The minimum wages system in Belgium
The mismatch in Brussels' Region

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April 2015

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1.1 The minimum wages system in Belgium

"The Belgian wage setting system can be characterised by two main points. First of all, it is highly institutionalised, combining regulation with strict procedures for decision-making and encompassing the wage setting of nearly all employees. Secondly, it is free in the sense that voluntary agreements between employers and employees can be made at any level as long as lower level agreements respect employees' rights of higher level agreements. For example, any wage agreement at the company level cannot set wages below a sector or national agreement. The legal structure for this bargaining system has been in place since 1968.

This basic framework is key to understanding the policies regarding minimum wages in Belgium. Since 1975, the national minimum wage is determined by the National Labour Council (Nationale Arbeidsraad – Conseil National du Travail) by the social partners - the employers' and employees' representative bodies. Any agreement reached by the National Labour Council legally applies to all workers and employers, as if it were law, and can only be overruled in by-laws. It is worth noting that, in addition to the minimum wage, the social partners at the national level also agree on a maximum increase of wages (the so called 'wage norm'), which is, as a rule, non-binding but closely followed in lower level agreements.

The freedom of bargaining is mainly implemented and dominated by sector level agreements which are issued by joint committees. Extension of these agreements by the Ministry of Labour is common practice, so there exists an additional minimum wage for nearly all sectors (the exception being the joint committees for companies that are 'not elsewhere classified').

Sector-level collective bargaining forms the core of Belgium's minimum wage system, but the country differs from the Nordic or German models in that in Belgium a national statutory minimum wage plays an important role as well. The national minimum wage (salaire minimum interprofessionnel) is negotiated between the social partners in national councils (the Conseil central de l'economie and the Conseil national du travail). The sector-level agreements are negotiated in one of more than hundred Commissions Paritaires (sector Joint Committees). Given that these commissions are segregated by occupational status (in most sectors blue- and white-collar workers belong to separate commissions), workers at the same firm typically belong to several bargaining commissions and different minima may apply within the same firm. Public sector employees and apprentices are exempted from the national statutory minimum wage and are covered by specific agreements. At the national level, reduced rates have been defined for workers below 22.5 years (see interprofessional agreements CCT No. 43 and No. 50). Belgium's high collective bargaining coverage (around 96 per cent) stems from the practice that all collective agreements are extended to all workers by Royal Decree. "Vandekerkhove – 2014)

Considering the absolute level of the national minimum wage, , Belgium has one of the highest MW, but when calculating the Kaitz index (ratio of MW to the median wage, Belgium does not show significant differences with most of the European countries where a national minimum wage exists, as it appears in the following table by EUROSTAT (Februari 2015)

Minimum wages in the EU
(in € per month)

	1st January 2008	1st January 2014	1st January 2015	Change 2015/2008[5]	Proportion of the median earnings (2010)[6]
Belgium	1 310	1 502	1 502	15%	51%
Bulgaria	112	174	184	64%	50%
Czech Republic	300	310	332	11%	40%
Denmark	-	-	-	-	-
Germany[2]	-	-	1 473	-	49%
Estonia	278	355	390	40%	40%
Ireland[2]	1 462	1 462	1 462	0%	48%
Greece	794	684	684	-14%	51%
Spain	700	753	757	8%	41%
France[2]	1 280	1 445	1 458	14%	60%
Croatia	380*	396	396	4%	47%
Italy	-	-	-	-	-
Cyprus	-	-	-	-	-
Latvia	230	320	360	57%	50%
Lithuania	232	290	300	29%	53%
Luxembourg	1 570	1 921	1 923	22%	57%
Hungary	272	342	333	22%	50%
Malta[2]	617	718	720	17%	53%
Netherlands	1 335	1 486	1 502	13%	50%
Austria	-	-	-	-	-
Poland	313	404	410	31%	48%
Portugal	497	566	589	19%	60%
Romania	139	190	218	57%	42%
Slovenia	539	789	791	47%	57%
Slovakia	241	352	380	58%	46%
Finland	-	-	-	-	-
Sweden	-	-	-	-	-
United Kingdom[2]	1 242	1 251	1 379	11%	47%
United States[2]	689	911	1 035	50%	:

: Data not available - Not applicable * 1 July 2008

Compared to France, Netherlands and UK the situation of the relative minimum wage (Kaitz index) and of the absolute level is not too different from the Netherlands and France. But this table, as the previous one, is related to the national minimum wage, not taking into account the effectivce minimum wage applied at the sector level. Nevertheless, using different data sources and including sectoral minimum wage, Kampelmann and alii (2013) do have the same conclusions.

	Minimum wage				Kaitz index			
Year	BE	FR	NL	UK	Belgium	FR	NL	UK
2000	1 095.89	1 049.49	1 092.00	952.23	48.8	n.d.	n.d.	34.2
2001	1 117.88	1 083.29	1 154.50	977.41	47.5	n.d.	n.d.	33.0
2002	1 140.24	1 127.23	1 206.60	1 109.29	47.6	n.d.	49.3	34.6
2003	1 163.02	1 154.27	1 249.20	1 063.80	46.2	n.d.	47.7	34.5
2004	1 186.31	1 215.11	1 264.80	1 054.20	45.5	n.d.	46.1	36.5
2005	1 210.00	1 286.09	1 264.80	1 134.67	45.7	n.d.	45.5	37.9
2006	1 234.00	1 217.88	1 272.60	1 212.61	45.5	n.d.	44.1	37.9
2007	1 259.00	1 254.28	1 300.80	1 314.97	45.3	46.9	44.2	38.9
2008	1 309.60	1 280.07	1 335.00	1 242.24	47.3	46.5	44.2	38.2
2009	1 387.50	1 321.02	1 381.20	995.28	45.8	47.0	43.9	38.6
2010	1 387.50	1 343.77	1 407.60	1 076.46	44.7	46.5	44.7	38.7
2011	1 415.24	1 365.00	1 424.40	1 136.22	44.3	46.1	43.6	39.1
2012	1 443.54	1 398.37	1 446.60	1 201.96	n.d.	n.d.	n.d.	n.d.
2013	1 501.82	1 430.22	1 469.40	1 264.25	n.d.	n.d.	n.d.	n.d.
2014	1 501.82	1 445.38	1 485.60	1 216.75	n.d.	n.d.	n.d.	n.d.

Source: Eurostat. Note: the Kaitz-index before 2008 uses the mean wage in Nace Rev. 1.1 C to K (industry and services excluding public administration), from 2008 onwards this is Nace Rev. 2 B to N (business economy).

From Sem Vandekerkchove & Guy Van Gyes, 2014

The different sector minimum wages, negotiated within the joint committees are higher than the national level and have to be applied for all the employees of the corresponding sector and status (different joint committee for blue or white-collars).

The specificity of the Belgian's minimum wage system is "*that it is the only one offering effective dual protection against low wages: it combines a national statutory minimum with high collective bargaining coverage and binding wage floors defined in sector agreements. While the French system also combines a national minimum with sector bargaining, collective agreements in France often fail to increase the minima above the national level (many collective agreements include wage floors below the SMIC).* "(Kampelman – 2014)

The following table, from Vandekerkhove et alii – (2014) gives the most important figures resulting from the use of administrative data of the social security administration on wage and employment and of the collection of data on negotiated minimum wages in the most important joint committee. (34 of 100 joint committees). Note that the figures in this table are expressed in log

Table 1: Descriptives statistics for the sample of joint committees (1996, 2006

	Employment		Median wage		Min. wage		p90-p10	
Sector	1996	2006	1996	2006	1996	2006	1996	2006
109	5356	2836	9.46	9.77	9.51	9.77	.34	.41
110	2027	1818	9.44	9.69	9.49	9.74	.28	.27
112	7007	7381	9.77	10.06	9.59	9.89	.42	.42
115	3055	2203	9.91	10.13	9.49	9.71	.59	.65
116	15485	14469	9.97	10.21	9.53	9.82	.79	.83
118	16750	16756	9.76	10.01	9.56	9.83	.47	.44
119	8223	8731	9.65	9.9	9.57	9.84	.38	.32
120	10291	7199	9.7	9.98	9.51	9.77	.47	.44
121	5994	7703	9.58	9.85	9.59	9.89	.34	.31
124	38475	40408	9.84	10.07	9.77	10.03	.25	.27
126	6440	5317	9.74	9.95	9.82	10.03	.24	.3
130	5132	3791	9.94	10.18	9.63	9.87	.59	.6
136	2350	2338	9.83	10.1	9.51	9.79	.53	.6
140	15412	21174	9.79	9.86	9.55	9.75	.55	.54
145	2350	3135	9.56	9.79	9.43	9.65	.38	.43
149	11321	13334	9.76	10.04	9.6	9.88	.4	.41
201	15003	19087	9.46	9.74	9.33	9.57	.6	.6
202	12336	13700	9.64	9.93	9.36	9.61	.71	.61
207	19869	24056	10.24	10.52	9.46	9.73	1.12	1.06
209	21877	22248	10.18	10.43	9.41	9.67	.97	.93
211	1631	1778	10.49	10.81	9.89	10.15	.99	1.06
214	3019	1885	10.01	10.32	9.56	9.83	.85	.89
215	1502	1838	9.88	10.21	9.48	9.78	1	.98
218	92494	120300	9.94	10.23	9.44	9.71	1.09	1.05
220	7037	7881	10.1	10.36	9.51	9.72	1.02	.97
302	13354	18001	9.53	9.81	9.48	9.79	.55	.45
306	8497	8104	10.15	10.39	9.57	9.76	.96	.98
307	2733	3164	9.76	10.08	9.39	9.63	.94	.91
308	1675	1436	10.05	10.29	9.58	9.75	.88	.88
310	19001	21047	10.19	10.49	9.61	9.82	.81	.83
311	5582	10339	9.61	9.83	9.42	9.66	.7	.63
312	1365	3573	9.76	10.03	9.44	9.68	.6	.62
313	2505	3174	9.76	10.04	9.46	9.66	.83	.85
321	1051	877	9.75	10.01	9.49	9.71	.73	.64

Source: Wages: RSZ-ONSS. Agreements: Acerta, Ministry of Labour.

Source: Vandekerkhove, 2014

The list of the joint committee is as following:

Table 3: Joint committees in the sample

JC	Label	Type
109	clothing	blue collar
110	textile cleaning	blue collar
112	car maintenance	blue collar
115	glas manufacturing	blue collar
116	chemical manufacturing	blue collar
118	food manufacturing	blue collar
119	food distribution	blue collar
120	textile manufacturing	blue collar
121	cleaning	blue collar
124	construction	blue collar
126	carpenters	blue collar
130	publishing	blue collar
136	paper industry	blue collar
140	transport and logistics	blue collar
145	gardening	blue collar
149	metal related industries	blue collar
201	independant stores	white collar
202	food trade	white collar
207	chemical industry	white collar
209	metal industry	white collar
211	petrol industry	white collar
214	textile industry	white collar
215	clothing	white collar
218	various service industries	white collar
220	food industry	white collar
302	accomodation	mixed
306	insurances	mixed
307	brokers	mixed
308	savings bank	mixed
310	banking	mixed
311	large stores	mixed
312	large stores	mixed
313	farmacies	mixed
321	trade and distribution of drugs	mixed

Source : Vandekerkhove 2014

"Wages are expressed in logs of the yearly wage. The total count ranges from 386 199 employees in 1996 to 441 081 in 2006. Median log wages range from 9.69 in joint committee 110 (textile cleaning, blue collar) to 10.81 in joint committee 211 (petrol industry, white collar) in 2006, a difference of more than 50%! This clearly show that it doesn't make sense to consider only the National minimum wage, since what is really in application are the sector minimum wage. The smallest wage inequality (difference between lnWp90 and lnWp10) is .16 in joint committee 110 (textile cleaning, blue collar), the largest is 1.06, again in joint committee 211 (petrol industry, white collar).

Interestingly, the highest minimum wage is found in joint committee 211 (petrol industry, white collar), followed by 124 (construction, blue collar) and 126 (carpenters, blue collar), and the lowest in joint committee 201 (independent stores, white collar), followed by 307 (brokers, mixed) and 311 (large stores, mixed). In conclusion, the high paying white collar joint committees have more wage dispersion, but differ in minimum wages, while the blue collar joint committees have low wage dispersion and average to high minimum wages, and the mixed joint committees have low minimum wages and differ in wage dispersion" Vandekerkhove 2014.

In "Who earns minimum wages in Europe?"(2012) and in " Minimum wages in Europe : does the diversity of systems lead to a diversity of outcomes" (2014), Kamplemann, Andrea Garnero and François Rycx analyse the minimum wages in a set of 18 European countries, including Belgium. More precisely these two reports are focusing on the minimum wage systems and their outcomes. *"Because it is the combination of these institutional arrangements that determines jointly the labour market impact of a given minimum rate, it is preferable to think about our task as understanding differences between minimum wage systems. Arguably the most disappointing feature of the minimum wage debate that captured so many spirits during the better part of the twentieth century is that it most completely failed to recognise the importance of institutional diversity"* (Kampelmann et alii,- 2013). This concept of *minimum wage systems* implies that not only the statutory national minimum wage has to be taken into account but also the different minimum or floor wages set at the sector levels, the type of wage bargaining systems, the coverage rate of the collective bargaining, the bite of the different minimum wages. This research used the microeconomic data of the EU-SILC for 18 countries and is based on the gross hourly wage. The sample includes countries with different systems: national minimum wagesector minimum wage or sector floor wage, minimum wage enforced by law or through collective bargaining, different levels of collective bargaining coverage. It gives a better understanding of the effects of the minimum wages systems and the comparative results of different systems.

Their definition of minimum wage is thus larger than the restrictive "minimum wage" definition:

"One of the key propositions of this study is that the concept of a 'minimum wage' not only refers to statutory wage floors defined at the national level, but also extends to minimum wages that are defined at the sector or occupational level. It is unquestionably true that the national statutory minimum wage has received much more attention in the literature in disciplines such as Labour Economics or Industrial Relations, to such an extent that other types of wage floors are hardly ever analysed (…) There are strong reasons why the wage floors in sector-level collective agreements should be considered minimum wages, the most obvious being that common usage often refers to them explicitly as 'minimum wages'. To give some examples, the collective agreement signed on 27 June 2007 in the Belgian chemical industry refers to a given amount by stating that 'ce salaire horaire minimum correspond au niveau le plus bas applicable, a savoir a la fonction de manoeuvre ordinaire.' ." (Kampelmann – 2013).

The impact of the "minimum wage" is frequently measured by the "bite" of the minimum wage. Two indicators are frequently used to mesure this "bite": the Kaitz index and the share of workers below and near the minimum wage.

In its basic version, the Kaitz index is defined as the ratio of the minimum wage to the average wage of the working population. The Kaitz index is thus a measure of the 'bite' of the minimum wage: small values indicate that the wage floor is a long way from the centre of the earnings distribution and its impact therefore potentially low; conversely, a high Kaitz index reveals that the minimum wage is close to the centre of the distribution

and that it potentially affects a larger number of employees. In countries in which minimum wages are determined not at the national but at the sector level – such as in Germany, Italy or the Nordic countries – the computation of Kaitz indices is relatively time-consuming due to the existence of numerous minima negotiated at sector level. In order to improve international comparability the Kaitz index has been frequently adjusted. The Kaitz index used by Kampelmann is thus adjusted in order to make more pertinent international comparisons.

"*First, our Kaitz indices are based on median wages instead of average wages; second, since we analyse the impact of minimum wages at the sector level, we calculate Kaitz indices based on the sector-level median wage. In the case of countries in which wage floors are determined at the sector level, both the numerator and the denominator include sector-level information. Third, we tested whether our results are sensitive to the exclusion of young workers, for whom lower minima are defined in most countries. Fourth, our Kaitz indices are based on gross earnings, including social benefits and other benefits. This means that our measures yield information on the impact of the relative size of the minimum wage as it is commonly defined (in other words, including benefits) but before taxes. Fifth, in order to assess differences in national market labour our data on Kaitz indices include not only cross-country variability, but also within country variability (between sectors and across time). "A Kaitz index based on median earnings is less affected by the shape of the overall wage distribution than an index based on average earnings." (*Kampelmann 2013).

The share of individuals below and near the minimum wage is another relevant indicator.

Two indicators yield information on this aspect:

- The proportion of employment paid below the minimum wage (also an indicator of the non-coverage or non-compliance.
- The "spike" of employment paid exactly the minimum wage

Kampelmann 2013 examines the two kind of effects: the employment effect and the effects on welfare, redistribution inequality and poverty. Most of international studies has been concentrated on the employment effects. Another important question is the differentiated effects of the different systems of minimum wage, mostly the differences on the results of a national regulatory minimum wage or a decentralized and negotiated system of sector or categorical minimum or floor wages.

The most important characteristics of the minimum wage systems are described for some European countries in the following table, from Kampelmann (2013)

Table 2 **Characteristics of minimum wage systems in selected European countries**

Country	Type of minimum wage system	Determination of minimum wages [1]	Extension mechanism	Exemptions	Differentiation	Level of minimum wage in 2007 [2]	Weekly full time working hours [2]
Belgium	complex	Collective agreement (interprofessional in *Conseils central de l'économie*; sectoral in *Commission Paritaire*)	Collective agreements are extended to all workers by Royal Decree	Public sector employees and apprentices (Funk and Lesch, 2005)	Reduced rates for 16-20 year old (plus seniority rules for 21.5 and 22.5 year-olds) (CCT N° 43, 50)	1258,91 (until 1/4/07) and 1283,91 euros per month (after 1/4/07)	38 hours per week, 165 hours per month
Bulgaria	clear-cut	Government sets the national minimum wage rate by Decree	erga omnes	No exemptions (ILO minimum wage database)	During an apprentice's training period, which cannot exceed 6 months, an apprentice's remuneration may not be less than 90% of the national minimum wage rate. (ILO minimum wage database)	180 lew per month	40 hours per week, 173 hours per month
Germany	complex	Collective agreements negotiated at different levels: local, regional, branch, etc.	erga omnes only if government applies § 5 Tarifvertragsgesetz or AEntG (WSI-Mindestlohn-datenbank)	Unless collective agreement is extended or AEntG applies, only trade workers in firms bound to collective agreements *(tarifgebundene Unternehmen)* are covered	Collective agreements often differentiate according to age.	–	Differ across firms, industries, regions: 35 - 42 hours per week
Hungary	clear-cut	Government with the agreement of National Council for the Reconciliation of the Interest, collective agreements can increase the minimum wage	erga omnes	No exemptions (Funk and Lesch, 2005)	No differentiation (Funk and Lesch, 2005)	65500 forint per month	40 hours per week, 173 hours per month
Ireland	clear-cut	National minimum wage rate set in an Order made by the Minister for Enterprise, Trade and Employment	erga omnes	No exemptions (Funk and Lesch, 2005)	Lower rates for employees under 18 and employees in education (European Industrial Relations Observatory)	8.30 euros per hour (until 1/7/07) 8.65 (after 1/7/07)	39 hours per week, 169 hours per month

Source: Kampelmann 2012

One of the most important conclusion of the study by Kampelmann is the fact that different systems of minimum wage may lead to similar results in term on wage distribution and equality. The different systems may be summarized in the two following tables, combining the type of minimum wage and the bargaining coverage:

Table 1 **Overview of minimum wage systems**

	Low bargaining coverage	High bargaining coverage
Sectoral/occupational MW	No protection	Equivalent protection
National statutory MW	Equivalent protection	Dual protection

Table 2 **Overview of countries according to their minimum wage systems**

	Low bargaining coverage	Medium coverage	High coverage
Sectoral/occupational MW	–	Cyprus, Germany	Austria, Finland, Denmark, Italy
National statutory MW	Latvia, United Kingdom, Ireland, Bulgaria, Estonia, Hungary, Portugal, Poland,	Romania, Greece	Belgium, France

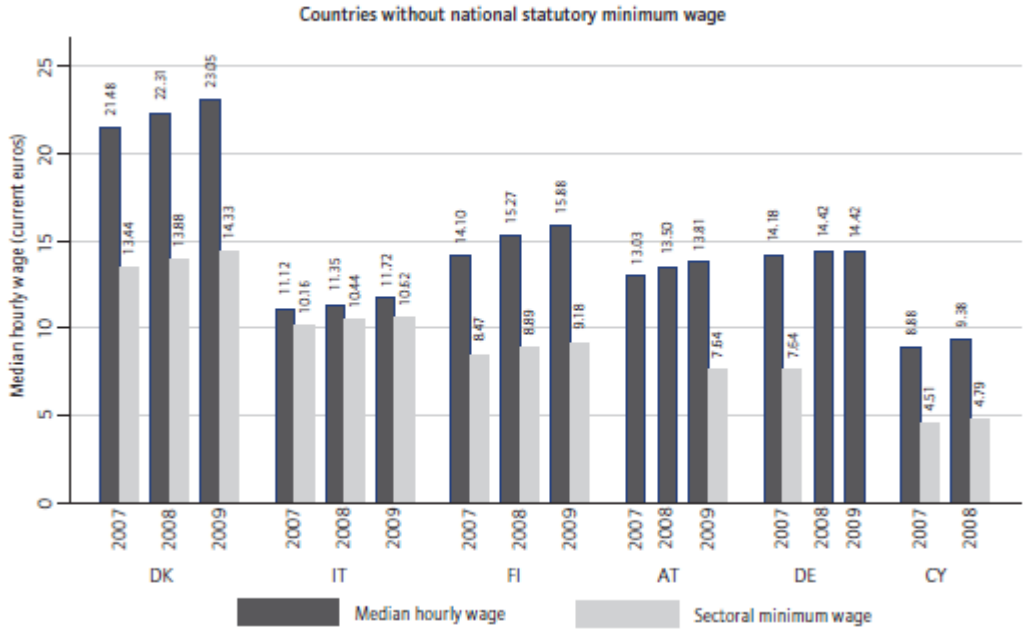
Source: Kampelmann et alii, 2013

1.2 Minimum wage and inequality in the wage distribution

Compared to the other European countries of the sample in the studies of Kampelmann et alii (2012 and 2013) Belgium shows an absolute high level of the minimum wage ,

higher when considering the sector minimum wages (weighted average). It appears in the figures 6 and 7 below, from Kampelmann 2012. But this level has to be normalized by the general distribution of wages that is synthetized by the Kaitz index. In this case the relative minimum wage in Belgium, national or by sector, does not differ too much from the other European countries

Figure 7 **Median hourly wage and minimum wage**



Source: SILC waves 2008–2010; WSI Mindestlohndatenbank for statutory minimum wages; authors' calculations.

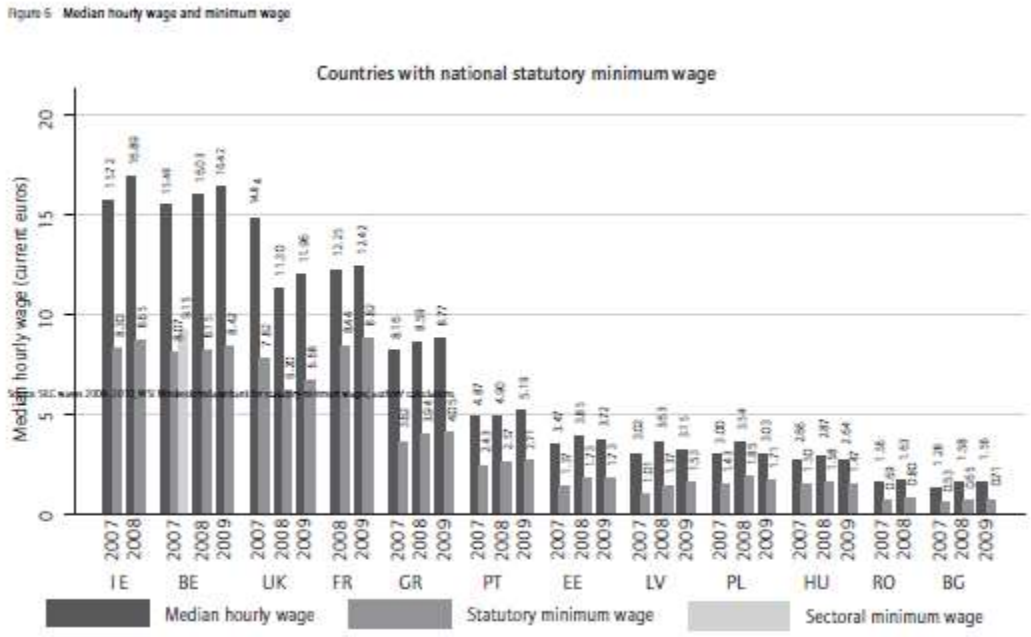


Figure 8 **Kaitz indices by country and year**

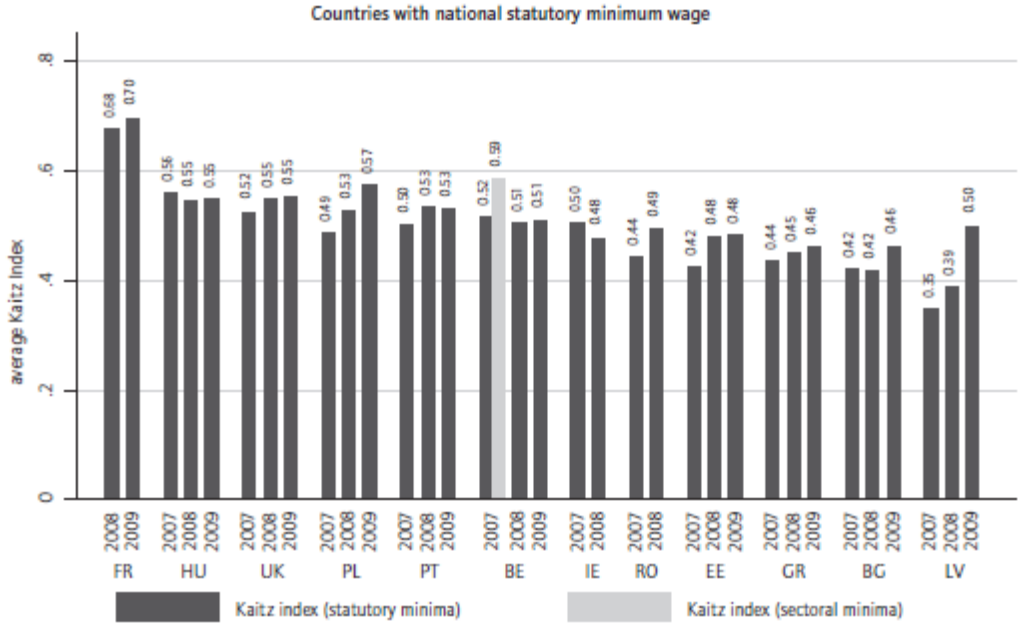
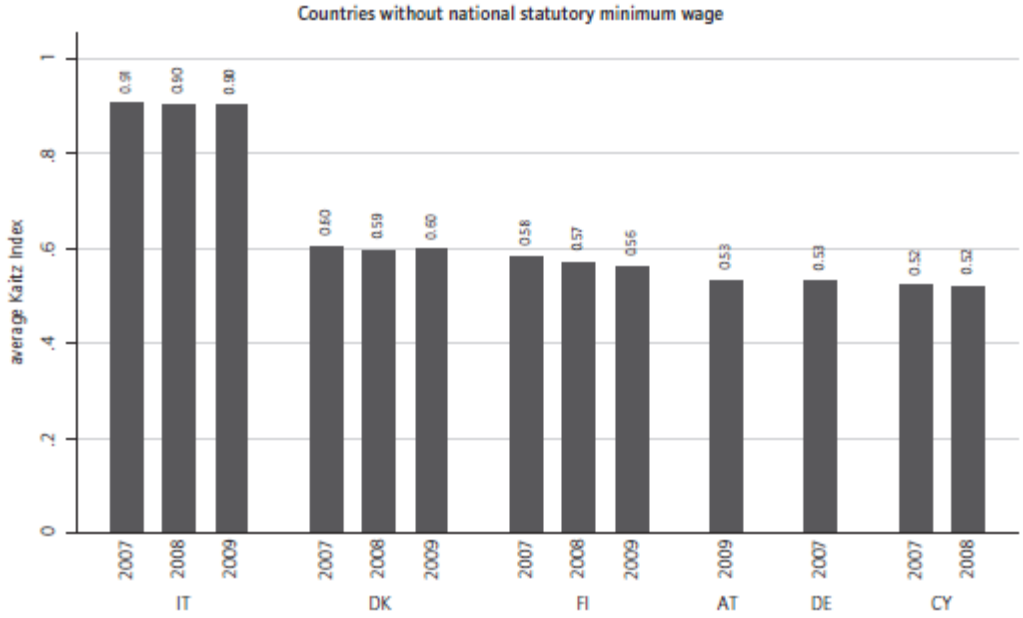


Figure 9 **Kaitz indices by country and year**



Source: SILC waves 2008–2010; WSI Mindestlohndatenbank for statutory minimum wages; authors' calculations.

Contrary to the case of the absolute and relative levels of minimum wages, the graphs of the share of individuals paid at or below minimum wages suggest that there is no clear regional stratification, but there are very large differences between countries and systems. In Italy more than 30 % are earning the minimum wage or less (34 %) but only 1% of the employees are in this case in Finland. In Belgium 3 % are below or at the national minimum wage and 6% below the sector minimum wage.

Figure 10 **Minimum wage earners by country and year**

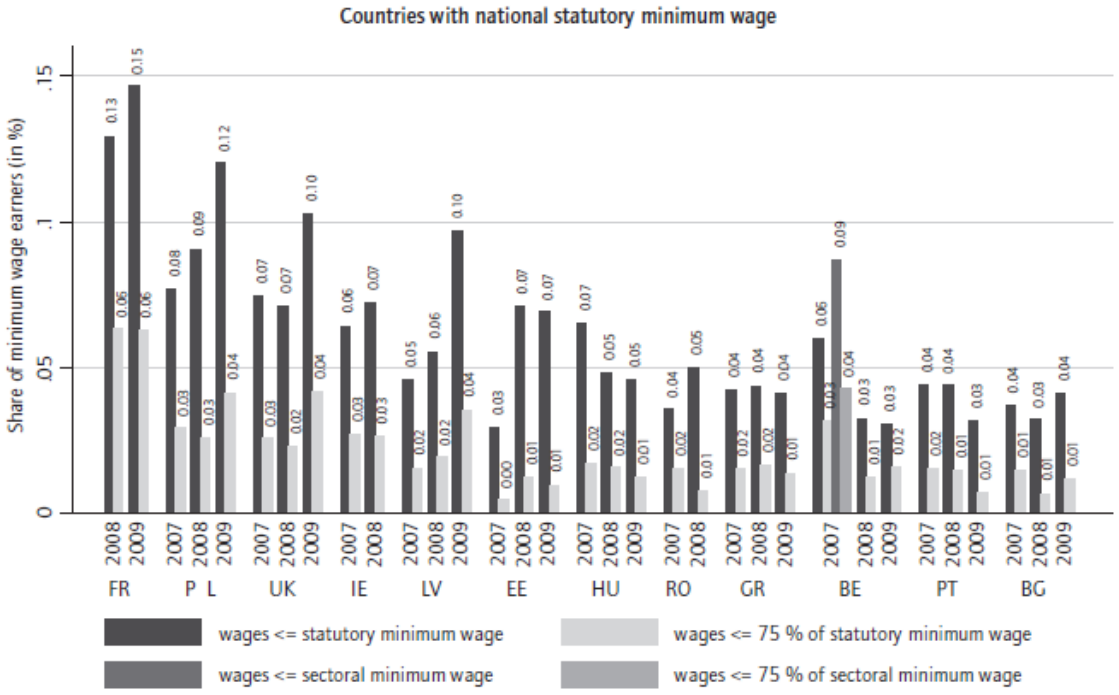
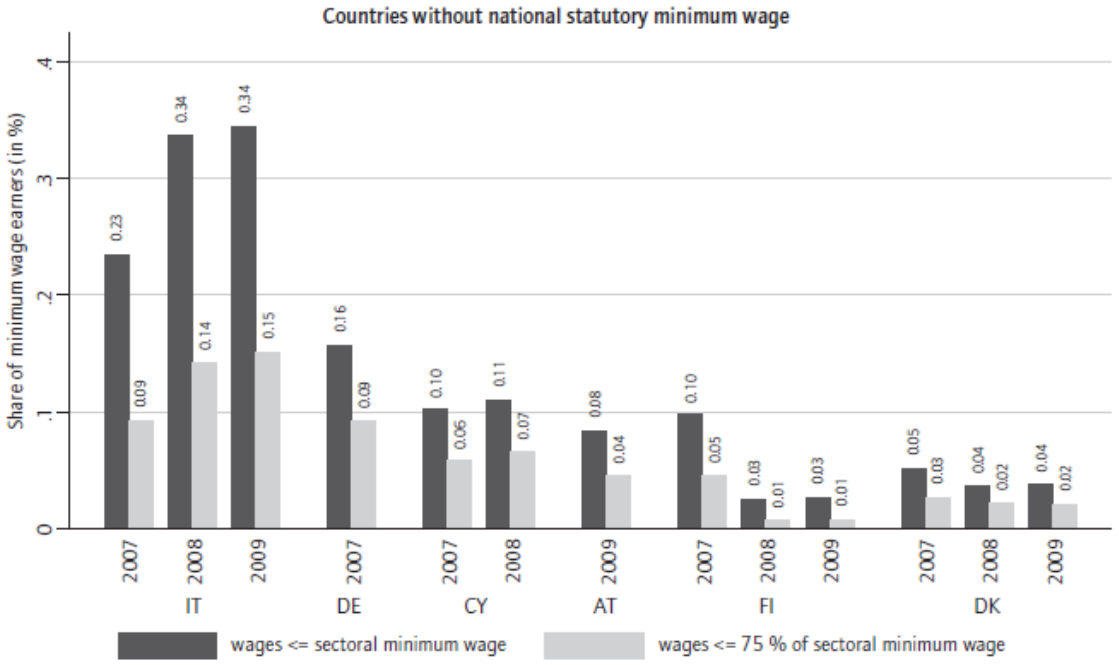
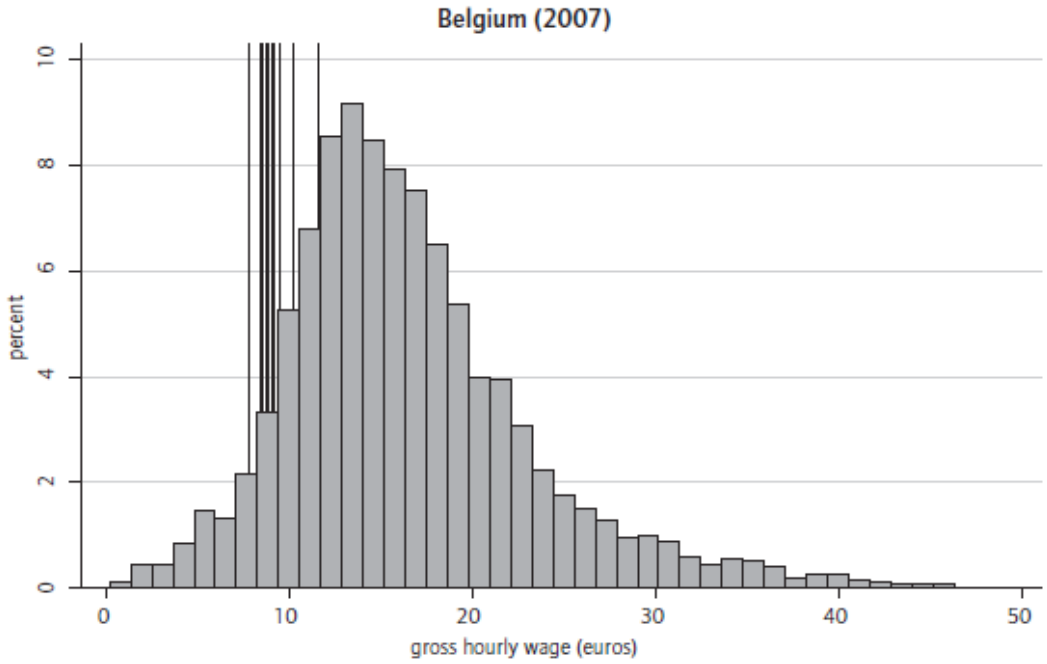


Figure 11 **Minimum wage earners by country and year**



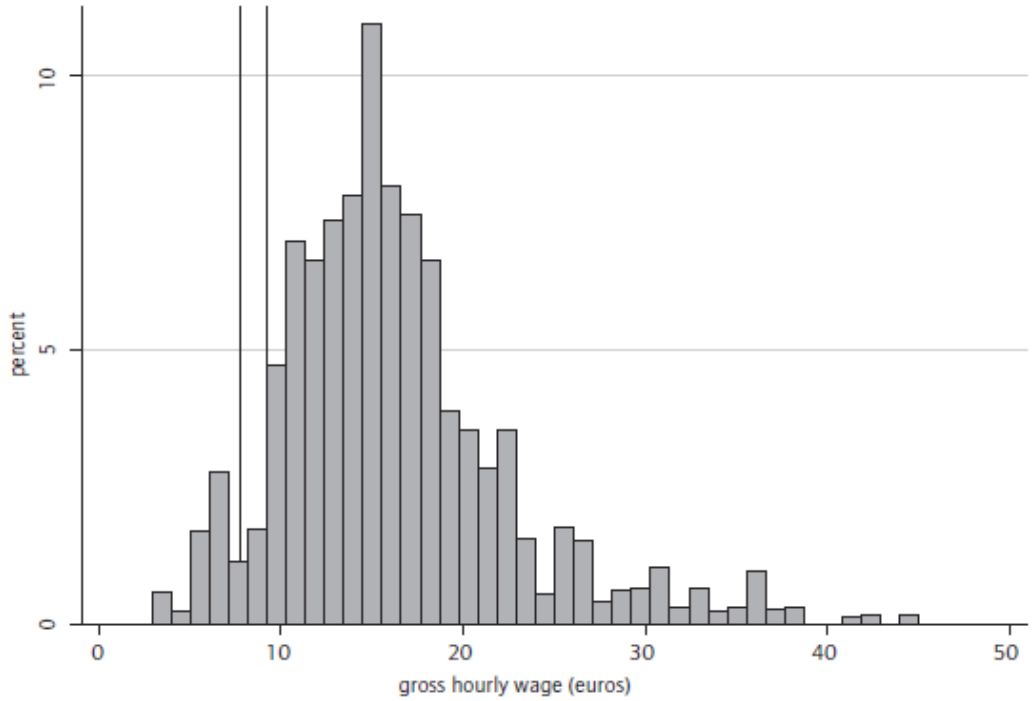
Source: SILC waves 2008-2010; WSI Mindestlohndatenbank for statutory minimum wages; authors' calculations.

Figure 3 **Wage distribution and minima in Belgium (2007)**

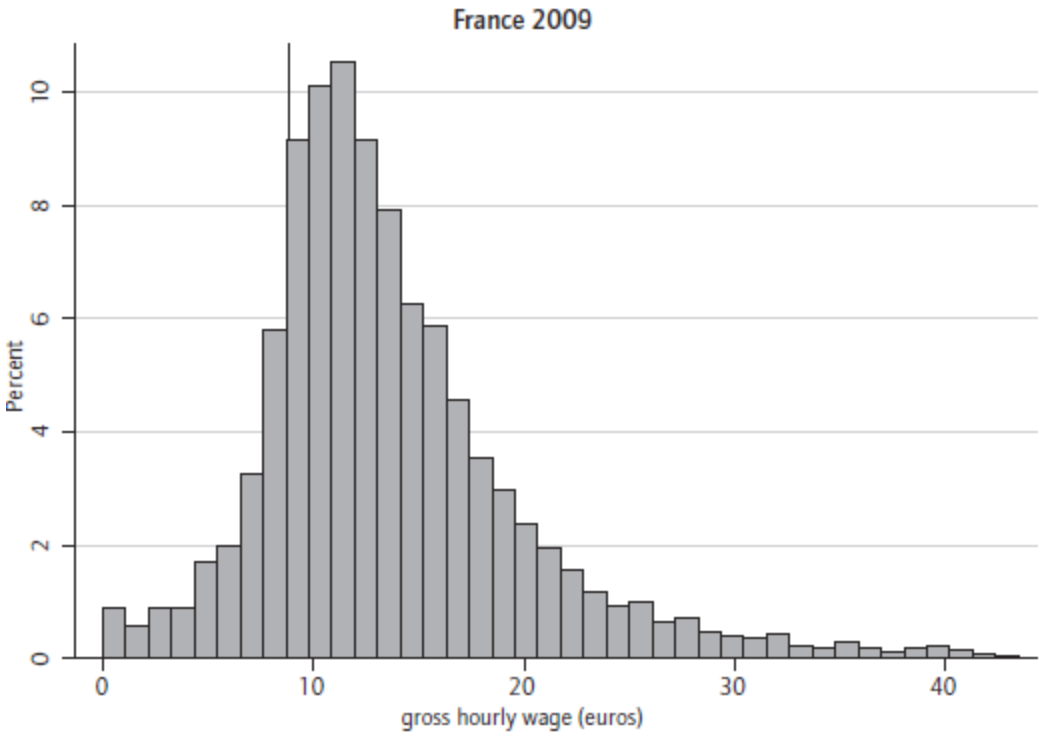


Source: BE-SILC; current 2007 euros; thin vertical lines represent levels of minima (differentiated by sector).

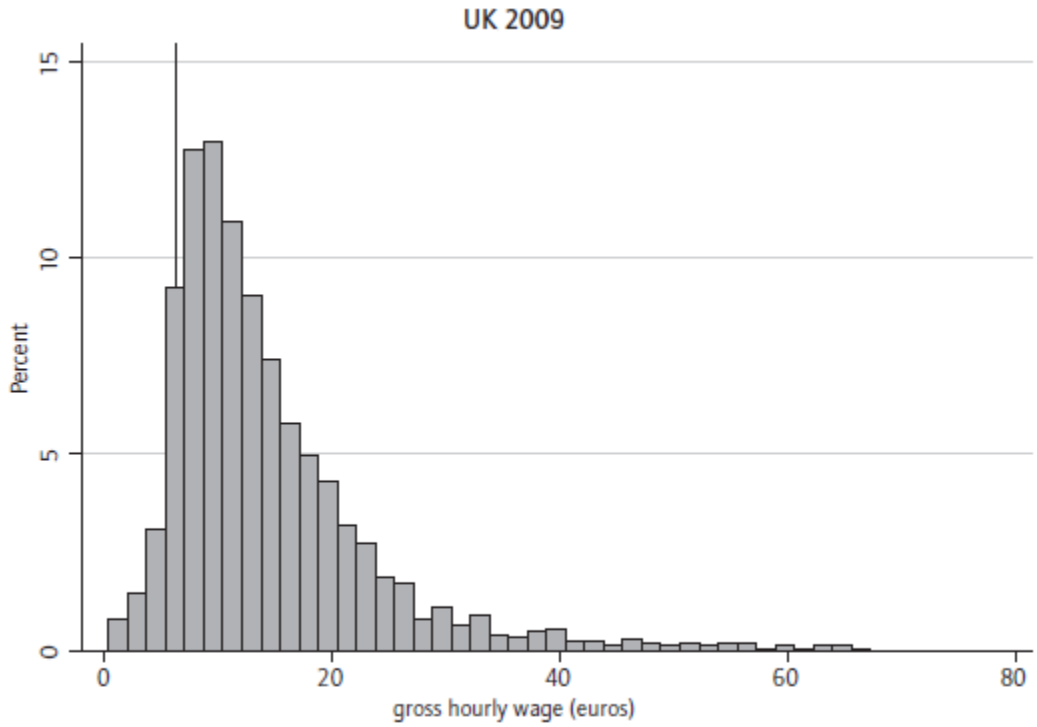
Figure 6 **Intra-sectoral wage distribution and minimum wages in Belgium (2007)**
a) Transport, storage and communication



The graph of the distribution of wages for Belgium as a whole and for one of the sector clearly shows that only a few number of employees are paid at the minimum wages. From this point of view the relationship between the minimum wages and the wage distribution is very different from the case of France or the UK.



Note: Current 2009 euros; the vertical line represents the level of the national statutory minimum wage.
Source: FR-SILC.



Note: Current 2009 euros; the vertical line represents the level of the national statutory minimum wage.
Source: UK-SILC.

The specificity of the Belgian's minimum wage system is that it is the only one offering effective dual protection against low wages: it combines a national statutory minimum with high levels of collective bargaining coverage and binding wage floors defined in

sectoral agreements. While the French system also combines a national minimum with sectoral bargaining, collective agreements in France often fail to increase the minima above the national level – indeed, many collective agreements include wage floors below the SMIC that are therefore not relevant minima .

1.3 The employment effect of the minimum wage

"It is now widely accepted, amongst academics as well as amongst policy makers, that moderate increases in the minimum wage have no severe impact on aggregate employment" Vandekerkhove, 2014, quoting Schmitt (2013).

The Belgian minimum wage system for young people has been gradually catching up with the full minimum wage from April 2013. From the 1st of January there is no more difference in the national minimum wage, leaving only two steps in the minimum wage which already apply for employees over 21 (i.e. after 6 months and after 12 months seniority). In fact, at the sector level, most joint committees had already implemented such changes. The effect of these changes on the employment of young people have not yet been evaluated. Generally speaking, as quoted in a paper by ICF-GHK entitled "Maximising the minimum: a review of minimum wage approaches and trends in European Member States" presented for the Peer review on Minimum Wages in April 2014, *"In terms of empirical studies of the effects of minimum wages in practice, the impact of a minimum wage in overall labour costs is on the lower paid end of the labour market and research tends to support the view that the impact is rather small. A series of recent studies have strengthened the view that minimum wages have only a small negative effect on employment, not usually found to be statistically significant (Card and Krueger, 1994; 2000, Allegretto et al, 2011, Dolado et al, 1996; Vaughan-Whitehead, 2010). Several empirical studies on the employment effects of minimum wages have focused on young people, because this group is generally considered to be most affected by minimum wages".*

Nevertheless such studies do not exist for Belgium. Such study should require a very large collection of data, since the layered wage bargaining system implies that these varying minimum wages by age didn't necessary exist in the sector agreement on minimum wage and it has been shown that the sectiral minimum wage are in Belgium, in contrast with France for example, the effective minimum wages.

In the paper by Kampelmann (2013) the age effect has been tested by running different regression including or not young people under 18 in their sample and verifying the robustness of the estimates of the regressions.

"*Due to the practical difficulty of identifying reduced rates for apprentices and young workers in all country- and sectoral-level minima included in our database, the regressions presented in the previous section might be biased the higher the incidence of differentiated rates. For instance, Kaitz indices might be overestimated if reduced rates apply for a substantial part of the labour force"*. They conclude that "*The estimations underline that the results presented in the previous section are hardly affected if apprentices and young workers are eliminated from our sample: the size and significance of all coefficients remains virtually unchanged."*

These conclusions are nevertheless not necessary relevant for Belgium since there are very few people working before the age of 18 since school is compulsory till the age of 18.

Following Cockx (2014) the minimum wage has a negative impact on the employment of young people mainly for low-skilled.

"For the labor market integration of low-skilled youth the high minimum wage is a major problem in Belgium, since it raises the wage costs above the productivity, making it thereby unprofitable for employers to hire this group. Moreover, this problem has been exacerbated by the recent agreement of the social partners to abolish by January 1, 2015 the phasing in of the minimum wage by age

Therefore Cockx pleads for reconsidering this measure: "*Either the minimum wage should be further reduced, or, if this is not socially acceptable, wage costs should be structurally reduced at low wages". (…) and (…) these targeted wage cost reductions can be financed by abolishing the majority of the targeted recruitment subsidies. In addition, rather than reinforcing the across the board reductions in labor costs, as currently commonly proposed in the public debate as remedy against the low employment rates in Belgium, these should be rather reduced and targeted to low wages*."

Four remarks:

- There is no clear evidence about the link between the minimum wage and the employment effect , even for young people
- Social security contributions of the employer have already been diminished for young people. Till now (this competence has been transferred to the regions in April 2015) an employer hiring a young of 18 years, if low-skilled, may benefit of a reduction of its social security contributions of 1000 Euro per 3 months during 2 years, and of 4OO Euros during the next months of the First Job Contract. It is much larger than the diminishing rate of the minimum wage that was applied previously. This system offers the advantage of combining age and low- skill.
- As explained above the minimum wage is varying following the sectors and is generally higher than the national minimum wage.
- The link with age has already been suppressed at the sector level. In some sector it didn't exist since more than ten years.

The dominant role of the sector minimum wage and the facts that a large number of sector collective agreements have already suppressed any age restriction to their minimum wages (and often since years) should be an argument in favor of a zero effect on the employment of young people of the changes in the regulation of the national minimum wage. It should be nevertheless interesting to study, sector by sector, the link between the systems of sectoral minimum wages (age linked or not) and the structure and dynamics of the young employment following the sectors.

2 Mismatch in the Brussels Region

2.1 General overview

The Brussels Region is a specific case in the sense that from one hand it is one of the three regions of the Federal Belgium and from the other hand it is a city-region. Moreover Brussels is also the capital of the Flanders region, of the Federation Wallonia-Brussels and of the European Community, implying a large share of public employment at the different levels of power. Brussels is also a "city-region" economically wealthy, with a GDP per habitant quite high compared to most of the others European regions.

But this high GDP per habitant contrasts significantly with the regional income per habitant. In 2009, following the "Observatoire de la Santé et du Social de Bruxelles-Capitale", about 28 % of the households were below the poverty.

Vandermoten et alii (2003) underline that the problem of Brussels is more social than purely economic, since the GDP per capita, the level and the growth of productivity are very high whereas the employment content of growth is low, the active population is

growing very fast and job created are requiring generally a high skill or educational level benefitting to the residents of the two other regions. Thus the economic gains of the growth of employment and GDP in Brussels are not translated in gains for the region, since the private consumption is largely based on the Brussels residents and since the resources transferred by the Federal to the regions are mainly based on the share of the income tax payed by the Brussels habitants.

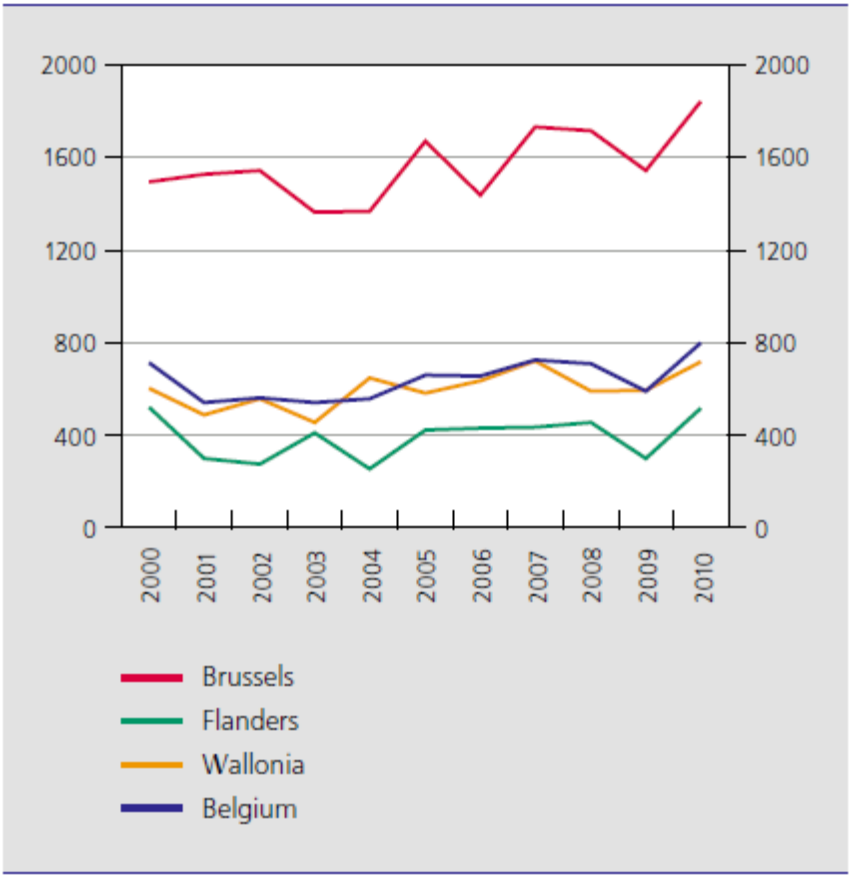
As quoted by Franssen et alii (2014*) «the Brussels Region is characterized by a demographic trend and a dynamic of the migration flows that lead to a population significantly younger and an increase of its population and active population. The working age population has increased with more than 20% in ten years [Brussels Observatory of Employment - 2013]. Following the projections of the Brussels Institute of Statistics and Analysis (IBSA – 20110) 1.230.636 habitants will live in Brussels in 2020, an increase of 141.098 persons since 2010*"

"*The evolution of the labor market in Brussels is characterized by the almost disappearing of the industrial employment in favor of the tertiary sector. From the skill point of view, more than 53 % of job places are occupied by persons with an upper or university level. The Brussels labor market is also characterized by a large job creation, nevertheless inferior to the growth of the active population, but this new jobs are not necesserely offered to Brussels jobseekers [Observatoire bruxellois de l'emploi, 2013b]*" .

An in-deep analysis of the mismatch in the Belgium labor market has been realized by Zimmer (2012). He computed mismatch indices at different levels. The regional specificity of Brussels is underlined:

"The creation of a mismatch index for each Region makes it possible to analyze divergences that may exist within a given country. There is a considerable gap between the index level calculated for Brussels and those of the two other Regions (see Figure 1*): in 2010, the Brussels index was 3.5 times higher than that of Flanders and 2.5 times higher than that of Wallonia. With their similar employment and unemployment structures, the levels of the Walloon and Flemish indices are fairly close. In these two Regions, the majority of jobs are held by medium-skilled persons (40 % on average), followed by highly-skilled persons (37 % on average). In both cases, the mismatch is caused by an over-representation of low-skilled job-seekers relative to the needs of employers and an under-representation of highly-skilled job-seekers. The labour force available in Wallonia, however, is even less able to meet the needs of employers due to the smaller weight of highly-skilled job-seekers in the labour pool compared with what is observed in Flanders. In Brussels, a majority of jobs require highly-skilled workers– 55 % in 2010 – whereas barely 17 % of jobs call for low-skilled workers. Nearly half of job-seekers residing in the Brussels-Capital Region have not completed secondary studies, so the absolute level of the index is unsurprisingly much higher than those of the other two Regions. As mentioned above, it is not possible to evaluate companies' new expectations by looking at the structure of total employment. To attempt to remedy this shortcoming, we can look solely at employment and unemployment among the young, for whom formal skill requirements have risen – and reflect the change in the structure of the economy – as indicators of labour supply and demand. The mismatch index calculated for ages 15-34 is higher than the broader index: the level of education for jobs performed by the young is generally above average, but there has not been enough improvement in job-seekers' education. This observation is not surprising considering the difficulty that young job-seekers are having finding work: the harmonized unemployment ratio (1) for persons aged 15 to 24, at 7.3 % in 2010, is 1.3 times higher than the average".*

Figure 1 Mismatch indices by region



Source : DGSEI (LFS, microdata). from Zimmer (2012)

2.2 Driving factors of the mismatch in the Brussels Region

Not so many recent papers have been devoted to the specifity of the unemployment in Brussels.

Three kind of papers may be identified:

1. Estimation of a matching function and calculation of mismatch indices (Zimmer (2012) and Konings (2012)
2. Estimation of the overeducation and downskilling effect (Devillé – 2008)
3. Macroeconometrics and microeconometrics estimation of the driving factors of the unemployment in the Brussels Region, by testing two different approaches, the mismatch between supply and demand of skill (supply explanation) and the demand perspective, with the distinction between qualitative demand factors (like discrimination) and quantitative demand factors (low level of job offers with a potential downskilling effect. (Marion Englert and R. Plasman (2012) and Marion Englert (2013)

2.2.1 The Mismatch approach

In its paper Zimmer (2012) calculates mismatch indices for Belgium and the three regions, each region being determined by their administrative and political definition. Discussing the mismatch in Brussels, he states that *"Brussels is the Region where, compared with the working age population, the supply of jobs is the most abundant, at*

nearly one position for each resident of Brussels (2).The labour market is thus unbalanced : many jobs, but high unemployment. This paradox is partly attributable to the fact that in Brussels, a large proportion of jobs are linked either directly (civil servants working for various levels of government) or indirectly (staff of companies with their headquarters in the capital or near central offices) to the city's status as a regional, national and European capital. These functions are filled mainly by highly-skilled workers, whereas much of the Region's population is low- or medium-skilled. These factors combine to make the mismatch between labour supply and demand in Brussels particularly acute (the Brussels mismatch index, which is higher than those of the other Regions, confirms this picture)".

Geographic mismatches may be another explanation of unemployment in countries where the dispersion of regional unemployment rates is high. "*According to the results of labour force surveys, in 2010 Belgium had the highest unemployment rate dispersion (1) of any country in the EU. At the extremes, the harmonized unemployment rate was 17.3 % in Brussels compared with 3.8 % in West Flanders. This wide dispersion may indicate that jobs are not being offered in areas where job-seekers reside. But, based on this indicator, we do not know if the persons seeking employment (in Brussels, for example) have the skills needed to qualify for the jobs being offered (in Flanders, for example). If they do not, the mismatch between supply and demand is not a problem of geographic mobility*." (Zimmer 2012) Analyzing the labour mobility he shows that Brussels is the Region where, compared with the working age population, the supply of jobs is the most abundant, at nearly one position for each resident of Brussels. "*The labour market is thus unbalanced: many jobs, but high unemployment. This paradox is partly attributable to the fact that in Brussels, a large proportion of jobs are linked either directly (civil servants working for various levels of government) or indirectly (staff of companies with their headquarters in the capital or near central offices) to the city's status as a regional, national and European capital. These functions are filled mainly by highly-skilled workers, whereas much of the Region's population is low- or medium- skilled. In addition to the skill-level problem, there is a large foreign-born population in Brussels; these people may not meet the nationality or language skill criteria for vacant positions, and they may face greater discrimination in the recruitment process. These factors combine to make the mismatch between labour supply and demand in Brussels particularly acute* (Zimmer 2012)

About mobility he concludes that "*whereas Brussels has roughly one position for every resident, jobs are held most of the time by residents of the other Regions. Conversely, jobs in Flanders and Wallonia are overwhelmingly performed by their own residents; commuting between the North and South of the country is relatively rare, as is commuting by Brussels residents to the other Regions, with the exception of the Brabant provinces. The characteristics of (potential) workers play a role in how likely they are to commute, as witnessed by the small proportion of low-skilled workers among commuters. In addition, there are other obstacles, such as the language barrier, difficulty getting to the place of work and the costs of performing an occupation. However, employers' recruiting difficulties on both sides of the language barrier, with analogous critical occupations, and the similarity of the mismatch indices calculated for Flanders and Wallonia show that the Belgian labour market's challenges stem not only from location mismatches, but also – and especially – from qualification and skill mismatches. This calls for structural solutions that can improve the job prospects of groups that are at risk."*

Konings and Torfs (2012) analyze the matching efficiency in the Brussels Metropolitan Area (BMA), which covers the Brussels' Capital Region, Halle-Vilvoorde and Brabant-Wallon. *"In 2010 the unemployment rate for the BMA was 15.5%. One of the striking*

features of the BMA is the enormous dispersion in terms of local unemployment rates: In 2010 it was 22.9% in the Brussels Capital Region, 11% in Brabant-Wallon and 5.8% in Halle-Vilvoorde. The vast majority of the unemployed are low skilled (61 percent of all unemployed) and most of the low-skilled unemployed live in the Brussels' Capital Region (83% of all low skilled unemployed live in Brussels)". (Konings and Torfs 2012).

Their conclusions differ slightly from Zimmer (2012) since they find a significant effect of the lack of mobility on the deterioration of the efficiency of the matching process.

"The main cause of this decrease in matching efficiency is the spatial mismatch between demand and supply, with a rising number of unfilled vacancies for low skilled workers in the suburbs coinciding with a rising number of low skilled unemployed workers in the Centre. We estimate that a 10 percent increase in spatial mismatch in the Brussels' Metropolitan Area is associated with a reduction in matching efficiency of 4 percent. Policies aimed at enhancing worker mobility from the Centre to its suburbs would reduce spatial mismatch and therefore enhance the matching efficiency considerably. This would require a further and intense collaboration with the public employment agencies, VDAB, Forem and Actiris and a close monitoring of unemployed workers, stimulating them to engage in commuting to take up job offers." (Konings and Torfs 2014)

In short Konings and Torfs estimate that a large part of the mismatch in Brussels may be reduced by an increase of the mobility of labour supply of low-skilled active population from Brussels Capital Region to the other parts of the Brussels Metropolitan Area.

2.2.2 Overeducation and downskilling effect

In its paper of 2008, Hervé Devillé (2008) shows that «*even if the inadequation of skill explains most of the probability of leaving unemployment for all the skill levels, the overeducation or downskilling effect is a growing for the highest level of education, reinforcing the unemployment of the low skilled by an effect of eviction*". Therefore Devillé (2008) considers that "*these policies [supply side policies] should be accompanied by demand policies during the recession periods in order to reduce the overeducation effect that has a cumulative negative effect on the employment of the low skilled.* Zimmer (2012) takes also this effect in consideration:*" it is estimated that in 2010, 22 % of persons employed in Belgium were overqualified*".

The conclusions of Devillé (2008) are more balanced than the pure mismatch approach. He shows that the unemployment of the low skilled part of the active population may be increased through the overeducation and downskilling effect. Based on rather old data ending in 2005, this kind of research should be re-conducted and tested for the crisis period from 2008.

2.2.3 Macroeconometric and microeconometric estimations of the driving factors of the unemployment rates in Brussels

Englert and Plasman (2012) and Englert (2013) present a set of macro and micro estimations of the determinants of unemployment in the Brussels Capital Region and in the Brussels Larger Urban Zone (LUZ). In a first macroeconomic approach, comparing different urban zones of Europe (LUZ), they show that there is no link between the skill level of a population of a urban zone and the unemployment rate. But they also identify the correlation between the unemployment rates by skill level: in the urban zones where the unemployment rate of the low skilled persons are high, the unemployment rates of the high skilled will also in average be high and conversely. They argue that this result is clearly contradictory to a supply explanation of high unemployment. Moreover in the Brussels the unemployment rate of the high skilled active population in Brussels (LUZ definition) is higher than in all other Belgian provinces. In addition the share of high

skilled persons (higher education and university) in the active population is quite high. Another result of this research is that the continuous and strong growth of the skill level in the Region has not been accompanied by a decrease of unemployment.

They also study the link between unemployment and the skill level from the microeconomic and microeconometric point of view, by testing the impact of the individual characteristics (age, sex, diploma, nationality, family status and situation in the labour market one year before) of the active individuals on their probability of being unemployed, in comparison with the other regions of Belgium and with a set of European city-regions. This analysis confirms that in the Brussels Region, like everywhere, the unemployment risk is higher for people not having a higher education diploma, single, extra-EU nationals, and for people not being in employment one year before. More interesting is the fact that, for same characteristics, the unemployment probability is higher in the Brussels Region than in the other sub-regions of Belgium and in the most European « city-regions », except Berlin. Again, living in the Brussels Region increases in the same proportion the probability of being unemployed of the high skilled and of the less skilled. The higher unemployment rate of Brussels seems thus to be independent of the skill level of the active population. More generally a decomposition of the differences in probability of the unemployment rates between Brussels and the other regions shows that these differences may not be explained by the differences of the individual characteristics used in the regressions: age, sex, skill level, situation on the labour market. Again they conclude that the supply model doesn't seem to give a satisfying explanation of the high unemployment rate of Brussels.

The following explanations are given to this situation (Englert and Plasman 2012 and Englert 2013).

An analysis of the differences in characteristics of commuters and unemployed inhabitants shows, in addition to the average skill level higher for the commuters, that the only significant difference between high skilled commuters and high skilled unemployed is the birthplace. Almost all the commuters are born in Belgium, but almost 50% of the high skilled Brussels unemployed are born in a foreign country. This may be linked with a discriminatory effect indirectly highlighted in the recommendations (CSR) addressed by the European Commission to Belgium where the employment rate of the persons from foreign origin significantly lower than the employment rate of Belgian. This factor is also put forward by Zimmer (2012) who considers that "*In addition to the skill-level problem, there is a large foreign-born population in Brussels; these people may not meet the nationality or language skill criteria for vacant positions, and they may face greater discrimination in the recruitment process.* This factor is also quoted by FRANSSEN, CARLIER, and BENCHEKROUN (2014) discussing the transitions from school to work in Brussels: *"one should also take into account the very large variations following the national origin (in disfavor of people from non EU27 countries origins), the municipality or even the blocks where they are living and the gender"*.

One other factor, contributing to the inadequation between demand and supply could be the skill languages requirements that could favor the employment probability of the commuters in comparison to the active population of Brussels (2/3 are coming from Flanders, 1/3 from Wallonia), whatever their origin. This is also discussed by Zimmer (2012):

"As we have noted, apart from commuting into Brussels, most travel is between provinces within a given Region. The number of Flanders residents who work in Wallonia, and vice versa, is thus relatively small, which indicates that language is still a barrier to commuting within our country. In fact, knowledge of the second national language is generally limited "

Given their results of the macro and micro analysis of unemployment in Brussels, Englert (2013) suggest that the employment policy in Brussels should be articulated on the support to the creation of three kind of employment : jobs : (1) the new occupations of the city, (2) green jobs, and (3) the occupations directly linked with the demographic evolution of Brussels. These three employment categories are, following Englert, very promising in terms of growth and may be influenced by the public authorities. Englert also proposes a prospective evaluation of the needs at short and medium terms in education, childcare and residential care for elderly. Even if the number of job places that should be created to meet the needs in these three categories is significant (+ 10,000 between 2009 and 2010) it remains largely insufficient compared to the employment gap for the Brussels population. Taking into account the growth of the active population, employment should increase with more than 120,000 unities between 2009 and 2020 if the Brussels employment rate has to be equal to the employment rate of the other regions.

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