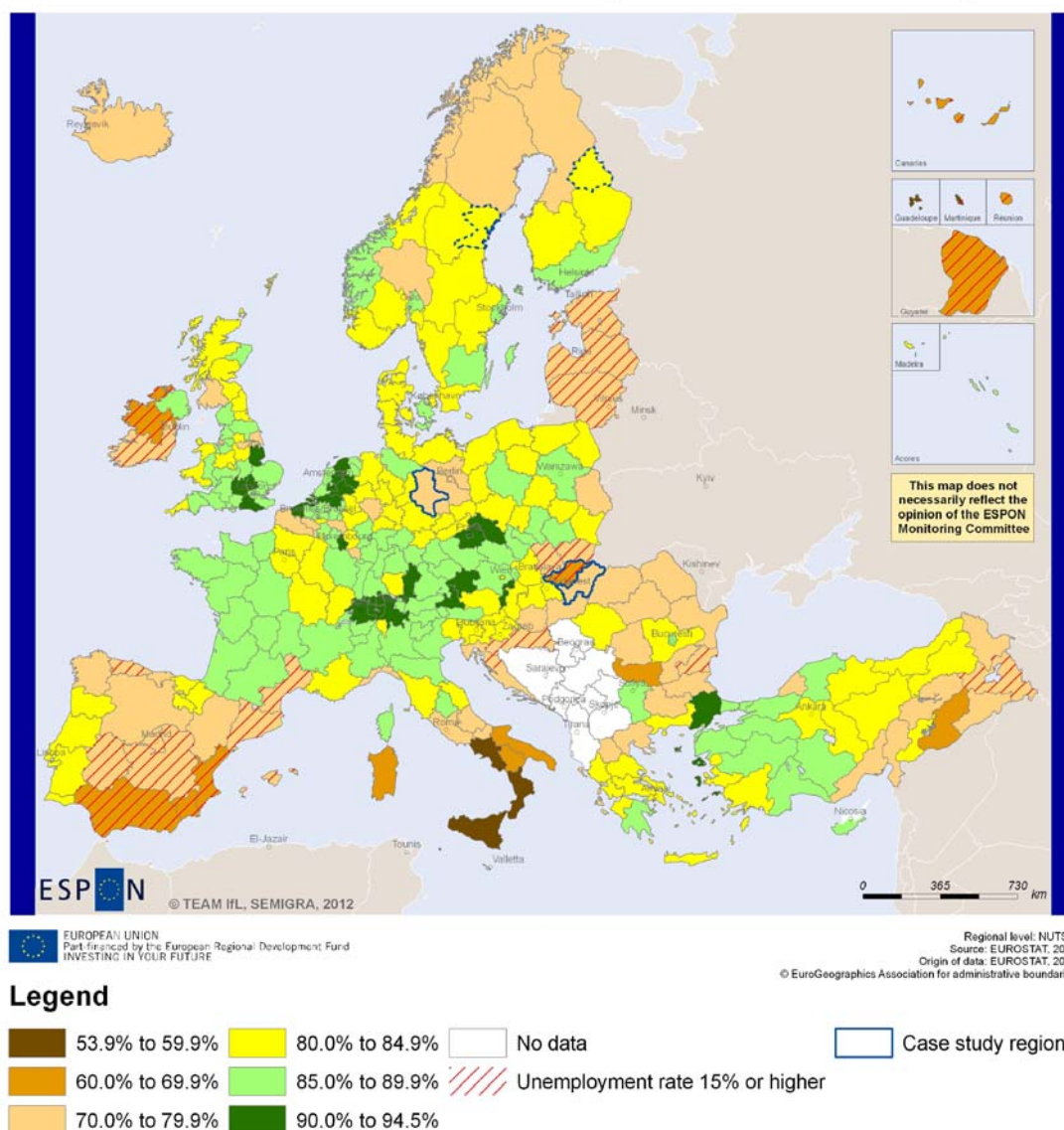
**Map 5: Typology of regional labour markets 2009. Source: Own calculations**

**Cluster 2** is characterised by post-industrial labour markets with a very high share of employment in "modern" services (e.g. FIRE, I&C, creative sector) and a strong public sector. Cluster 2 regions are mostly urban. The

diversified and service-based economic structure makes these regions attractive for young women and men alike, both as labour and marriage markets (Edlund 2005). **Cluster 3** is made up of regions with a very high share of people employed in industry and construction and a low share of employment in the public sector and “modern” services. These types of labour markets can be described as male-oriented. Cluster 3 regions are predominantly located in Central Europe, Northern Italy and Northern Spain. In **Cluster 4** working in agriculture is still an important way to make a living. The service sector, both public and private, plays only a tangential role while the share of the workforce employed in the second sector is moderately below the unweighted European average. Cluster 4 regions tend to be very peripheral and economically underdeveloped and are hence expected to be unattractive labour markets for both genders. In addition to these more diversified labour markets, there is also a small number of regions with mono-structured labour markets where more than 40% of the workforce is employed in one sector.

The industry structure is only one side of the coin. Another indicator for the economic opportunities of young women in a certain region is the labour force participation rate, i.e. the percentage of women of a given age that is economically active (employed or actively looking for work). A strong gender gap may be an indicator for deeply-rooted traditional gender role models in a region, but also for a ‘male-oriented’ industry structure. Map 6 depicts the labour force participation rate of men between 25 and 34 at the NUTS2 level, Map 7 that of coeval women. It becomes clear that there are pronounced intra- as well as interstate differences in the economic activity rates of both men and women. There are regions where the ‘traditional’ male breadwinner model dominates: The male labour force participation rate is high, while the female labour force participation rate (FLFP) is very low in European comparison. Examples are the Czech Republic, Slovakia and the majority of the Greek NUTS2 regions. There are also regions with a very high share of gainfully employed women and a relatively low male labour force participation rate (MLFP), e.g. Chemnitz (DE), Galicia (ES) and Nord-Norge (NO). Regions in Cluster 3 of the labour market typology tend to have low female labour force participation rates although there are exceptions, e.g. Norte (PT), Catalunya (ES) or Niederbayern (DE). Surprisingly, the FLFP is rather low in most regions of cluster 2. The picture is more complex in clusters 1 which contains regions with both relatively high and low percentages of economically active women. Cluster 4 is characterised by a relatively low labour force participation rate for both sexes which underscores the peripherality and structural weaknesses of these labour markets.

## Regional labour force participation rates of men between 25 and 34 in 2010 (Mean EU 27: 81.1%)

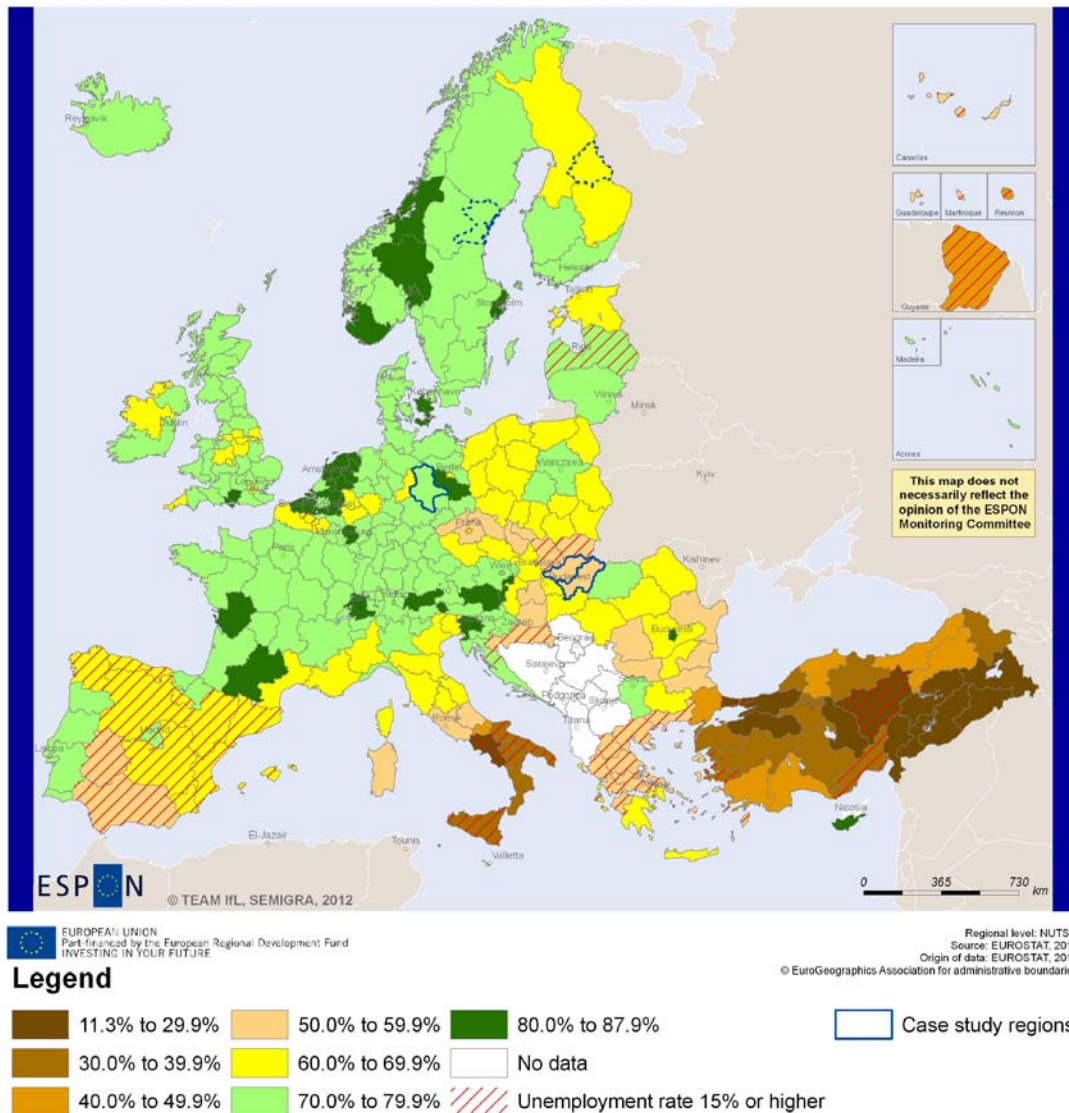


**Map 6: Labour force participation rates of men aged 25-34 2010. Source: EUROSTAT (2012)**

There are several possible explanations for the large differences in the labour force participation rates of women. A low share of women working or actively looking for work can be a result of a weak regional economy. In this case, the male labour force participation rate will also be low. The FLFP in the age group 25 to 34 may also be the result of high regional fertility; in this case, a significant proportion of the female population would be inactive because they are on parental leave. There is also a cultural explanation. A low FLFP can be an indicator that traditional gender roles (male breadwinner and female homemaker) are still deeply rooted in the society of a given country or region.

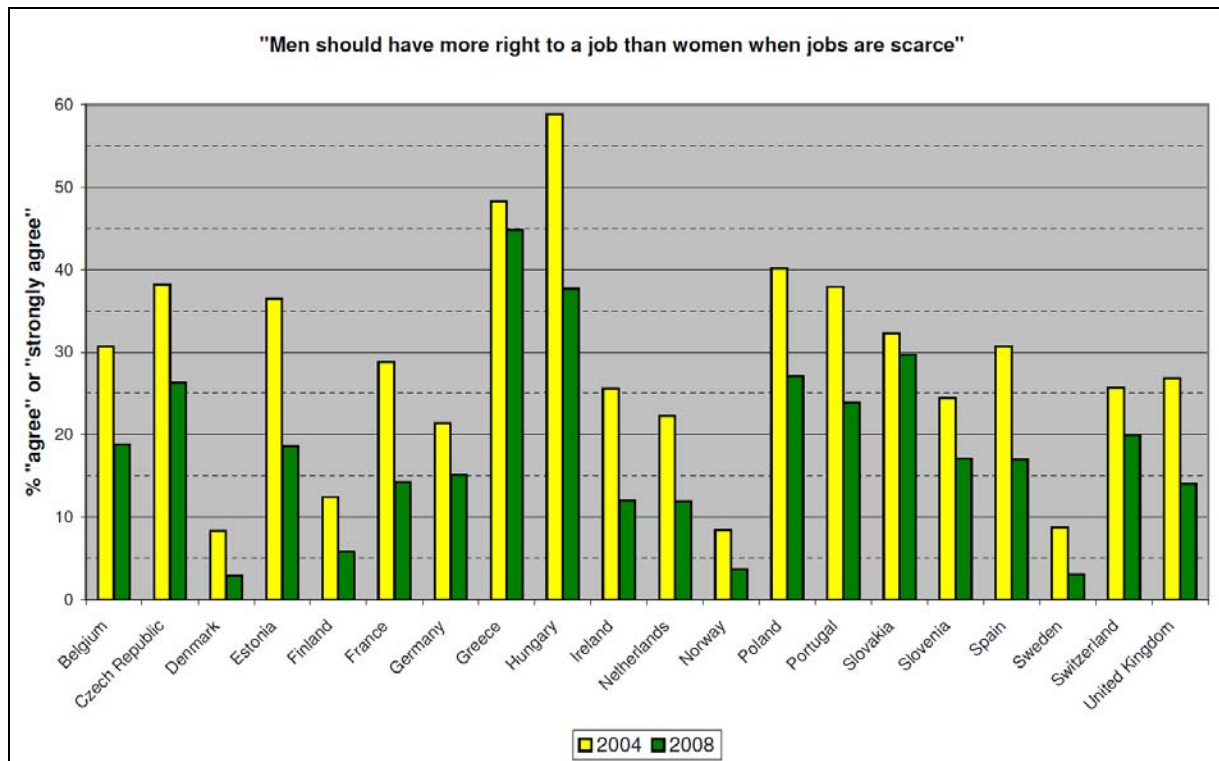


## Regional labour force participation rates of women between 25 and 34 in 2010 (Mean EU 27: 68.6%)

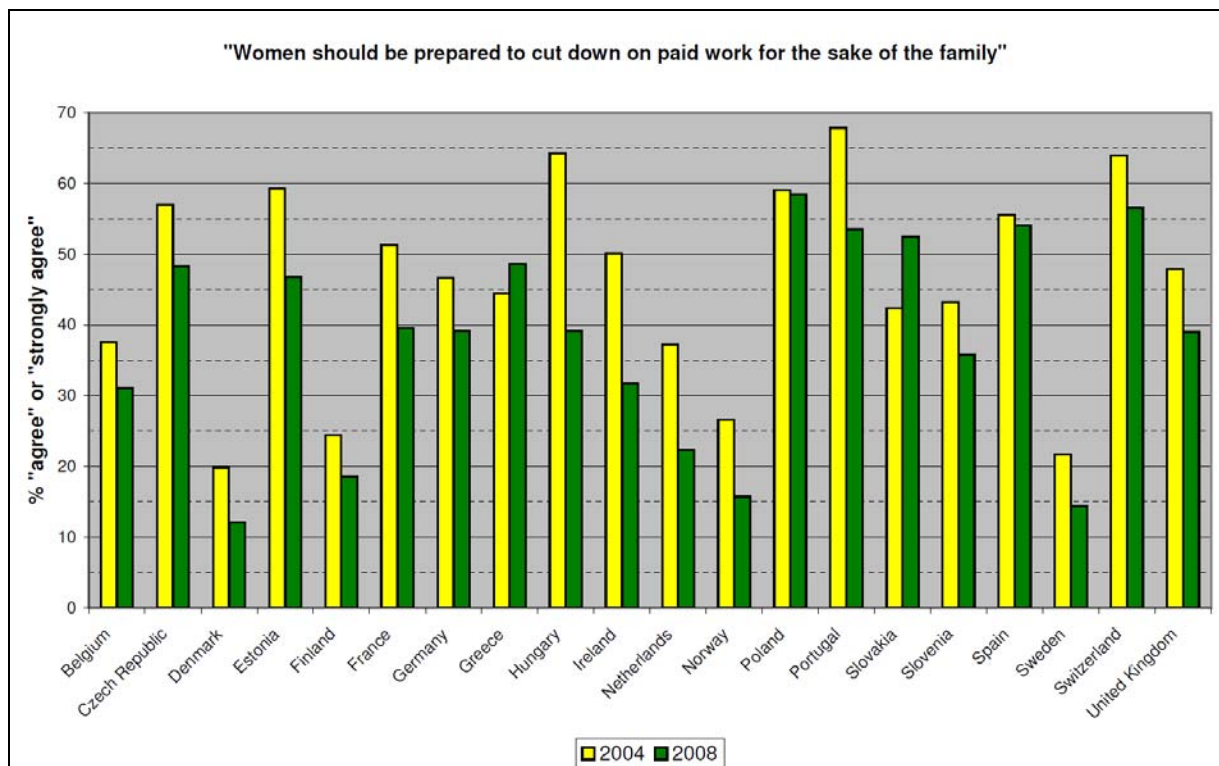


**Map 7: Labour force participation rates of women aged 25-34 2010. Source: EUROSTAT (2012)**

At the national level, there are pronounced differences with respect to the evaluation of female labour force participation. People in Eastern and Southern Europe are more likely to think that women should retreat from the labour market in times of crisis and leave their jobs to men (Figure 6) and that women should only work if their job does not interfere with their family obligations and that they adjust their professional career to the needs of their family (Figure 7). Few Scandinavians, on the other hand, agree with these statements.



**Figure 6: Approval rating of the statement "Men should have more right to a job than women when jobs are scarce" in selected European countries 2004 and 2008; Own design; data source NORWEGIAN SOCIAL SCIENCE DATA SERVICES (2011)**



**Figure 7: Approval rating of the statement "Women should be prepared to cut down on paid work for the sake of the family" in selected European countries 2004 and 2008; Own design; data source NORWEGIAN SOCIAL SCIENCE DATA SERVICES (2011)**

Female labour force participation tends to be lower in countries where the approval rating of the statements "Men should have more right to a job

than women when jobs are scarce” and “Women should be prepared to cut down on paid work for the sake of the family” is higher. This rule is of course not without exception. The proportion of working women is high in Portugal and Switzerland despite the relatively high proportion of respondents that agree with both statements.

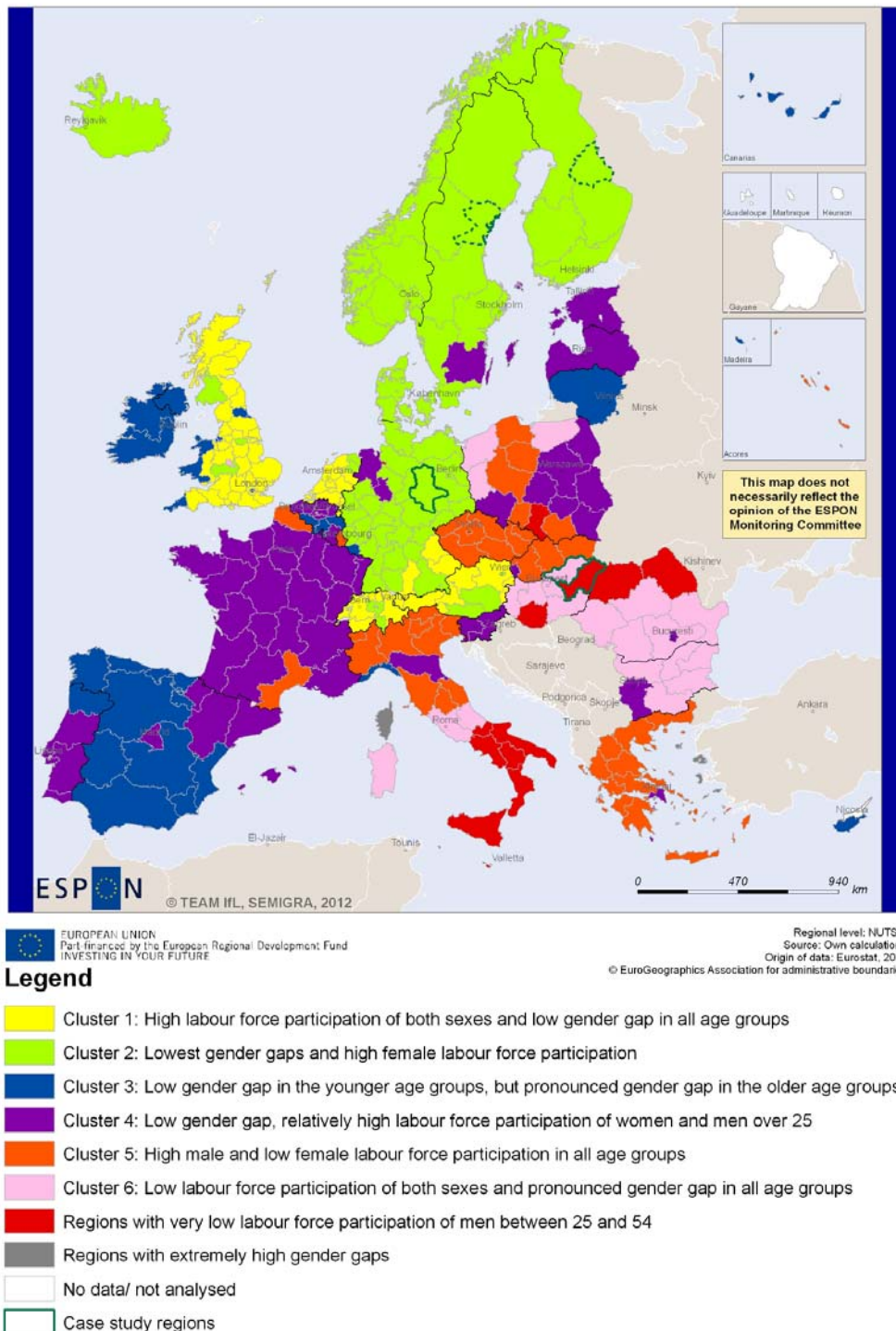
We have also developed a typology of gender differences on the labour market (Map 8, Table 2). To obtain a better picture of the gendered nature of the labour market in the ESPON area, we have included the sex-specific labour force participation rates in different age groups as well as the ‘gender gap’ between FLFP and MLFP in the analysis. The NUTS2 level is more appropriate for this analysis because the economic activity of women is not only determined by local and regional opportunity structures, but is also at least partly a cultural phenomenon.

Cluster	Labour force participation rate								Gendergap			
	Age-group 15 to 24		Age-group 25 to 34		Age-group 35 to 44		Age-group 45 to 54		Age-group			
	Men	Women	Men	Women	Men	Women	Men	Women	15 to 24	25 to 34	35 to 44	45 to 54
<b>1</b>	67.2	63.8	94.6	81.5	95.0	82.6	92.3	81.6	-5.6	-15.0	-14.0	-12.3
<b>2</b>	57.5	55.0	90.6	82.1	94.6	85.8	91.4	83.8	-4.6	-9.9	-9.9	-8.7
<b>3</b>	46.0	40.0	90.5	80.6	91.8	76.8	87.9	69.2	-14.3	-11.8	-17.9	-23.9
<b>4</b>	43.2	35.7	94.1	83.1	95.1	86.1	90.9	80.5	-18.9	-12.5	-10.0	-12.3
<b>5</b>	39.4	28.5	93.7	73.3	96.1	79.0	91.7	73.5	-32.3	-24.4	-19.8	-22.9
<b>6</b>	33.6	25.3	87.9	68.6	91.0	74.9	83.6	71.1	-28.1	-24.6	-19.7	-16.9
<b>Underemployment</b>	-	-	below 80%	-	below 80%	below 50%	below 75%	-	-	-	-	-
<b>Unweighted mean</b>	50.2	44.3	92.3	79.5	94.4	82.2	90.4	78.4	-15.2	-15.2	-14.0	-14.7
Calculation of the gender gap: (Female labour force participation rate - male labour force participation rate) / Female labour force participation rate												
A region has been assigned to the type "Underemployment" if at least one of the criteria mentioned above is met												
Indicators in bold letters have been used in the cluster analysis (Ward method with subsequent discriminant analysis)												

**Table 2: Typology of the gender gap on the labour market: Cluster characteristics.**  
Source: Own calculations.

**Cluster 1** is characterised by above-average labour force participation rates for both sexes and a low gender gap in the age group 15-24. The labour force participation rates of both sexes are above the unweighted European average in the remaining age groups while the gender gaps hardly differ from the EU mean. This type is very common in Austria, the Netherlands, Switzerland and the UK. **Cluster 2** that predominates in Germany and the Nordic countries is the type with the lowest gender gap; the female labour force participation rate is above the European average in all age groups. **Cluster 3** stands out with a below-average MLFP in all age groups and low gender gaps in the age groups 15 to 24 and 25 to 34. The female labour force participation is moderately below the unweighted EU mean in the youngest age group and average in the age group 25 to 34, but very low in the older age groups. This results in rather high gender gaps in the older age groups. This pattern suggests that gender roles are in transition and that the traditional breadwinner/ homemaker model is increasingly replaced by a dual earner model in the younger age groups. Cyprus, Ireland, Lithuania, Wallonia and the majority of the Spanish NUTS2 regions belong to cluster 3.

## Typology of gender differences on the labour market 2008



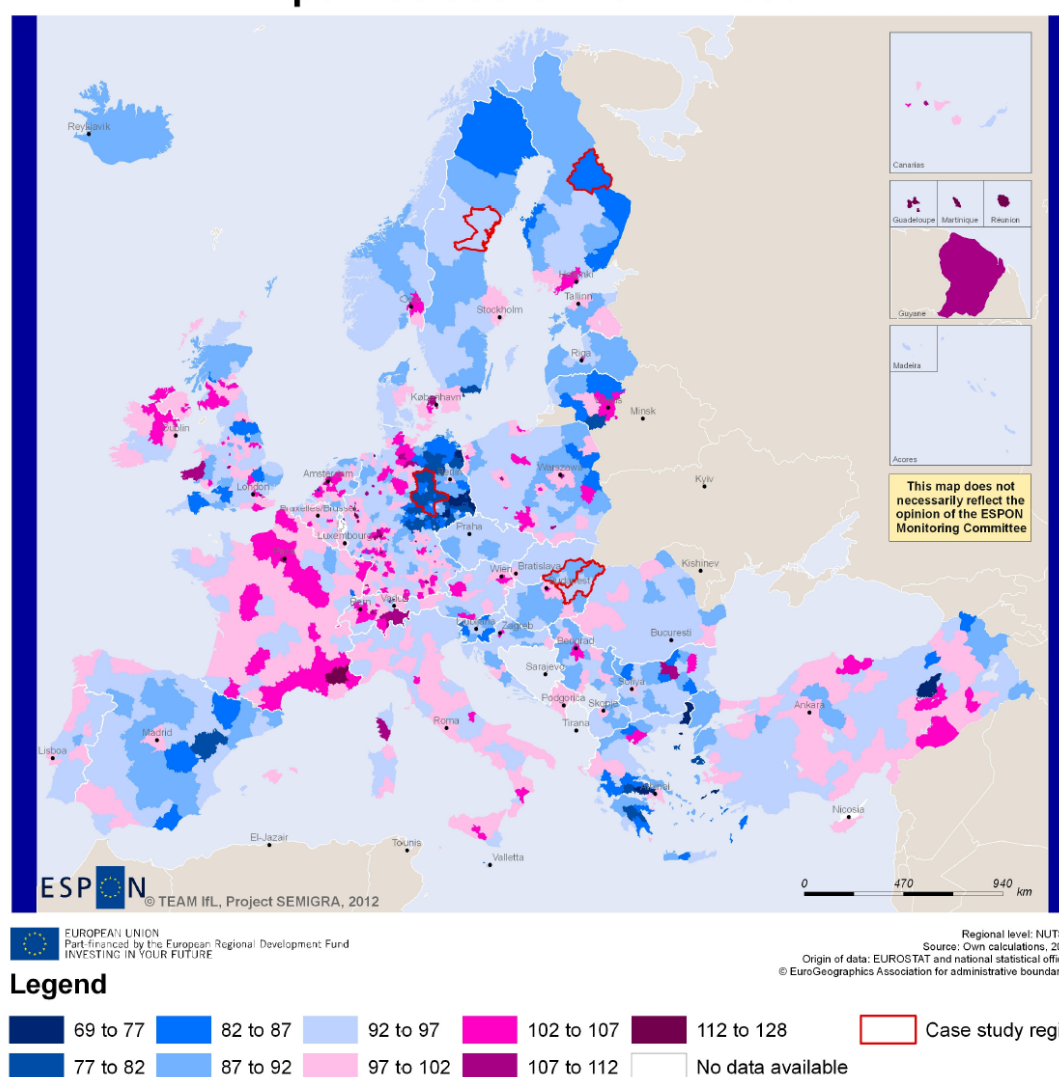
**Map 8: Typology of the gender gap on the labour market 2008. Source: Own calculations**

**Cluster 4** features low labour force participation of both sexes in the youngest age group – possibly because of a high proportion of young people attending higher education (Figure 5). The labour force participation of women is well and of men slightly above the unweighted European average, hence gender gaps are relatively low. This type is very common in



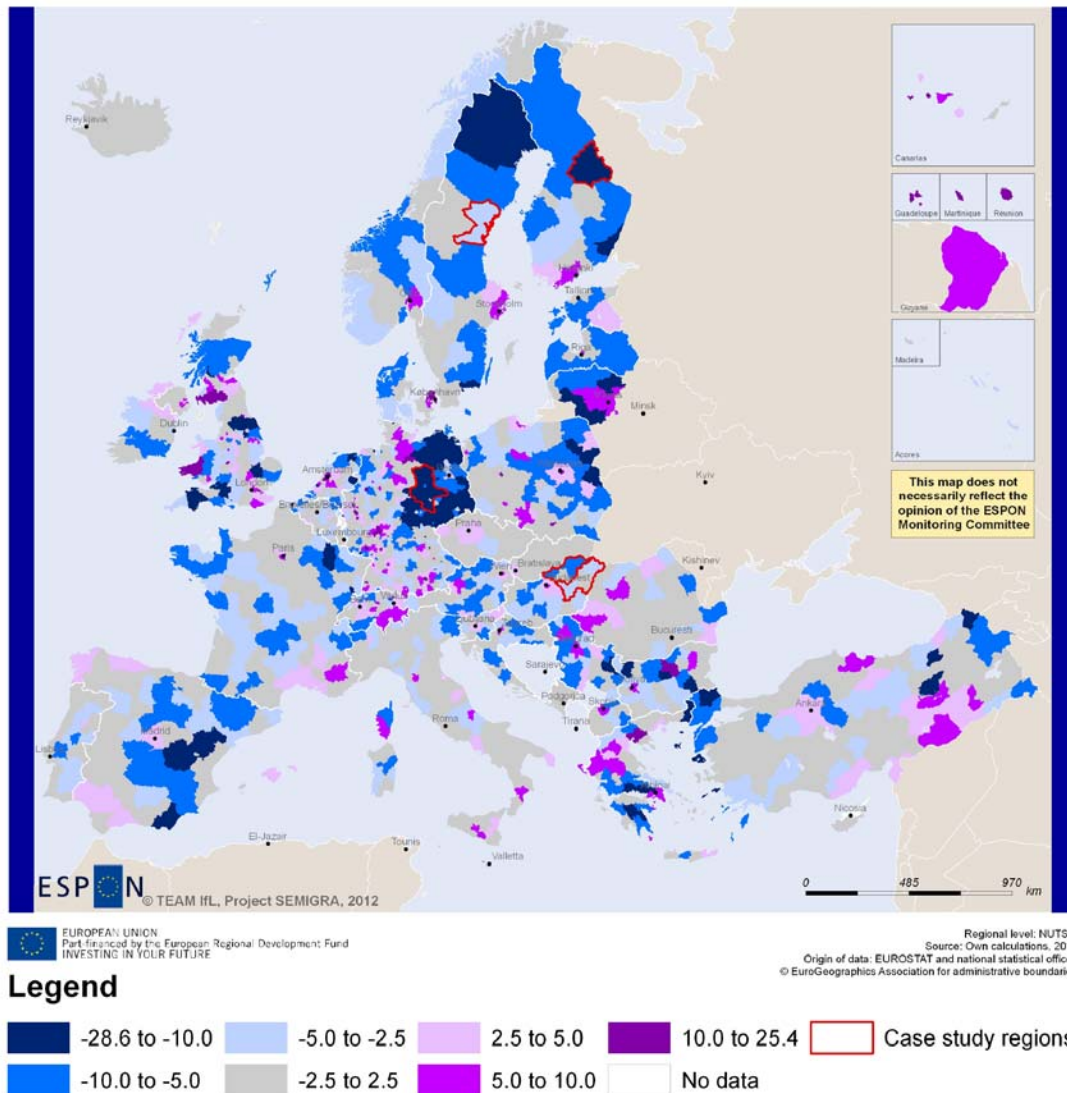
Estonia, Flanders, France, Latvia, Portugal and Slovenia. **Cluster 5** containing most of the Czech, Greek, North Italian and Slovak regions is characterised by an above-average MLFP in all but the youngest age groups, generally low female labour force participation and a high gender gap. In **cluster 6**, the labour force participation rates are far below the European average. This type features the lowest female labour force participation rates in the ESPON area, hence the gender gap is relatively high. This type dominates in Bulgaria, Hungary and Romania. A very low MLFP in the age groups 25 to 34 and/ or 35 to 44 is interpreted as an indicator for a weak regional economy and pronounced labour market imbalances. These regions – that were excluded from the calculation of the cluster analysis – have been allotted to the type “underemployment”.

### Number of women in the age group 25 to 29 per 100 coeval men in 2008



**Map 9: Number of women in the age group 25 to 29 per 100 coeval men 2008. Own calculations; data source: EUROSTAT (2010) and national statistical offices**

## Deviation of the sex ratio in the age group 25 to 29 from the national mean in % in 2008



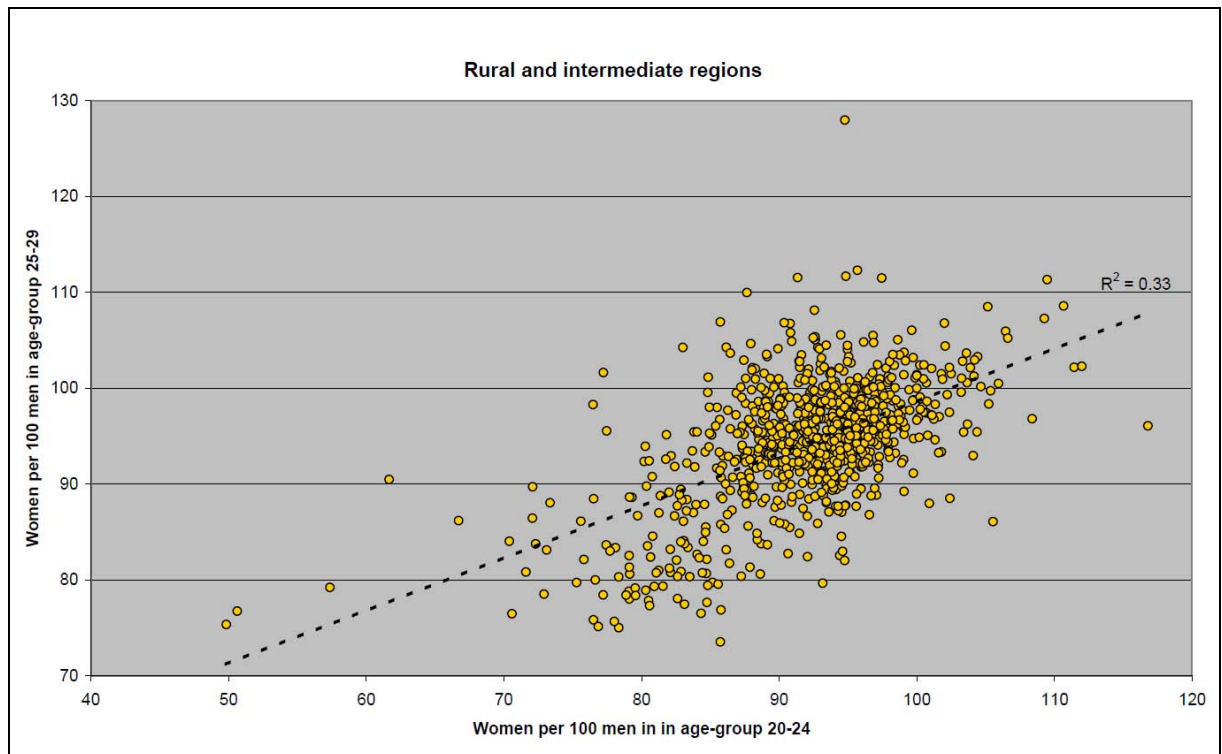
**Map 10: Age group 25-29: Deviation of the regional sex ratios from the respective national mean in % 2008. Own calculations; data source: EUROSTAT (2010) and national statistical offices**

Map 9 and Map 10 confirm our initial assumption about the transitory character of the regional sex-ratio patterns in the age group 25 to 29. There is still a significant “surplus” of women in the main urban centres and NUTS3 regions with important educational facilities, but we can also notice a ‘re-feminisation’ of the countryside, especially in France and Italy. The spatial patterns of this ‘re-feminisation’ in other Western European countries, e.g. in Austria, Denmark, Germany, the Netherlands or the UK suggest that the suburban hinterlands of the metropolises are the initial points of this process. The situation in Hungary, Poland and the Baltic states is reversed. Regional disparities are more pronounced than in the age group 20 to 24 and a trend of further masculinisation can be observed. The exceptional position of Eastern Germany with regard to un-

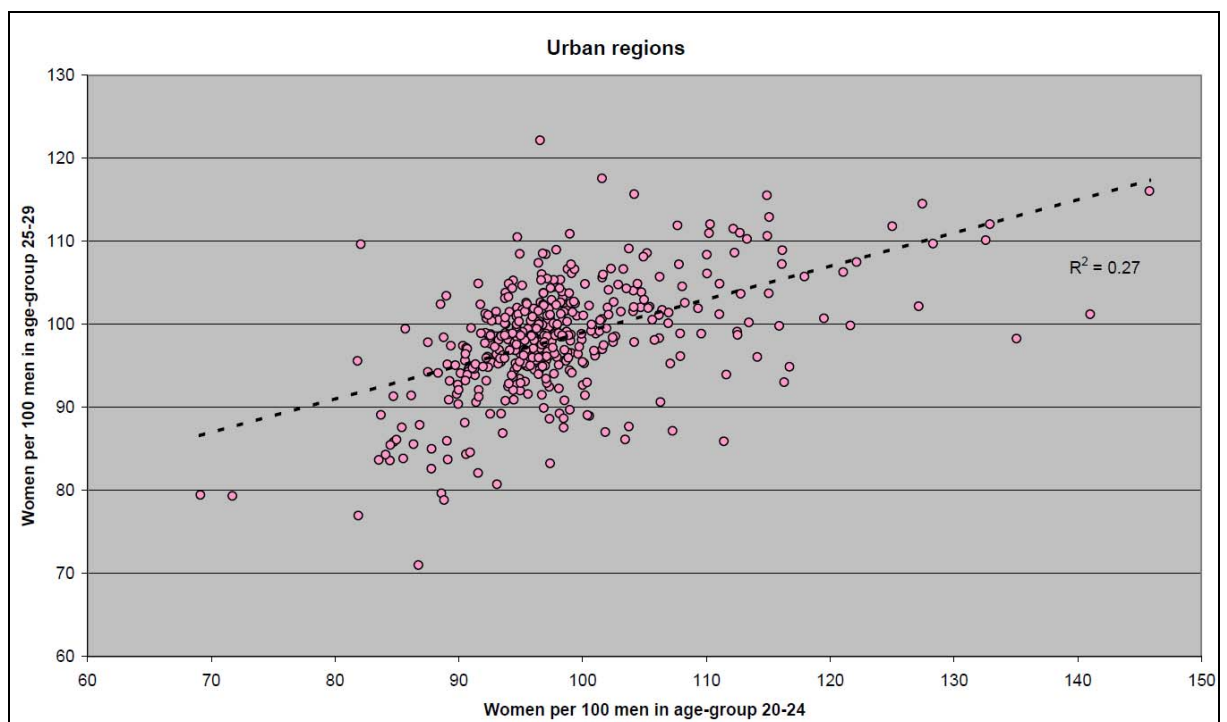
balanced sex-ratio structures is also clearly discernible in the age group 25 to 29.

With regard to the typologies, we can conclude that the regions in cluster 2 of the labour market typology (regions with a diversified economy and a strong “modern” service sector) are often characterised by a “surplus” of women in their late 20s. There is, however, no clear trend that regions with ‘male-oriented’ labour markets (cluster 3) are characterised by a “deficit” of women. The possible explanation for this finding is that cluster 3 dominates in countries with a weak sex ratio in all age groups and low female labour force participation which implies that women are generally economically more dependent on their parents and partners which reduces their spatial mobility. There is no obvious link between the typology of gender differences on the labour market and regional sex-ratio imbalances in the age group 25 to 29. In Poland, we even find the strongest “deficit” of women in regions with the most equal labour markets. This may be due to the more general nature of the typology, but can also be the result of cross-country cultural differences. In a next step, we will conduct a regression analysis with a variety of economic indicators to examine our initial hypothesis that unbalanced sex ratios with a “surplus” of young men are an indicator for territorial fragility. So far, we can neither confirm nor reject this assumption. The relationship between the economic situation of a rural region and the migration behaviour of young women and men also depends on the respective national context which implies that it is not necessarily possible to answer this research question with a definite “yes” or “no”.

If we compare the regional sex-ratio patterns in the age groups 20 to 24 and 25 to 29, we find that there is a tendency for regions with high or low sex ratios in the younger age group to also have high or low sex ratios in the older group both in rural and urban regions (Figure 8, Figure 9). The statistical relationship is, however, not very strong. This pattern underlines the transitory character of this age group. The sex-ratio patterns of the age group 20 to 24 influenced by education and labour market entry are still observable, but gradually give way to the patterns of the age group 30 to 34 that are determined by family formation and residential preferences.



**Figure 8: Scatter plot of the regional sex ratios in the age groups 20 to 24 and 25 to 29 in rural and intermediate regions of the EEA 31 states. Own calculation.**



**Figure 9: Scatter plot of the regional sex ratios in the age groups 20 to 24 and 25 to 29 in urban regions of the EEA 31 states. Own calculation.**



## 5. Age group 30 to 34: Founding a family

According to the ideal typical life course, young people in their early 30s have already completed their education, gained work experience, found a permanent job and are now ready to settle down and have children. After having established oneself in the labour market and having reached a satisfactory income level, the relative importance of living conditions increases. Housing standard and the geographical setting of the residence gain importance at the expense of factors oriented purely towards 'making a living' (LINDGREN 2003). Hence, migration patterns in this stage of life should be determined by the availability of high-quality housing in an attractive landscape.

Residential mobility of couples in their 20s and early 30s, especially moves into home-ownership, is frequently connected to a coming birth or concrete plans to have a(nother) child. There are several motivations to relocate for prospective parents. The current accommodation or neighbourhood may be too small, too expensive or not suitable for children. Some couples may also think that the city is not a good place to raise children and plan on moving to suburban or rural regions. In public perception, rurality is frequently linked to the concept of the "rural idyll". Rural regions are seen as traditional, sometimes sleepy problem-free and nature-oriented places with closely-knit communities. Social problems, e.g. poverty, crime or homelessness are, on the other hand, perceived as characteristically urban. The urban, both as a nightmare and a dream is imagined as the antithesis of rurality (YARWOOD 2005). Occupational considerations are usually of minor importance when people decide to move to peripheral rural regions. Migration is primarily motivated by lifestyle considerations, e.g. the desire to live in harmony with nature in a quiet, safe place with a close-knit community and tight neighbourly relationships (LINDGREN 2003, RIVERA ESCRIBANO 2007). With respect to the question of whether to return to one's childhood home or not, social networks may play an important role. People with children tend to live closer to their parents. Recent research has shown that moves towards adult children or parents are usually induced by the need for assistance or contact. In many cases, it is the younger generation that moves close to the older generation, especially in rural regions and when siblings still live close to the parental home (MICHIELIN & MULDER 2007; MULDER & COOKE 2009; SMITS 2010). Other examples of how social networks and individual biographies influence migration behaviour and residential choice include the inter-generational transmission of homeownership through gift-giving and socialisation (HELDERMAN & MULDER 2007) and the fact that the place of birth plays a decisive part in shaping preferences for a specific residential environment later in life. FEIJTEN et al (2008) show that people born in rural

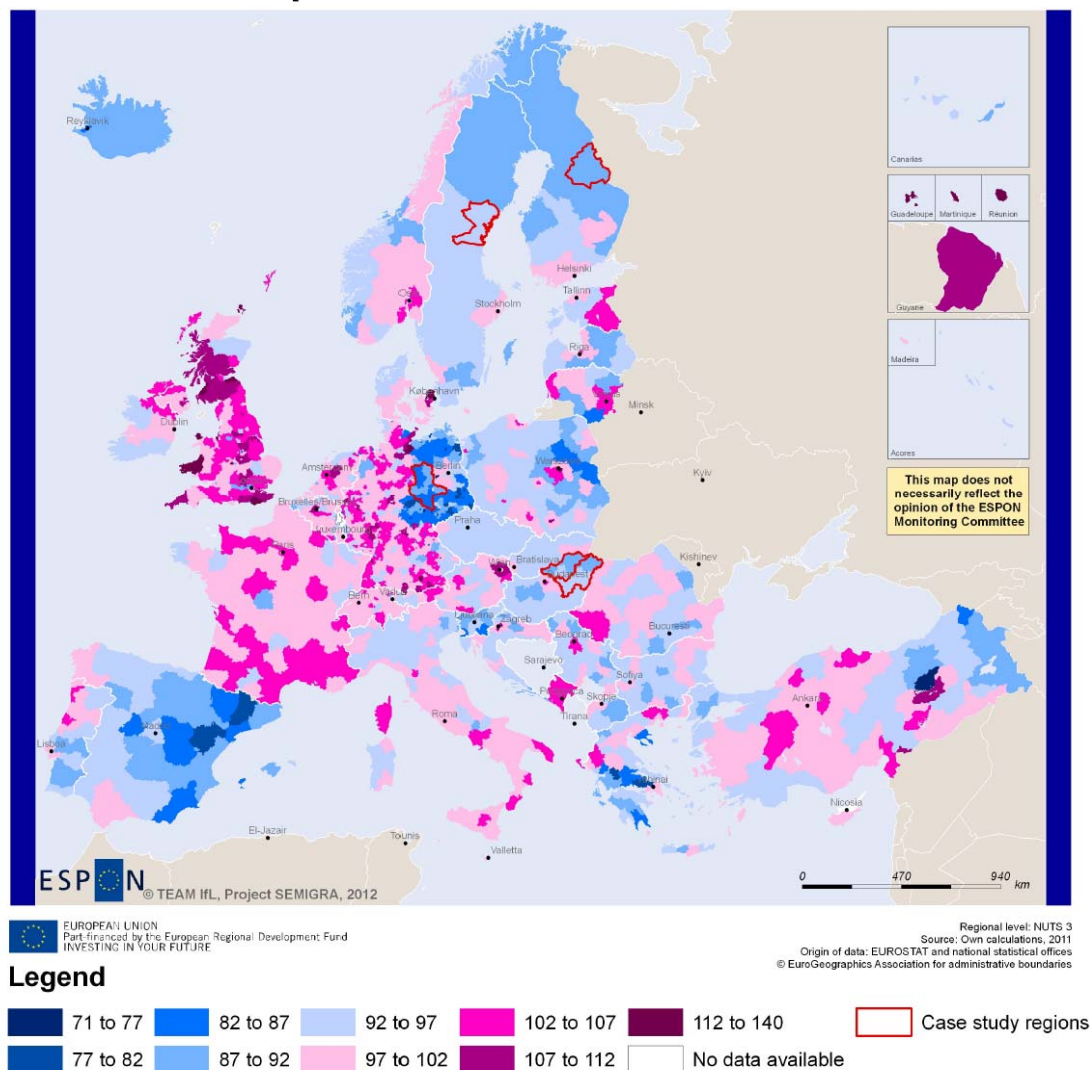
and suburban areas develop a preference for rural living later in life. A reason why people return to the type of residential environment of their childhood may be the attempt to recreate elements from one's childhood which provides continuity and a sense of security over one's life-course. The individual concept of 'rurality' is, however, rather general and not tied to the place where they grew up in many cases, which means that they may not return to their hometown but move to more accessible rural regions with better infrastructure facilities and labour market conditions instead. In this sense, it seems that suburban areas are "rural enough" for most people. In these regions, one can settle in a rural environment that is safe and valuable to children and maintain contact with the urban labour market at the same time (HJORT & MALMBERG 2006).

A large body of literature exists which shows that family migration is usually to the benefit of the man's career. Women's economic status – on the other hand – tends to suffer as a result of family migration. They are less likely to be employed, work shorter hours and have smaller incomes. Family migration appears to be only weakly influenced by economic rationale and more by lifestyle considerations or the desire to be near family members, in particular parents and siblings. Overall, family migration to rural and suburban areas seems to strengthen "traditional" gender roles and to reinforce the position of the man as the main breadwinner of the family (BOYLE et al 2006).

It has to be noted that there seems to be a trend towards re-urbanisation in Europe. This is e.g. reflected in a growing tendency for young families to stay in the inner city at least as long the children are small. The pluralisation of household and living arrangements and the spread of 'non-traditional' family forms further fuel this trend to return to or stay in the city (BUZAR et al 2007; MULDER & COOKE 2009). With regard to the gendered nature of family migration mentioned above, we can assume that more family-oriented women with a preference for traditional gender roles will be more likely to move to rural and suburban regions, while career-oriented women and couples with more egalitarian gender role models stay in the urban areas. This "sorting" of people will also determine whether rural regions with a "deficit" of women in their 20s can profit economically from re- and in-migration. The in-migration of skilled and qualified persons is, as mentioned above, vital for rural regions. However, the expectations of in-migrants influence their subsequent behaviour, which means that the individual perception of a rural destination will influence the likelihood that individuals wanting to set up a company or invest their cultural, economic and social capital in the countryside move there or to another rural region. BOSWORTH and WILLETT (2011) opine that regions commonly regarded as 'rural idylls' may attract people looking for

an 'escape from modernity': *"Inward migrants are not enthused by ideas of developing their businesses or economic position, but rather their own, personal, individual happiness. This moves around the notion of the rural idyll which constructs the region as being outside of the progress of modernity, and attracts migrating businesses equally happy to trade off 'progress' for lifestyle"*. According to BOSWORTH and WILLETT, the perception of a place as being outside of the modern world contains in itself the danger that this also applies to the local population i.e. an attractive image of place creates unattractive images of the people.

### Number of women in the age group 30 to 34 per 100 coeval men in 2008



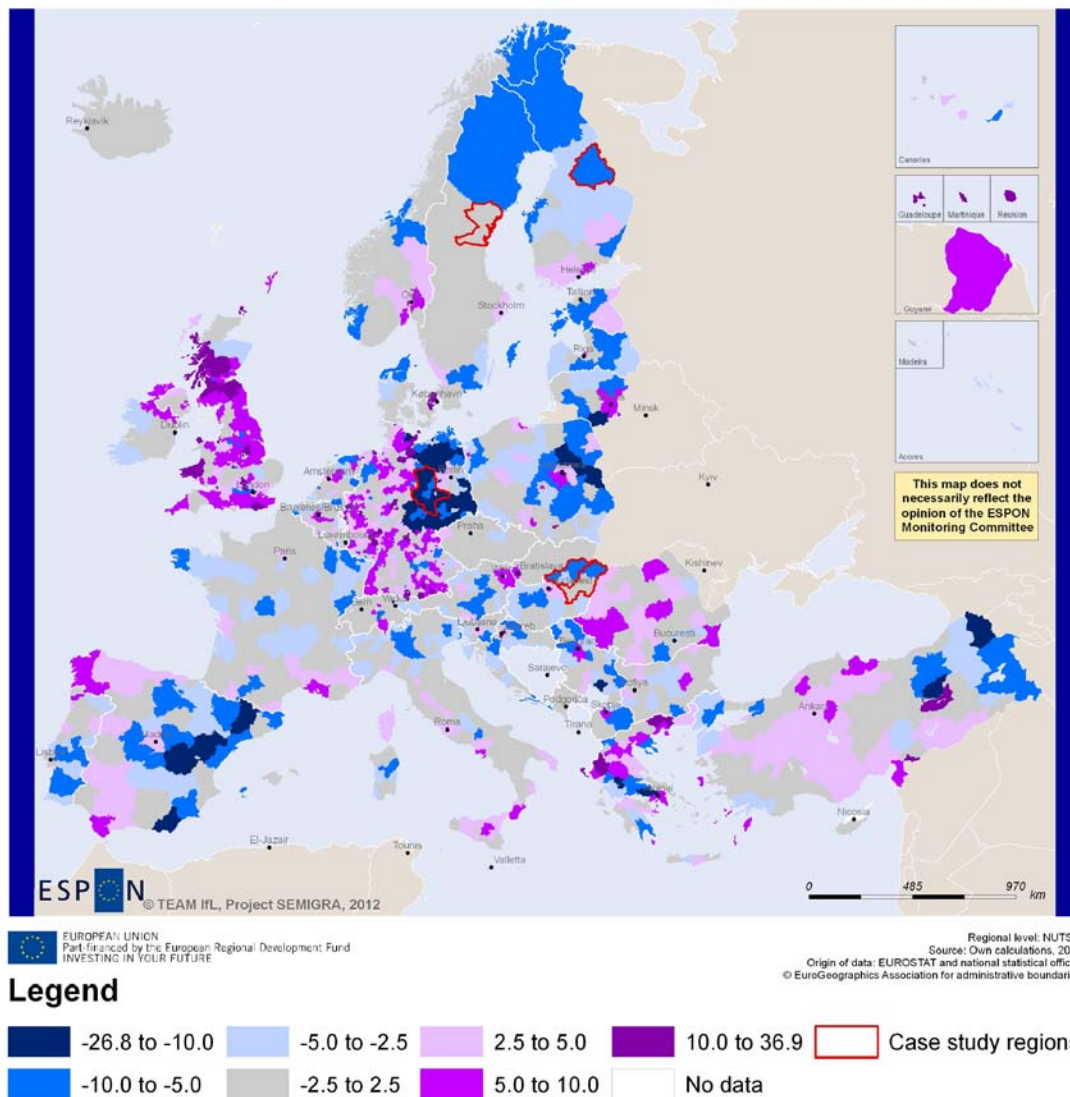
**Map 11: Number of women in the age group 30 to 34 per 100 coeval men 2008. Own calculations; data source: EUROSTAT (2010) and national statistical offices**

To conclude, we can expect that regional sex-ratio patterns in the age group 30 to 34 are strongly influenced by family formation and parenthood. 'Non-traditional' households will remain in the central cities, while individuals and couples with more conventional family and gender role

models tend to move to rural and suburban regions. In this sense, we can assume that labour markets offering attractive and well-paying career opportunities for men (e.g. in the second sector) as well as a variety of occupational opportunities for women may be the most attractive in this age group. If one of the partners is willing to commute, accessible regions with a well-developed infrastructure may also attract young families. However, economic factors tell only half the story. Individual aspects, e.g. the presence of relatives, a rural socialisation, or a high appraisal of home-ownership will also influence migration decisions in this age group. Gender role attitudes may also be important. Traditional gender roles are both an aspect and a pre-condition of the 'rural idyll'. This image is used by many rural and intermediate regions and municipalities to attract new inhabitants, especially young families (GRIMSRUD 2011). The downside of branding rural communities as calm, traditional, even anti-modern places is, however, that in-migration may stabilise the demographic development, but fail to invigorate the economy and that a negative 'hillbilly image' is assigned to the region and its inhabitants.

Map 11 and Map 12 confirm that there is indeed a trend that the low sex ratios in the age groups 20 to 24 and 25 to 29 even out as people form stable partnerships and have children, but only in Western Europe. The gap between "female" cities and a "male" countryside is still the dominant spatial pattern in the post-socialist states with the exception of Eastern Germany where we can observe a slight "surplus" of women in the rural districts neighbouring Berlin to the West. The "return" of women in a later stage of life is very pronounced in the UK, for example in the Highlands and Islands region in Scotland which is characterised by very low sex ratios in the age group 20 to 24 and a marked "surplus" of women in their early 30s. Similar trends can be observed in Western Germany and Greece. The "re-feminisation" of the countryside primarily affects well-accessible regions and rural and intermediate regions with minor urban centres. Peripheral, old-industrialised and economically weak regions also tend to have at least a relative "surplus" of men in this age group. Accessible intermediate and rural areas may be perceived as a compromise between the good job and earning potentials in major urban centres and the ideal to offer one's children a "perfect childhood" like the one oneself had. The "surplus" of women in the major urban centres that was a typical feature of the regional pattern of sex-ratio imbalances in the age groups 20 to 24 and 25 to 29 is less pronounced in the age group 30 to 34 or has even turned into a slight "deficit" (e.g. Berlin, Hamburg, London, Nottingham or Oslo).

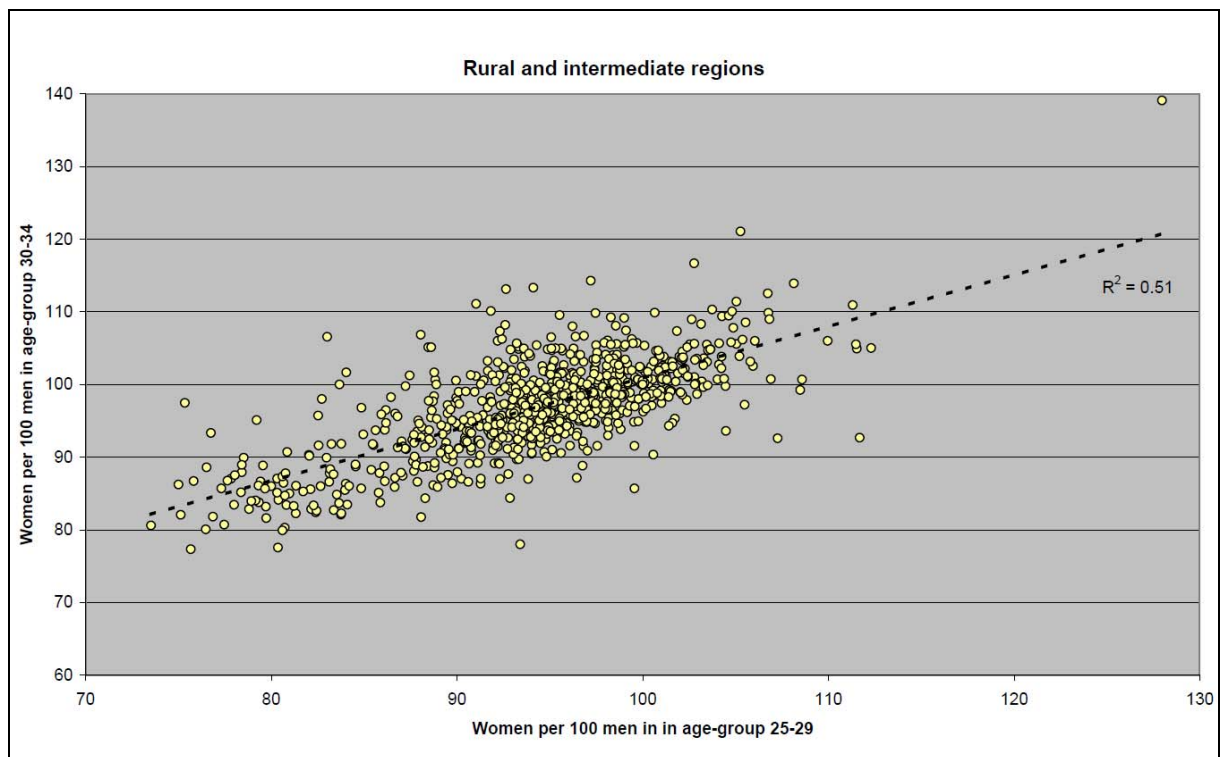
## Deviation of the sex ratio in the age group 30 to 34 from the national mean in % in 2008



**Map 12: Age group 30-34: Deviation of the regional sex ratios from the respective national mean in % 2008. Own calculations; data source: EUROSTAT (2010) and national statistical offices**

The maps also illustrate the regional disparities in the sex-ratio decline in the age group 30 to 34, especially in France, Norway and Sweden. The exceptions to this rule are Spain and the post-socialist states. The stronger regional sex-ratio imbalances in the older age groups are a result of the “surplus” of men among in-migrants in the case of Spain. In Eastern Europe, the ‘administrative glitch’ mentioned in the Észak-Alföld case-study is a possible explanation for why the sex ratio decreases with age – in contrast to the Western part of the continent. Eastern Germany is still a special case with an extremely high “deficit” of women in almost all rural and intermediate districts – with the exception of the Northern, Southern and Western hinterland of Berlin. Women not returning or moving in in their early 30s – which is the case in many rural and intermediate regions

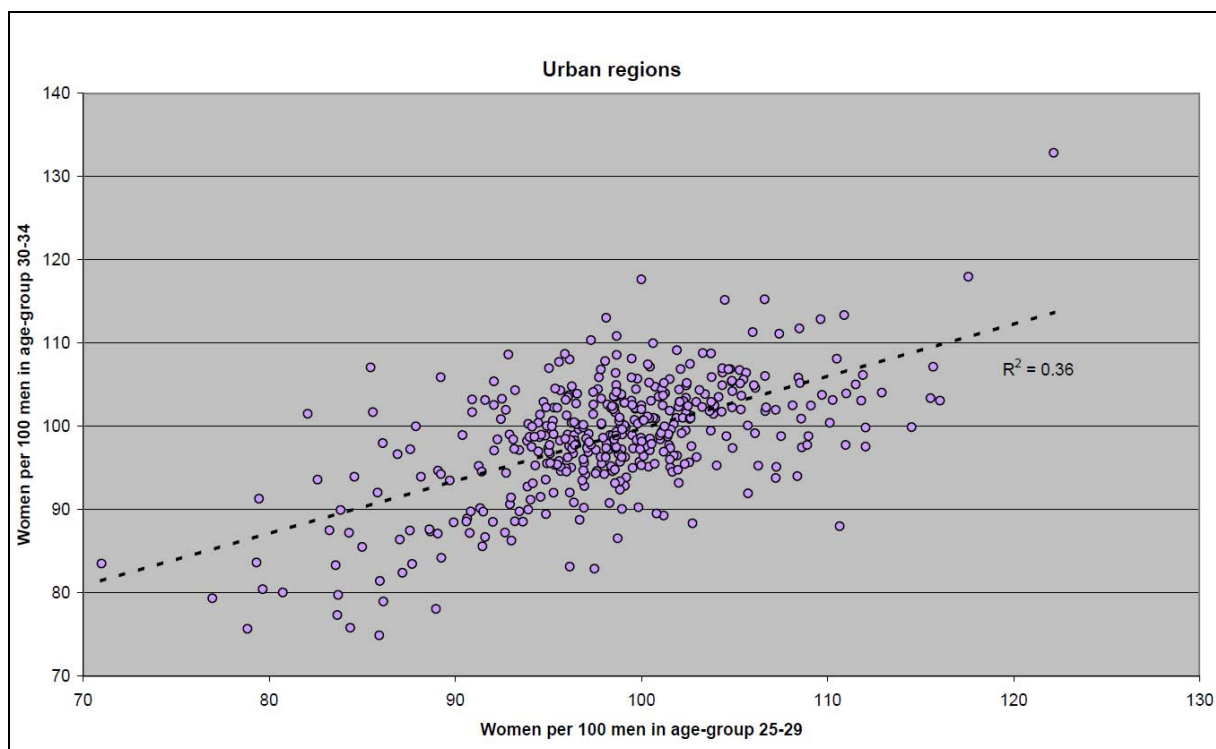
in Western Germany – aggravates the demographic problems of the New Federal States. A strong “deficit” of women in the most fertile age group lowers the regional reproductive potential and accelerates depopulation and ageing.



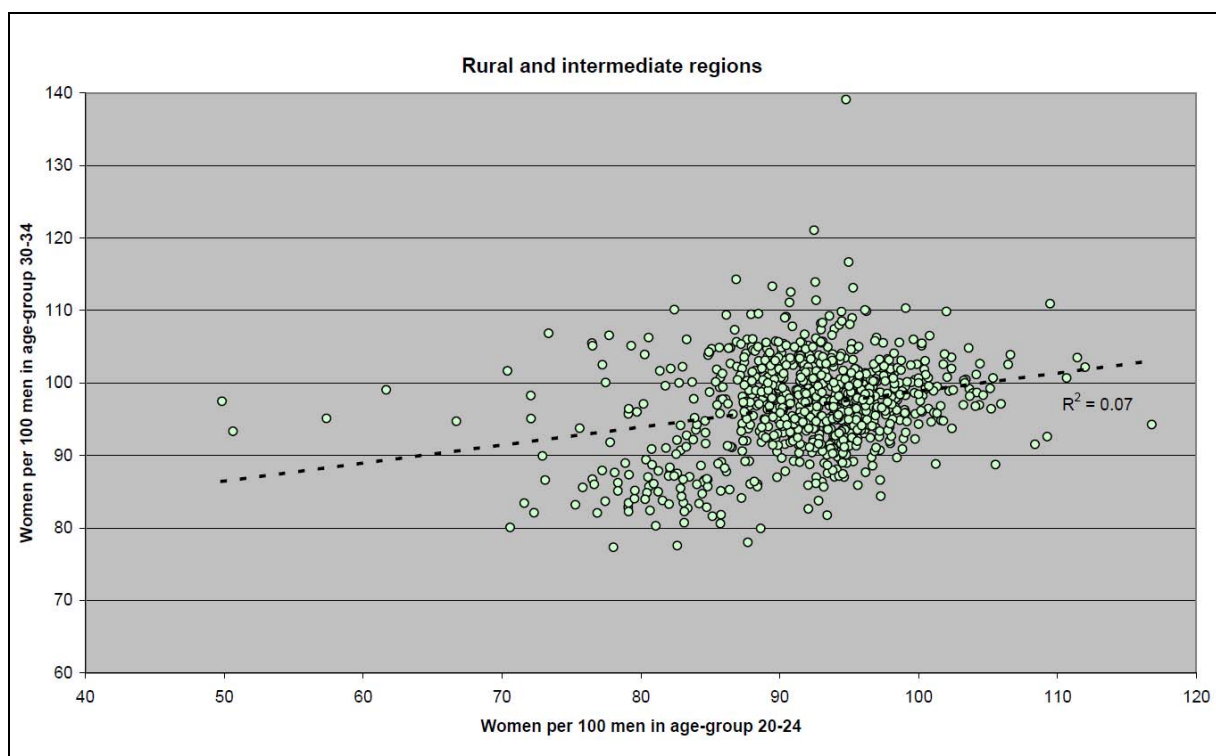
**Figure 10: Scatter plot of the regional sex ratios in the age groups 25 to 29 and 30 to 34 in rural and intermediate regions of the EEA 31 states. Own calculation.**

Figure 10 indicates that rural and intermediate regions which are attractive for women in their late 20s are also attractive for women in their early 30s. The same pattern is also discernible in urban areas (Figure 11), although to a lesser extent. The sex-ratio patterns in the age groups 20 to 24 and 30 to 34 are, however, statistically independent (Figure 12, Figure 13). This underlines that residential preferences of women change during the life-course and that the age group 25 to 29 can be characterised as a transitional period where both educational and occupational factors that are the most important determinants of migration in the age group 20 to 24 and family-related considerations that strongly influence the decision to relocate in the age group 30 to 34 overlap and create a somewhat fuzzy spatial pattern of sex-ratio imbalances.

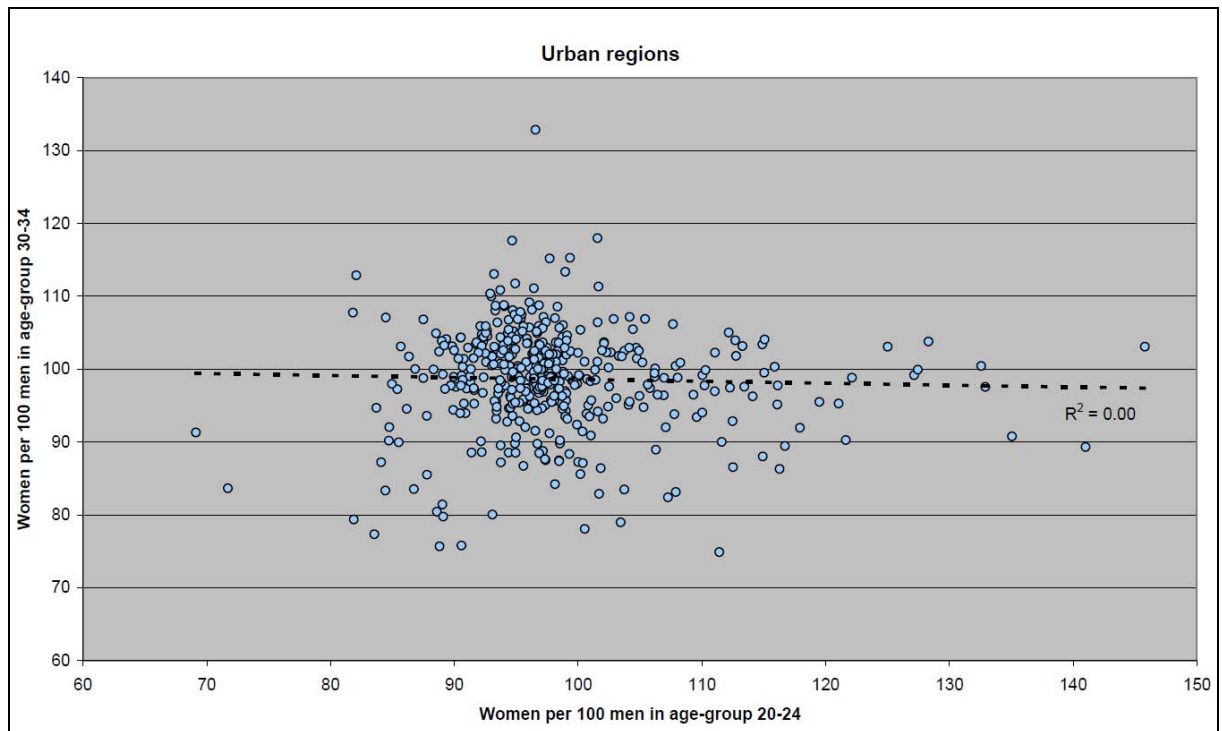




**Figure 11: Scatter plot of the regional sex ratios in the age groups 25 to 29 and 30 to 34 in urban regions of the EEA 31 states. Own calculation.**



**Figure 12: Scatter plot of the regional sex ratios in the age groups 20 to 24 and 30 to 34 in rural and intermediate regions of the EEA 31 states. Own calculation.**



**Figure 13: Scatter plot of the regional sex ratios in the age groups 20 to 24 and 30 to 34 in urban regions of the EEA 31 states. Own calculation.**



## 6. A typology of regional sex ratio patterns

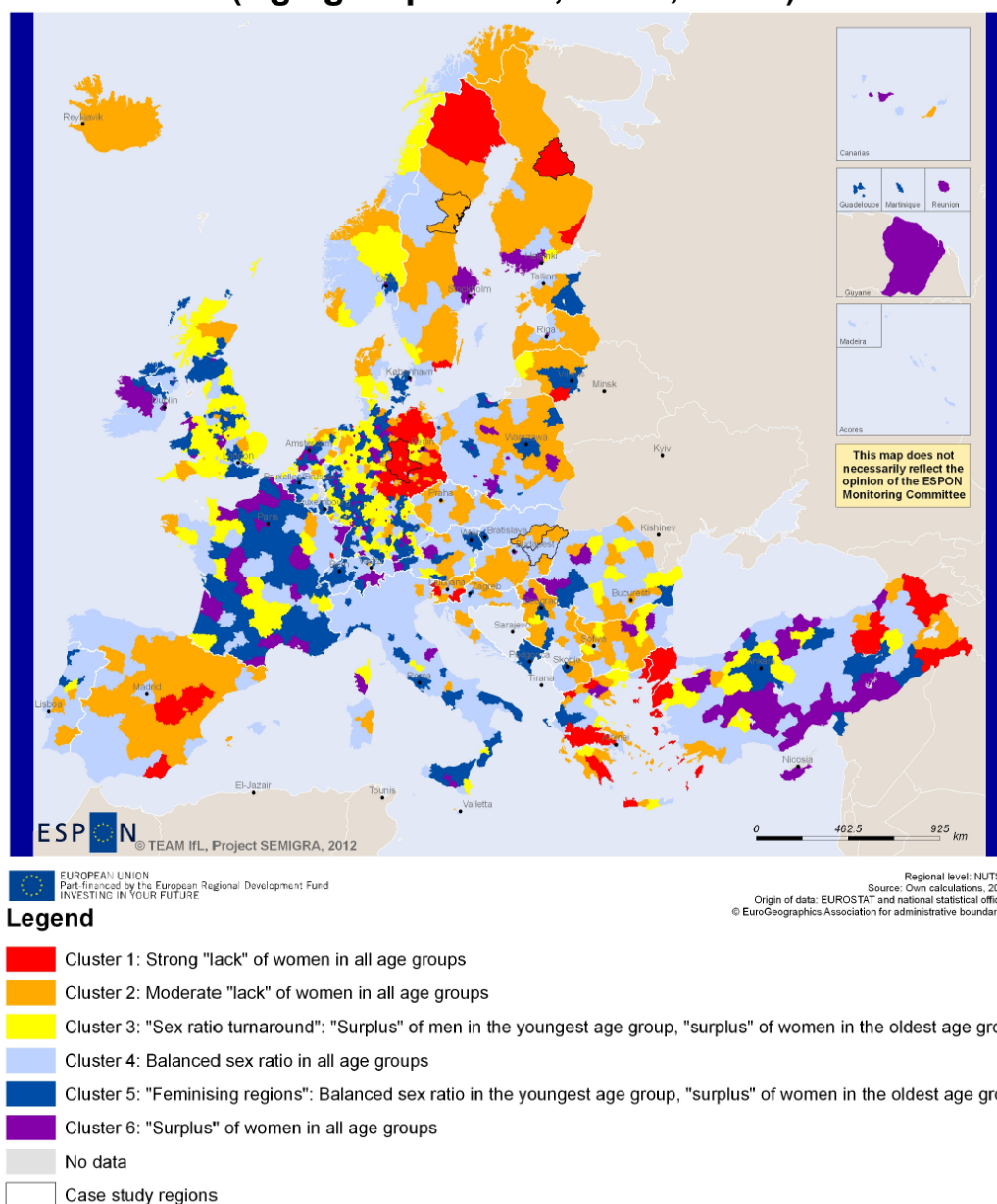
It has become clear that there are more or less pronounced differences in the spatial pattern of regional sex ratio imbalances in the analysed age groups and that the economic and non-economic influencing factors we have discussed so far are highly dependent on the respective national and cultural context. We have developed a typology of regional sex ratio patterns at the NUTS3 level in order to make this complexity more comprehensible. The variables used for the calculation of the cluster analysis were the number of women per 100 men in the age-groups 20 to 24, 25 to 29, and 30 to 34 (Map 13, Table 3).

**Cluster 1** (n= 116) stands out with a massive “deficit” of women in all age-groups. Cluster 1 is predominantly rural and consists largely of consumption countryside regions (Table 4). 60% of the regions are located in Eastern Germany. The concentration of regions with extremely unbalanced sex ratios in the New Federal States suggests that Eastern Germany is a special case and that the reasons for the strong “deficit” of young women are connected to the German Reunification. In addition to the pronounced economic gap between Western Germany and the former GDR e.g. regarding youth unemployment or income, there are still large cultural differences e.g. regarding the labour force participation of mothers with small children (LEIBERT 2009; STÖBEL-RICHTER & BRÄHLER 2005). The “surplus” of men in the urban regions belonging to this cluster that are located outside Eastern Germany can be attributed to specific local circumstances like the existence of important technical universities (e.g. Aachen [DE] and Delft en Westland [NL]; see above) or naval bases (e.g. Wilhelmshaven [DE]). Of the case study regions, Kainuu and all rural districts of Sachsen-Anhalt belong to this type.

	Women per 100 men in the age-group			Number of regions
	20 to 24	25 to 29	30 to 34	
Cluster 1	78.4	82.4	86.1	116
Cluster 2	92.2	90.2	91.6	256
Cluster 3	89.5	93.7	101.0	217
Cluster 4	96.4	96.5	96.4	461
Cluster 5	94.2	101.3	104.5	288
Cluster 6	107.8	103.7	99.9	147
Mean EEA 31	96.5	97.4	97.5	1485
	Value more than 10% below EEA 31 mean			
	Value 5.0 to 10.0% below EEA 31 mean			
	Value 2.5 to 5.0% below EEA 31 mean			
	Value 2.5 to 5.0% above EEA 31 mean			
	Value 5.0 to 10.0% above EEA 31 mean			
	Value more than 10% above EEA 31 mean			

**Table 3: Typology of regional sex ratio patterns: Cluster characteristics.** Source: Own calculation.

## Typology of regional sex ratio structures in young adulthood (Age groups 20-24, 25-29, 30-34)



**Map 13: Typology of regional sex-ratio structures. Source: Own calculations**

**Cluster 2** (n= 256) is characterised by a moderate "deficit" of women in all age-groups. Rural regions – both accessible and remote – are overrepresented as are agrarian regions while urban areas and regions with a diversified economic structure and a strong service sector are underrepresented. This confirms our assumption that a 'male-oriented' economic structure is an important explanation for sex ratio imbalances. Cluster 2 is very common on the Iberian Peninsula, in Scandinavia and Eastern Europe. Västernorrland, the urban districts of Dessau-Roßlau and Magdeburg in Sachsen-Anhalt as well as three of the six counties of Észak-Alföld

and Észak-Magyarország (Borsod-Abaúj-Zemplén, Nógrád, and Szabolcs-Szatmár-Bereg) belong to cluster 2.

EDORA structural type	Number of NUTS-3 regions in cluster						total
	1	2	3	4	5	6	
Predominantly urban	15%	19%	22%	30%	43%	67%	32%
Agrarian	17%	33%	11%	19%	6%	3%	16%
Consumption	56%	36%	48%	32%	26%	17%	34%
Diversified-industry	7%	8%	8%	9%	5%	2%	7%
Diversified-service	6%	4%	10%	11%	20%	12%	11%
Total	100%	100%	100%	100%	100%	100%	100%

EDORA urban/rural type	Number of NUTS-3 regions in cluster						total
	1	2	3	4	5	6	
Predominantly urban	15%	19%	22%	30%	43%	67%	32%
Intermediate accessible	35%	24%	42%	36%	39%	23%	34%
Intermediate remote	1%	3%	2%	2%	1%	2%	2%
Rural accessible	29%	30%	24%	21%	10%	6%	20%
Rural remote	20%	24%	10%	11%	6%	2%	12%
Total	100%	100%	100%	100%	100%	100%	100%

**Table 4: Typology of regional sex ratio patterns: Percentage of NUTS3 regions per cluster by accessibility and economic structure. Source: Own calculation.**

**Cluster 3** (n=217) is characterised by a sex ratio that increases with age. In the age-group 20 to 24 there is a pronounced “surplus” of men, which turns into a “deficit” in the age-group 30 to 34. Cluster 3 consists largely of intermediate regions and is very common in Western Germany and the UK. Accessible regions in the consumption countryside are overrepresented. Cluster 3 is a textbook example of the ‘ideal typical’ life course described above: Women leave in their early 20s to get an education and to enter the labour market. Around 30, they return or migrate to rural areas to found a family. The fact that cluster 3 accounts for only 15% of the NUTS3 regions emphasises that age- and sex-selective migration processes in Europe are far too complex for such a simplistic explanation.

In **cluster 4**, the number of women per 100 men is around the European average in all age-groups. This is the largest group (n=461) and more or less evenly distributed across countries as well as spatial, accessibility and economic categories.

**Cluster 5** (n=288) features a slightly below average sex ratio in the youngest age-group and a strong “surplus” of women in the older age-groups. This type is predominantly urban, but it is also well represented among the intermediate regions with a diversified economic structure with a strong private service sector.

**Cluster 6** (n= 147) is very attractive for women in their 20s, but less so for women between 30 and 34. Cluster 6 is predominantly urban and contains the capital regions of Finland, Hungary and Sweden as well as most of the major cities of Germany.

	Number of NUTS-3 regions in cluster							total
	1	2	3	4	5	6	no data	
Austria	0	4	2	18	7	4	0	35
Belgium	0	0	4	25	11	2	2	44
Bulgaria	0	13	7	6	0	2	0	28
Croatia	0	7	0	13	1	0	0	21
Cyprus	0	0	0	0	0	1	0	1
Czech Republic	0	7	0	7	0	0	0	14
Denmark	0	2	3	1	4	1	0	11
Estonia	0	2	0	1	2	0	0	5
Finland	2	12	1	3	0	2	0	20
France	1	2	15	19	41	22	0	100
FYR Macedonia	0	4	0	3	1	0	0	8
Germany	73	50	94	64	92	56	0	429
Greece	16	14	7	10	3	1	0	51
Hungary	0	11	0	8	0	1	0	20
Iceland	0	2	0	0	0	0	0	2
Ireland	0	0	0	4	1	3	0	8
Italy	0	5	4	74	22	2	0	107
Latvia	0	4	0	1	0	1	0	6
Liechtenstein	0	0	0	1	0	0	0	1
Lithuania	1	5	2	0	2	0	0	10
Luxembourg	0	0	0	0	1	0	0	1
Malta	0	1	0	1	0	0	0	2
Montenegro	0	0	0	0	1	0	0	1
Netherlands	1	5	11	7	9	7	0	40
Norway	0	4	5	8	1	1	0	19
Poland	0	16	0	34	9	7	0	66
Portugal	0	3	1	22	4	0	0	30
Romania	0	8	6	22	4	2	0	42
Serbia	0	13	1	8	2	1	0	25
Slovakia	0	0	0	7	1	0	0	8
Slovenia	3	8	0	1	0	0	0	12
Spain	3	27	0	27	0	2	0	59
Sweden	2	10	1	6	0	2	0	21
Switzerland	0	1	1	11	11	2	0	26
Turkey	14	6	10	27	8	16	0	81
United Kingdom	0	10	42	22	50	9	0	133
Total	116	256	217	461	288	147	2	1487

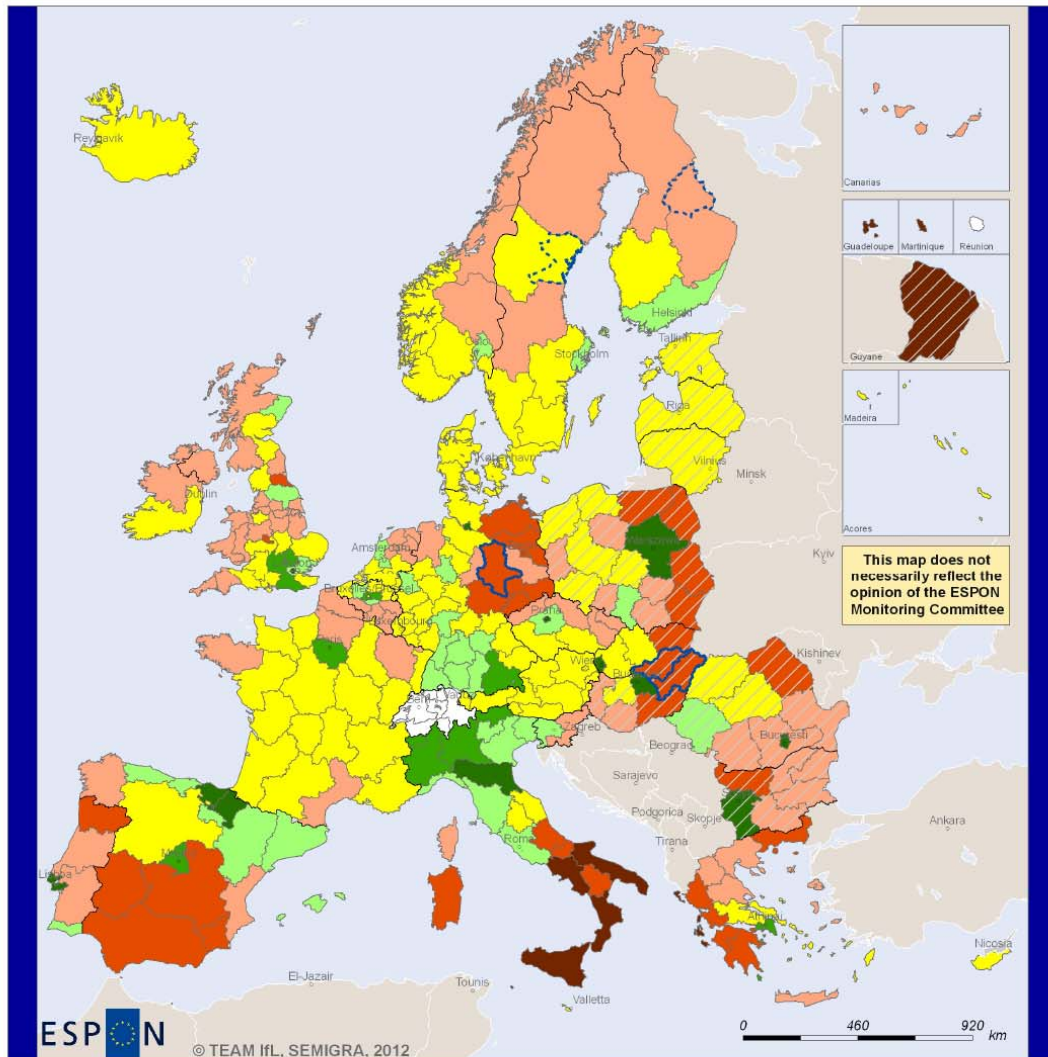
**Table 5: Typology of regional sex ratio patterns: Number of NUTS3 regions per cluster and country. Source: Own calculation.**

## **7. Conclusion**

As a conclusion, it shall be highlighted that numerous factors related to education, the labour market, the regional economic situation, but also culture and gender roles influence age- and sex-selective migration processes. It must be kept in mind that migrants are human beings and that they sometimes act in an economically sub-optimal way, that they are part of social networks that influence their decisions, that they are not fully informed about all possible options and that their behaviour is governed by values and norms. The national context also plays an important role. This paper shows that there are some pan-European trends in the regional pattern of sex-ratio imbalances, but that there are even more differences and national peculiarities. A mixed-method approach is indispensable to fully understand the migration patterns of young adults.



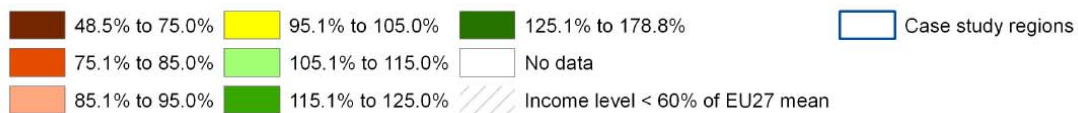
## Average regional household income in purchasing power parities relative to the national mean in 2008



EUROPEAN UNION  
Part financed by the European Regional Development Fund  
INVESTING IN YOUR FUTURE

Regional level: NUTS 2  
Source: Own calculations  
Origin of data: Eurostat, 2011  
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### Legend



**Map 14: Average regional household income in purchasing power parities per capita relative to the national mean (=100%) in 2008<sup>15</sup>. Own calculations; data source: EURO-STAT (2011)**

<sup>15</sup> Bulgaria, France, Norway: 2007

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