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**Labour Reform and Labour Mobility within Cities: have the Hartz reforms succeeded?**

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## 1. Introduction

The continuous poor performance of the German economy both in terms of economic growth and employment outcomes, has led its government to set out an ambition agenda: the 'Agenda 2010'. GDP in Germany between 1991 and 2003 only grew by 18 per cent, which was about half the growth in the United Kingdom (UK) which was about 35 per cent and the Netherlands of 34 per cent during that period (Jacobi and Kluve, 2006:3). Unification of East and West Germany has been implicated in this sluggish performance. This increased the labour force by approximately a third of workers, many of whom were inadequately trained to compete in an open market (p.3). German Active Labour Market Policy (ALMP) was "dominated by training and public job creation measures characterised by a long duration compared to other countries" (Jacobi and Kluve, 2006:25).

The Hartz reforms are an integral part of the government's 'Agenda 2010'. They are a set of recommendations into the German labour market resulting from a 2002 commission, presided by and named after Peter Hartz, a key executive from German car manufacturer Volkswagen.

The recommendations were fully endorsed by the Schroeder government and introduced in four trenches: Hartz I to IV. The reforms of Hartz I – Hartz III, took place in January 2003-2004, while Hartz IV began in January 2005. The reforms represent "the most far reaching reform endeavour in Germany in the last decades" (Fertig and Kluve, 2004:2). Jacobi and Kluve (2006:2) argue that the Hartz laws represent a three-part reform strategy that aimed at:

- a) the improvement of employment services and policy measures,
- b) activating the unemployed and
- c) stimulating employment demand by deregulating the labour market.

The recommendations are broadly inline with reforms that have been pursued in other industrialised countries, following the OECD's job study in 1994 (OECD, 1994): a focus on supply side measures and privatisation of public employment agencies to reduce unemployment.

Ostensibly the reforms appear to have been successful, official statistics have suggested that an additional 930,000 jobs were created one month after the introduction of the reforms early 2003 (Caliendo and Wrohlich, 2006:4). However the speedy increase in employment can also be viewed less optimistically, "From the bottom of the cycle, in mid-2003, employment grew much less quickly than in previous upturns. And much of the rise took the form of 'mini jobs' – part-time posts paying no more than €400 a month, regardless of hours. By contrast, employment in the 'primary' labour market, where social insurance contributions are compulsory is still well below what it was seven years ago. Unemployment is still around 4m. And the rate in eastern states is still double that in the west." (The Economist, 2007).

The paper focuses specifically on how the promotion of mini jobs interacts with metropolitan dynamics to deliver particular outcomes within German cities. Specifically we explore the notion that cities promote higher turnover and job-mobility, which is both positive and negative representing greater 'flexibility' and 'insecurity'. We pare this notion, prominent in the UK literature (Buck *et al.*, 2002) with the central aim of the Hartz reforms which aimed to increase the dynamism of the German labour market. We hypothesise that one of the outcomes of the Hartz

reforms may be increased job insecurity and downward trajectory of wages and conditions for low-wage workers in Germany's major cities. To test our hypotheses we use the German Socio-Economic Panel dataset.

The paper is organised as follows. Sections 2 and 3 detail the purpose and extent of the reforms and the spatial peculiarities of the German labour market respectively. Section 4 provides a literature overview of turbulences in metropolitan labour markets. Section 5 outlines the data we use to test our hypotheses, while Section 6 contains the empirical analysis. Section 7 concludes.

## **2. Hartz reforms: mini and midi jobs**

One of the reforms that aimed to create a stepping stone to employment was the creation of mini and midi jobs by the German government in April 2003. These reforms have been responsible for the generation of significant numbers of part-time jobs in the period since the reforms and have been linked to improvements in labour market flexibility. Leschke *et al.* (2006:13) review this 'marginal employment', several objectives drive these reforms:

- Containing illegal work, particularly in private households;
- Increasing employment by removing obligation to make social insurance contributions; and
- Low wage employment generation through increasing incentives for unemployed to obtain short-term employment as 'stepping stones' to regular jobs.

Before the Hartz reforms mini jobs were defined as employment activity up to a maximum of 15 hours per week, and €325 of monthly gross earnings. The mini job was also characterised by full-exemption from taxation if the employee received no other income, and full exemption from employee's social security contributions if earning income below the €325. Those with other sources of income were given a choice between 20 per cent flat-tax rate and taxation according to the progressive tax code. Above the threshold income of taxation set in and earnings were subject to the normal rate of social security contributions (about 21%). (Bargain *et al.*, 2005:2).

The 'Mini job' reforms of 2003 included three main changes to pre-reform regulations:

- The maximum amount of earnings exempt from social security contributions was increased from €325 to €400;
- The previous maximum hours restrictions (15 hours a week) were then abolished;
- Income to €400 per month from a mini job held as a secondary job, which was fully taxable before the reforms, is now exempt from social security contributions and income tax.

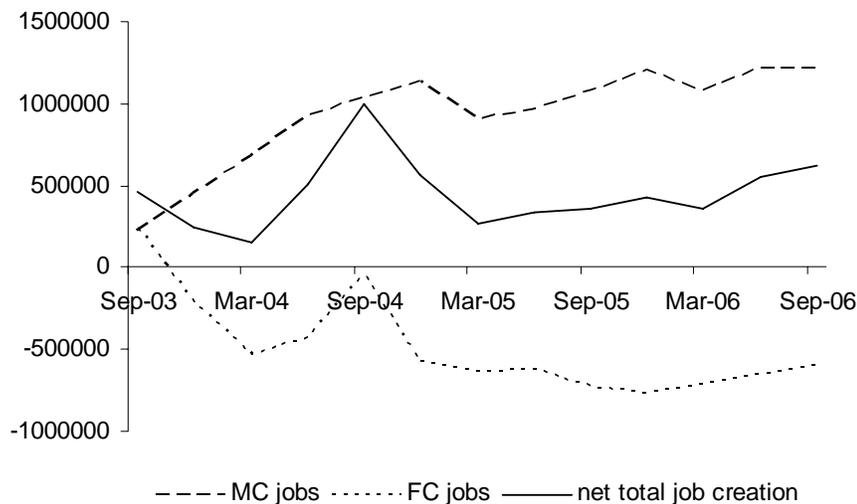
As Steiner and Wrohlich (2005:92) indicate the new mini job laws differ in important ways from previous regulations and proposals for social security contribution (SSC) subsidies as a means to increase employment in the low wage sector in Germany. The new SSC subsidy is intended to be permanent and not restricted to particular regions or specific labour market groups.

Midi jobs combat financial disincentives to earn more than the maximum earnings of a mini job (Leschke *et al.*, 2006:13). They provide additional deductions from social security contributions for persons earning above €400. Employees pay a reduced contribution of 4 per cent when earning over €400 and thereafter contributions

increase linearly until earning an income of €800, when they reach the regular size of 21 per cent. Employers pay full contributions at 21 per cent, compared to 25 per cent for mini jobs (12 per cent retirement insurance, 11 per cent health insurance and 2 per cent taxes) – employers ought to be encouraged to transform mini jobs into midi jobs.

Figure 1 below reports on volume changes for marginally contributing (MC) jobs (*i.e.* mini or midi jobs) and fully contributing (FC) jobs (*i.e.* regular jobs), following the implementation of the Hartz reforms early 2003. It shows that MC job creation was strong in the first year and a half, but levelled off from 2005 onwards. A similar, but reverse pattern develops for FC employment. FC employment decreases following the introduction of the reforms and the decrease levels off from 2005 onwards. Consequently, the net employment effect of introducing MC jobs is roughly half the number of FC jobs created.

Figure 1 Job creation in Germany following the Hartz reforms, 2003-2006



Source: Statistik der Bundesagentur für Arbeit

This puzzling graph brings up the first hypothesis of this paper.

*Hypothesis 1:* Though the Hartz reforms have led to an increase in MC employment, simultaneously part of the job creation has been nullified by FC job destruction. The increased flexibility surrounding the reforms has led to this destruction.

Table 1 shows the distribution of MC jobs over metropolitan and non metropolitan areas in Germany. The unemployment rate in German metropolitan areas is lower than in non metropolitan areas, whereas the share of MC jobs in total employment is fractionally higher in metropolitan areas. The position of Berlin is idiosyncratic: high unemployment and low incidence of MC jobs.

Table 1 Distribution of MC jobs over Germany, 2005

German regions	Unemployment rate <sup>a</sup>	Share of MC jobs in total employment <sup>b</sup>
Metropolitan regions:	10.2	21.3
- Berlin	16.6	15.2
- Bremen	11.7	24.8
- Frankfurt	9.2	20.0
- Hamburg	10.5	21.2
- Hanover	12.2	20.1
- Munich	7.1	19.5
- Nuremberg	8.8	19.9
- Rhine Main	8.7	22.1
- Rhine Neckar	8.1	21.3
- Rhine Ruhr	11.9	23.8
- Stuttgart	6.2	21.7
Non-Metropolitan Regions:	12.8	20.5
Germany	11.6	21.0

<sup>a</sup> Unemployment rate is an average of the relevant NUTS 3 regional unemployment rates in 2005.

<sup>b</sup> Marginally contributing employment includes persons who hold a 'marginal' job as a form of secondary employment.

Source: Statistik der Bundesagentur für Arbeit, 2005

### 3. Regional employment growth and unemployment in Germany

For obvious reasons, any analysis of the German labour market in the post unification era should control for the labour market differences between regions from former East Germany and regions from former West Germany.

To provide an overview of the spatial patterns of employment growth and unemployment (and other labour force aggregates) we analyse data from the Eurostat Regio database for the German NUTS1 regions (*i.e.* federal state levels). The data spans the period 1999 to 2005 and is available for full-time, part-time and total employment by NUTS1 region.

We constructed regional employment growth over the period 1999 to 2005 as:

$$(1) \quad g_r = 100 \cdot \log \left( \frac{E_{r2005}}{E_{r1999}} \right)$$

where  $E_{r1999}$  ( $E_{r2005}$ ) is employment in 1999 (2005) in region  $r$ . Similarly, national German employment growth is defined as:

$$(2) \quad g_n = 100 \cdot \log \left( \frac{E_{2005}}{E_{1999}} \right)$$

where  $E_{1999}$  ( $E_{2005}$ ) is total national ( $n$ ) employment in 1999 (2005).

Net regional employment growth is defined as  $g_r^{net} = g_{rt} - g_{nt}$  and indicates a region's changing share in total employment.

Our contention is that to understand the behaviour of regional unemployment in Germany we have to also understand regional employment dynamics. The employment levels for the federal states indexed to 100 at 1999 are shown in Table 2 for 1999 and 2005 and graphed in Figure 2 over the whole period from 1999 to 2005. From Table 2 we note that national employment growth has been essentially flat over the period between 1999 and 2005. Only Baden-Württemberg has shown solid growth over the same period. Most of the former West German federal states are clumped around the national average with two (Bremen and Saarland) being well below the average for Germany as a whole. Of the former East German states, all are well below the national average, although Berlin and Brandenburg exhibit superior performance to Bremen and comparable performance to Saarland.

Table 2 Index numbers of total employment growth in Germany, 1999 = 100

Federal states	2005
Federal states in former East Germany:	100.7
- Berlin	98.1
- Brandenburg	97.9
- Mecklenburg-Vorpommern	95.9
- Sachsen	94.6
- Sachsen-Anhalt	95.4
- Thüringen	92.6
Federal states in former West Germany:	
- Baden-Württemberg	105.44
- Bavaria	101.6
- Bremen	95.3
- Hamburg	101.1
- Hessen	102.4
- Niedersachsen	100.4
- Nordrhein-Westfalen	101.2
- Rheinland-Pfalz	102.5
- Saarland	98.5
- Schleswig-Holstein	101.6
Germany	100.7

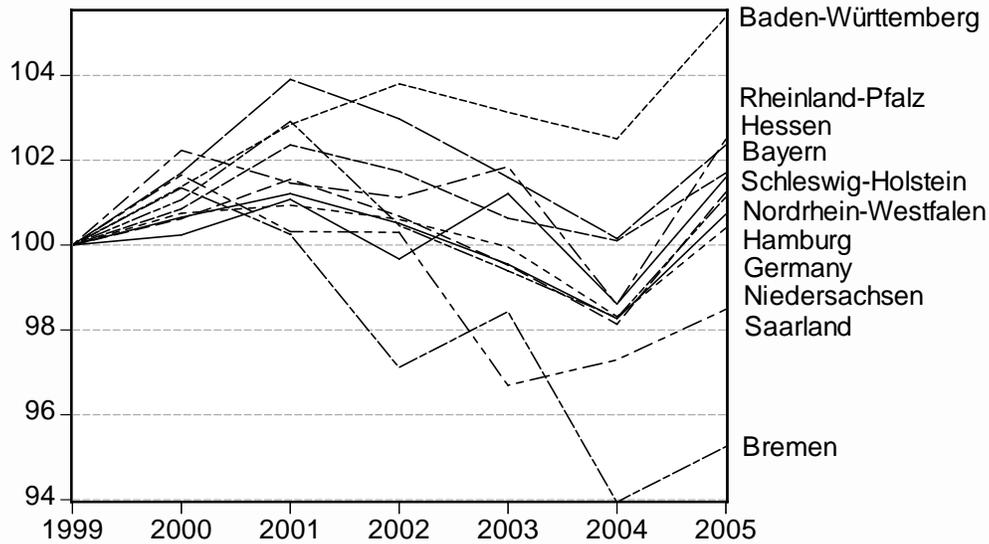
Source: Eurostat Regio database

The flat national growth rate for Germany over this period hides the reality that the division between the former West and East Germany is still significant in economic terms. Employment growth in the former West Germany was 2.0 per cent between

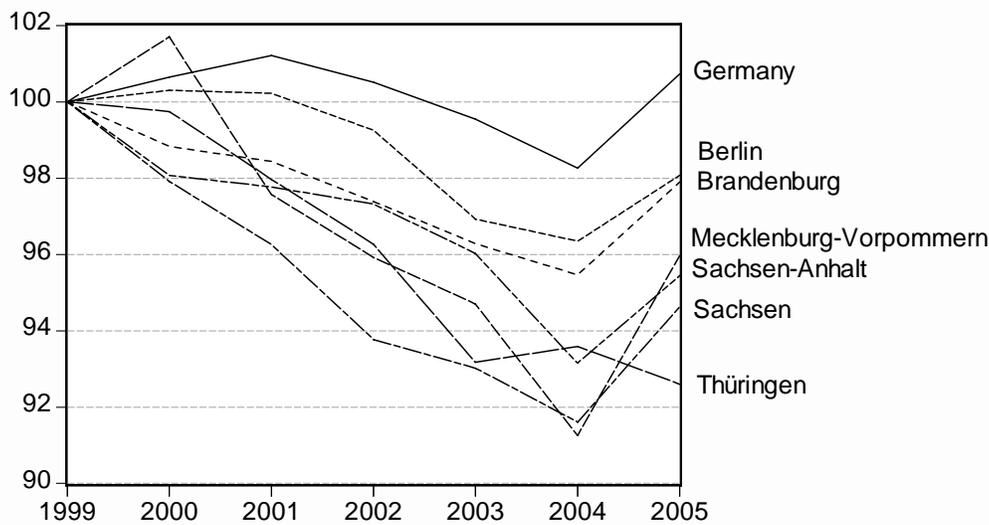
1999 and 2005 while employment growth for the former East Germany as a whole declined by 4.2 per cent.

So Germany remains a tale of two regions, despite some disparity within those broad regional aggregates exhibiting some variation within.

Figure 2 Employment indexes, Germany and its federal states, 1999 = 100



(a) Former West German states and Germany overall



(b) Former East German states and Germany overall

Source: Eurostat Regio database

Table 3 presents a broader picture of the German regional labour market. For ease of exposition, the data is ranked in descending order based on total employment growth. Unemployment rates in all German regions have persisted at their relatively high levels although there is considerable disparity between the regions with respect to the level of these rates. The correlation between total employment growth and the

unemployment rate is  $-0.82$ . This confirms the strong contention that the unemployment fortunes of a region are driven by demand side considerations. The labour supply data show that in general the former East German states are experiencing contracting labour supply which serves to moderate the intensity of the unemployment crisis driven by lack of employment growth. Conversely, some of the states of former West Germany (Baden-Württemberg, Rheinland-Pfalz, Nordrhein-Westfalen and Saarland) are enjoying strong labour force growth relative to national rates and European rates generally.

The other stark result is the collapse of full-time employment in all German states the worst being the states in former East Germany. Part-time employment growth has been dramatic over the period 1999 to 2005 although it has emerged from a fairly low base which explains the large percentage expansion. The trend to part-time employment opportunities is more evident in the states in former East Germany.

The trend appears to be one of stark regional disparities concentrated along the lines of the former West and East Germany, although not exclusively with fractional employment dominating the new job opportunities available in the modern unified Germany.

The net employment growth outcomes provide us with information about the relative gain or loss of regional employment shares as outlined earlier in this section. The states that have gained share of total employment (largely full-time jobs) also enjoy the lowest unemployment rates.

Table 3 Regional labour force aggregates, Germany and its federal states, sorted by total employment growth (descending order)

	Formerly	Average UR	Change in UR	Employment growth			Net employment growth			Growth LF	Average LFPR	Change LFPR
				Total	FT	PT	Total	FT	PT			
		9.3	0.9	0.7	-5.7	24.3				3.4	57.5	0.5
Baden-Württemberg	West	5.3	0.2	5.2	-0.3	23.4	4.5	5.4	-0.8	7.3	59.7	1.2
Rheinland-Pfalz	West	6.4	0.5	2.5	-3.7	23.3	1.7	2.0	-1.0	5.6	56.1	1.9
Hessen	West	6.8	0.0	2.3	-1.5	15.3	1.6	4.2	-9.0	3.7	57.7	0.3
Bavaria	West	5.4	0.6	1.7	-2.7	17.4	1.0	3.0	-6.9	3.9	60.5	0.0
Schleswig-Holstein	West	8.2	0.9	1.6	-3.5	17.2	0.9	2.2	-7.1	4.6	57.6	0.8
Nordrhein-Westfalen	West	8.1	1.1	1.2	-6.9	28.7	0.5	-1.2	4.4	4.7	54.2	1.7
Hamburg	West	8.9	0.8	1.1	-0.6	7.1	0.4	5.1	-17.2	3.3	58.8	0.7
Niedersachsen	West	8.2	1.2	0.4	-6.3	22.6	-0.3	-0.6	-1.6	3.9	55.5	0.7
Saarland	West	8.1	1.0	-1.5	-8.5	21.8	-2.3	-2.8	-2.4	2.5	51.8	1.5
Berlin	West	16.8	2.0	-1.9	-9.1	24.6	-2.7	-3.4	0.3	3.1	59.1	0.1
Brandenburg	East	17.3	1.6	-2.1	-9.9	45.5	-2.8	-4.2	21.2	0.8	60.9	-1.2
Mecklenburg-Vorpommern	East	19.4	2.7	-4.1	-14.4	56.4	-4.8	-8.7	32.1	-0.1	59.6	-0.3
Sachsen-Anhalt	East	20.0	0.1	-4.7	-12.5	45.2	-5.4	-6.8	21.0	-5.0	58.4	-1.0
Bremen	West	11.9	0.9	-4.9	-13.4	20.7	-5.6	-7.7	-3.5	1.2	53.6	0.6
Sachsen	East	17.5	2.1	-5.5	-13.0	34.6	-6.3	-7.3	10.4	-2.3	58.5	-1.3
Thüringen	East	15.2	1.3	-7.7	-15.4	38.7	-8.4	-9.8	14.4	-4.4	59.1	-2.9

Source: Eurostat Regio database. UR is average unemployment rate between 1999 and 2005. Change in UR is the change in the unemployment rate between 1999 and 2005. (Net) Employment growth is defined previously in this section. Net regional employment growth is the difference between regional employment growth and national employment growth. Growth LF is the percentage change in the labour force between 1999 and 2005. Average LFPR is the average labour force participation rate between 1999 and 2005. Change in LFPR is the percentage change in the labour force participation rate between 1999 and 2005. FT is full-time, PT is part-time.

#### 4. Urban Labour Markets and Job Mobility

Recent writing on cities has argued that cities have emerged as an engine of growth in developed economies – achieving successful economic outcomes, owing to their ‘density, diversity and openness to change’. Their scale, networks and advanced service functions provide greater potential for interaction and readier access to innovation; and deliver higher earnings to workers who are better able to appropriate productivity gains through job mobility. Metropolitan labour markets are liable to be characterised by higher turnover, because (Buck *et al.*, 2002:204):

1. Firms and workers have less incentive to commit to a long-term relationship; and
2. ‘Natural selection’ of firms and workers needing or wanting such flexibility.

The scale of metropolitan labour markets increases the range of options available to workers and employers, making it attractive for them to use an external labour market as a means to achieve their goals. Agglomeration economies decrease the risks of labour market flexibility, since new jobs can be found more easily and when required. In addition to scale effects giving rise to greater mobility rates, Glaeser (1999) and Glaeser and Maré (2001) claim city labour markets – which tend to be characterised by advanced service functions – offer greater opportunities for ambitious workers to develop their skills and human capital. They argue that it is the greater opportunities for learning and the ability to translate learning into a wage premium that attracts workers, rather than the higher initial wages. Dense urban areas increase the speed of interaction and interactions help individuals increase skill acquisition. Meanwhile the risks of mobility are lower right across the labour market because of scale and density, encouraging quicker hiring and firing practices amongst employers. Similarly Fielding (1991) mounts what is termed the ‘escalator hypothesis’ such that in cities there is a higher rate and faster than normal progression from education into managerial posts, and a higher degree of churning between professional and managerial jobs – a trend which is confirmed in the UK context using more recent data by Gordon (2002). Thus cities are said to promote occupational and social mobility, particularly for the young and qualified. Buck *et al.* (2002) review these trends in the London economy in the 1990s using the Household Panel Survey (1991-99). Results indicate younger workers with good educational qualifications do progress more rapidly in the London region, although this margin is significantly reduced after controlling for age, educational qualification and a measure of personal ambition (p.208-209). There is no evidence that those with higher levels of ambition benefited from being in the London region (p. 209).

In metropolitan regions the outcomes of ‘flexibility’ and higher job mobility, can be both positive and negative. While wages may be higher in metropolitan labour markets, earning disparities are also likely to be higher, with implications for individual inequality (Buck *et al.*, 2002: 205). The benefits of job mobility are best appropriated by people with ‘deep’ skill sets, learning skills and in non-routinised positions. In UK there is also indication that risks may be higher, with less protection for those experiencing bad work spells of unemployment, particularly if they fail to make a transition to secure jobs in middle age. “For some people at least, youthful turbulence seems to be followed by a form of sedimentation”. (p. 209). For low-skilled workers more flexibility may translate into insecurity, associated with casualisation and intense job-competition for low-skilled positions. The earlier segmented labour market literature clearly noted that unlike the human capital theory vision of job change, workers in low-skill jobs tended to change jobs regularly and cycle between one low paid position and another with spells of unemployment often interspersed and no definable career progression occurring (Doeringer and Piore, 1971) When local labour markets are job rationed, more desirable workers successfully compete for low-skill jobs at the expense of the least skilled workers, resulting in a process of ‘bumping down’ (Mitchell and Bill, 2006).

Drawing on segmentation theory, Mitchell *et al.* (2005) hypothesise that on-the-job behaviour is likely to be different according to the segment the worker is employed in. The

notion of the primary labour market (PLM) suggests that they are employed in tight internal labour market structures, which facilitate career advancement and where workers use search activity to enhance career aspirations – they search because of intrinsic factors or confidence. Secondary labour market workers are employed in routinised, low-skill employment with little opportunity for career advancement – these workers search for extrinsic reasons or because of fear of losing the job. Examination of Australian panel data for 2001-2003, indicates that intrinsic motivators result in better employment outcomes, while extrinsic motivators result in poorer labour market outcomes. The former is a characteristic of the primary segment of the labour market, and the latter is a characteristic of the secondary segment of the labour market.

Examining Australian panel data for 2001-2005, and controlling for a range of demographic and industry characteristics, it is shown that there are significant differences between cities and their non-metropolitan counterparts in terms of the motivations for job search and the nature of job transition, holding other factors constant (Bill *et al.*, 2005). The author's explicitly examined whether cities promote greater levels of mobility and whether primary and secondary labour market participants display different patterns of search and occupational transition in urban areas. Results indicate that job mobility is higher in metropolitan areas, other factors constant. When the authors included variables such as 'confidence in finding another job' (intrinsic motivation for search) and 'fear of losing a job' (extrinsic motivation for search), the metropolitan advantage was eliminated. Extrinsic factors were important in the secondary labour market, while both intrinsic and extrinsic factors operated in the primary segment. Thus behavioural processes appear to be associated with higher rates of job mobility in metropolitan areas, and particularly so in the primary segment of the metropolitan labour market. The finding that there is more fear of job loss in the primary segment of the labour market, both compared to the non-metropolitan primary segment and the metropolitan secondary segment, leads the authors to conclude that labour market deregulation has undermined secure employment and training in the primary segment.

Exploring outcomes delivered by dynamic city labour markets is particularly interesting in the context of the Hartz reforms. These reforms are deliberately aimed at increasing the overall 'dynamism' of the German labour market, through the acceleration of labour market flows and the facilitation of efficient job-matching. Non-spatial studies to date have already pin-pointed ambiguous outcomes, with an emerging flexibility/insecurity (turbulence) dynamic in the low wage sector associated with the mini and midi job reforms, see Leschke *et al.* (2006). As discussed, flexibility and security are relative concepts; whether short-term or casual employment provides a career path depends on who you are. Young and single workers are likely to "see their freedom increased by a new array of short term opportunities for bar, office or 'temp' work" (Buck *et al.*, 2002:198). Thus the benefits of these reforms may not be universal, an issue which we attempt to explore directly within the paper.

This dichotomy, expressed as 'flexicurity', is explored by Leschke *et al.* (2006) in the context of the Hartz reforms. They argue that employer responses to the reforms have been favourable (p.14). Mini jobs in particular are seen as "cost-efficient and a flexible measures" to deal with peaks in workload and extended opening hours. "In this context, competitive branches such as trade, cleaning, gastronomy and tourism but also private households benefit most from this measure." (p.14). Evidence indicates small businesses particularly appreciate flexible and rapid use of marginal employment with low costs. (Fertig and Friedrich, 2005:129-130). Although such aspects existed before 2003, through the abolition of weekly working hours limitation for mini jobs, the Hartz reforms have strengthened that flexibility associated with variable working hours. However Leschke *et al.* (2006) indicate that there has been limited exploration of the extent to which these reforms have benefited the unemployed. Only 15 per cent of mini jobbers are unemployed before they took up marginal employment (Leschke *et al.*, 2006:15). Further analysis of the 'bridging' capacity of this employment indicates that when it comes to the 'bridging' function mini jobs are less

appropriate than midi jobs. Leschke *et al.* (2006) citing Fertig *et al.* (2004:67, 81) and Fertig and Friedrich (2005:163-166) 15 per cent of the sampled marginal workers took up a mini job because they did not find another job. Also only 9 per cent of those who had left their mini job on the date of the interview performed regular employment (p. 15). Midi jobs performed better – 32 per cent of those who left their job had made a transition to regular employment, keeping in mind that there are many less midi than mini jobs. The authors also indicate that there is an East-West divide and conditions in East Germany worsen the capacity for workers to transit into regular employment. A further debate exists based on the extent to which the mini/midi job reforms have created employment which substitutes for regular employment. “It is questionable whether each regular job that has been converted into a mini job would still exist otherwise”. (p. 16). Bundesagentur (2004) indicates that a quarter of mini jobs are held by young (under 20) and elderly (over 64) people who are generally receiving other sources of security. A quarter of mini job participants are engaged in other employment – promoting secondary employment was in part the intention of the reforms which abolished social security contributions where the mini job was held in addition to regular employment.

Leschke *et al.* (2006) argue that while earnings may have increased, “marginal employment clearly does not provide sufficient independent income and social security.” (p.14). Marginal employment as represented by mini and midi jobs, perhaps offers a flexibility which is desired, allowing the combination of paid and unpaid work. German studies to date find that a quarter of the mini jobbers and a third of the midi jobbers answered that they consciously decided to take up marginal employment in order to improve their work-life balance (Fertig *et al.*, 2004:81, Fertig and Friedrich, 2005:166).

*Hypothesis 2:* The Hartz reforms intend to make the bottom side of the German labour market more flexible. This will strengthen downward escalators in the secondary segment of the German labour market, especially in the Metropolitan areas.

## 5. Data

To test our hypotheses we use the German Socio-Economic Panel (SOEP). The SOEP data are a representative sample of households in Germany which provides longitudinal micro-data for social and economic research. The surveyed population of the SOEP are private households and their members who reach the age of 17. The same private households, persons and families have been surveyed annually since 1984, in June 1990 the SOEP expanded to include states of the former German Democratic Republic (GDR). The data include information on: personality traits, physical and mental health, occupation and family biographies, health care and education participation, employment, participation and professional mobility, earnings, household composition and personal satisfaction.

Our analysis will centre on transition rates from FC to FC jobs, from FC to MC jobs and from FC jobs to unemployment. We use data from 2001 to 2005, implying four transition rates. The introduction of the Hartz reforms in 2003 divides the data in two parts of each two transition rates (post/pre Hartz). We pool each segment in our analysis. We subsequently cluster on respondent number in our analyses to ensure robust estimates. Consequently, we do not run a fully fledged panel analysis, which would allow to study whether the effects of the reforms strengthen overtime. Though that would be a worthwhile extension, the limited number of post Hartz panels that we have (*i.e.* two) make such an analysis at this stage unlikely to yield interesting results.

The data contain a spatial identifier (county level), which allows us to explore the regional dimensions of job transitions following the Hartz reforms. However, that spatial identifier is not available for researchers based outside Germany. To nonetheless conduct our analysis including the spatial identifier we have remote access to a server in Berlin which contains the data including the spatial identifier, which we accessed through email traffic.

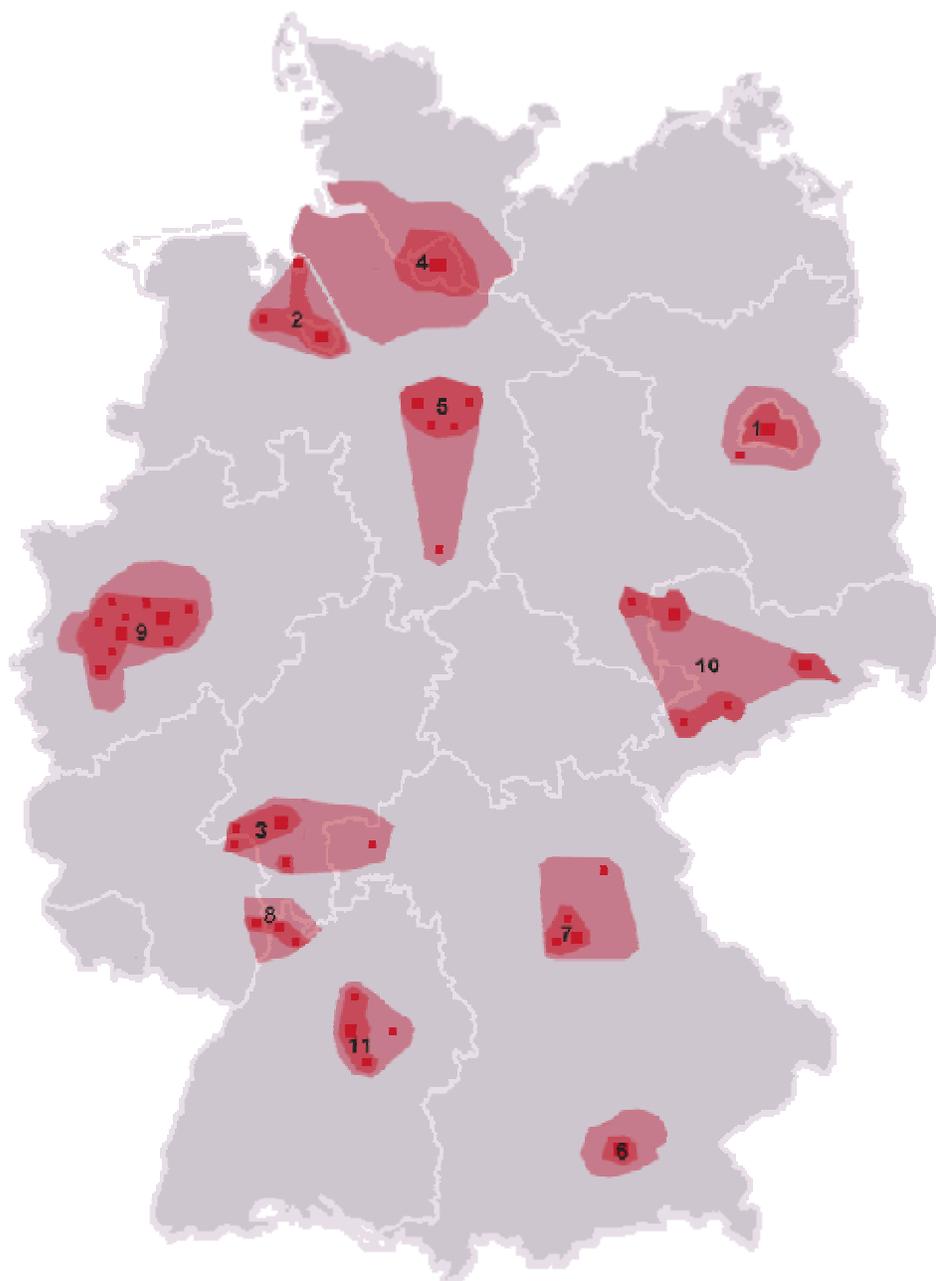
The county level identifier can be used to map out the German metropolitan regions as identified by the Federal Ministry of Transport, Building and Urban Affairs (FMTBUA). The FMTBUA has identified 11 Metropolitan regions in Germany – see Figure 3. Some of the regions are mono centric (Berlin, Hamburg and Munich); others are poly centric (the Rhine Ruhr region is a clear example, including cities like Bochum, Dortmund, Bonn, Cologne, Essen, and Düsseldorf).

FMTBUA applied three criteria to make this classification beyond densely populated areas. Metropolitan areas exhibit (FMTBUA, 2006):

- political and economic power: *i.e.* large influential firms, national and international government bodies and NGO's operate from within metropolitan regions;
- innovative power, both technologically and culturally: *i.e.* concentration of R&D research and cultural activities in metropolitan regions;
- gateway functions: *i.e.* metropolitan regions are centres of information exchange (both off and online), as a consequence of their logistical attractiveness.

These regions have been designated as key regions in an integrated Europe. Consequently, these regions are targeted as hotspots of economic, social and cultural activities, which would make them ideally suited for the purpose of our analysis. However, the FMTBUA has set out the creation of metropolitan areas as an ambitious goal towards greater European collaboration. The regions are not yet integrated hubs of economic, social and cultural activities. Therefore we concentrate on the metropolitan centres (the so called 'kreisfreie städten') of the designated metropolitan areas.

Figure 3 German future Metropolitan Regions



Legend:

- |                                 |                               |
|---------------------------------|-------------------------------|
| 1. Berlin/Brandenburg           | 7. Nuerenberg Erlangen Fuerth |
| 2. Bremen/Oldenburg             | 8. Rhine – Neckar             |
| 3. Frankfurt Rhine Main         | 9. Rhine – Ruhr               |
| 4. Hamburg                      | 10. Saxon Triangle            |
| 5. Hanover/Brunswick/Goettingen | 11. Stuttgart                 |
| 6. Munich                       |                               |

Source: Federal Ministry of Transport, Building, and Urban Affairs (FMTBUA)

## 6. Empirical analysis

### 6.1 Turbulence in the German metropolitan areas

Before answering Hypothesis 2, we first explore whether the German labour market indeed exhibits similar job mobility patterns as other labour markets in industrialised countries which have already been scrutinised – see Section 4. Table 4 shows the results of a probit

regression where the dependent variable is job mobility – first column. Job mobility includes all job moves (*i.e.* FC to FC or MC and MC to MC or FC).

We indeed find similar results to previous studies. Job mobility is negatively related to age and educational levels. Also job status and tenure yield the expected results. Labour market tightness leads to more job mobility and the ‘east-west’ divide is significant as well. The metropolitan dummy gives the predicted result as well: there is more turbulence in the metropolitan areas in Germany than in the rural areas.

In the second column we introduce the Hartz reforms. We interact the metropolitan dummy to the pre and post Hartz era. We cannot confirm Hypothesis 2 suggesting increased turbulence in the metropolitan area following the Hartz reforms, though the interaction variable is close to being significant ( $p$ -value = 0.12). It probably will be significant if more post Hartz waves become available

Finally (third column) we run a similar regression for blue collar workers (the secondary segment of the labour market) only. We find similar results; though the metropolitan dummy is no longer significant, indicating that turbulence in the German metropolitan labour market is predominantly a primary labour market phenomenon.

## 6.2 Downward escalator: entry into MC jobs

An interesting aspect to explore is the consequences of extending the number of MC jobs as part of the Hartz reforms on potential downward escalators in the German labour market – Hypothesis 1. The provision of small low paid jobs at the bottom side of the labour market not only opens opportunities to unemployed to enter the labour market, it also provides employers with the opportunity to erode job security of employees by changing their FC jobs into MC jobs, which would confirm Hypothesis 1.

In Table 5 we investigate this potential downward escalator, which we expect to find in the secondary labour market, potentially in the metropolitan areas. In the first column we use a binary independent variable measuring workers changing from a FC job towards an MC job (1) and workers who continue to hold an FC job, regardless whether that involves a job change (0). The results show that German workers in the latter stages of their career are more likely to move downwards on the job ladder. The same holds for those having a fixed-term job and those who have little work experience (tenure). Furthermore, we find that workers who are underemployed are less likely to move to an MC job. That is no surprise since MC jobs are hardly full time job. Consequently such jobs do not solve the underemployment problem a worker faces. Unfortunately, the data do not allow for a proper analysis of second jobs. It could well be that workers who have insufficient hours in their main job search for a second additional job (an MC job?) to raise the number of working hours to the desired level.

Finally, have the Hartz reforms and its subsequent surge in MC jobs created a downward escalator? The answer is a qualified no. On the contrary, the Hartz reforms have led to a structural break away from a downward escalator. The metropolitan dummy does not affect the outcome.

This leaves the puzzle presented in Figure 1 unsolved. Apparently the increase in MC jobs has not gone at the expense of FC jobs. Have the introduction of the Hartz reforms then contributed to direct job loss, which would explain the downward trend in FC employment? We test that determining what factors explain FC job loss. Column 2 of Table 5 shows the results. Most independent variables employed in the regression yield the expected signs. Age, educational levels, job status, labour market segment and job experience all have the expected sign, as has the ‘West Germany’ dummy. The Hartz dummy however, has no effect on the transition from an FC job to unemployment. Consequently, the Hartz reforms have not affected this transition rate, which means we find no evidence to support Hypothesis 1.

Table 4 Job mobility in the German labour market, SOEP 2001-2005

Independent variables		All workers		Blue collar
		Job mobility	Job mobility	Job mobility
Dependent variables				
<b>Personal characteristics:</b>				
Age:		0.16***	0.16***	0.13
		reference	reference	reference
		-0.06	-0.06	-0.07
		-0.19***	-0.20***	-0.40***
Gender:		0.09**	0.09**	-0.07
		reference	reference	reference
Ethnicity:	Born in Germany	reference	reference	reference
		-0.13*	-0.13*	-0.19
Education:	Low	reference	reference	reference
		-0.00	-0.00	-0.01
		0.11*	0.11*	0.11
<b>Job characteristics:</b>				
Job status:	Permanent	-0.40***	-0.40***	-0.52***
		reference	reference	reference
		-0.33***	-0.33***	-0.50***
Job tenure (years)		-0.05***	-0.05***	-0.05***
Social contrib.:	MC job	0.06	0.06	0.20
		reference	reference	reference
Underemployment (hours)		0.00	0.00	0.00
<b>Labour market conditions:</b>				
UV ratio (federal state level)		-0.04***	-0.04***	-0.04***
Spatial 1A:	Metropolitan	0.07*		0.07
		reference		reference
Spatial 1B:	Metropolitan x Post Hartz		reference	
			-0.11	
			-0.14**	
			-0.14**	
Spatial 2:	West Germany	0.09***	0.09***	0.10*
		reference	reference	reference
Pseudo R <sup>2</sup>		0.11	0.11	0.12
Sample size		21,498	21,498	5,517
* 10% significance, ** 5% significance, *** 1% significance, Industry dummies and constant included in analysis; not reported in table.				

Table 5 Downward escalators in the German labour market, SOEP 2001-2005

Dependent variables	Independent variables	Transition from FC job to MC job	Transition from FC job to unemployment
<b>Personal characteristics:</b>			
Age:		0.13	0.02
		reference	reference
		-0.16*	0.19***
Gender:		0.28***	0.30***
		-0.34***	-0.10**
		reference	reference
Ethnicity:	Born in Germany	reference	reference
		-0.19	0.05
Education:	Low	reference	reference
		0.00	-0.14**
		-0.21	-0.28***
<b>Job characteristics:</b>			
Job status:	Permanent	-0.36***	-0.52***
		reference	reference
		-0.01	-0.50***
White collar worker		reference	reference
Blue collar worker		0.16*	0.22***
Job tenure (years)		-0.05***	-0.77***
Underemployment (hours)		-0.00***	0.00
<b>Labour market conditions:</b>			
UV ratio (federal state level)		0.01	-0.01
Pre Hartz		reference	reference
Post Hartz		-0.16**	0.04
Spatial 1A:	Metropolitan	0.02	0.05
		reference	reference
Spatial 2:	West Germany	0.01	-0.16***
		reference	reference
Pseudo R <sup>2</sup>		0.15	0.12
Sample size		20,985	20,630

\* 10% significance, \*\* 5% significance, \*\*\* 1% significance, Industry dummies and constant included in analysis; not reported in table.

## 7. Conclusion

This paper explored the effects of the introduction of the Hartz reforms on the German labour market. We focus on the introduction of mini and midi jobs, which intend to facilitate the labour market entrance of the unemployed. However, these jobs may also erode the labour market position of workers in the secondary segment of the labour market, especially in

metropolitan areas where job mobility is high. This contention is fuelled by the fact that the increase in mini/midi jobs was accompanied by a sharp fall in regular employment.

However, we do not find conclusive evidence that links regular employment loss to the Hartz reforms. Though there is some tendency in the data that the Hartz reforms increases the turbulence in the secondary segment of the labour market, we do not find evidence that regular employment transforms into mini/midi employment, nor that mini/midi employment displaces regular employment.

Obviously, it is early days to draw any firm conclusions about the repercussions of the Hartz reforms. Moreover, the sheer size of the reform package makes it difficult to isolate the effects of single elements of the reforms. However, this first evidence suggests that the German industrial relations framework is still strong enough to prevent a deterioration of the labour market position of workers in the secondary segment of the labour market.

Finally, this paper has not looked at the ambitions of the Hartz reforms: reduce unemployment. The continuously high unemployment rate throughout the investigated period is not reassuring.

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<sup>2</sup> Disorders related to psychosis include schizophrenia, schizoaffective and schizophreniform disorders, affective disorders when psychosis is present (e.g. in depression, mania, bipolar affective disorder) and delusional disorders. (Waghorn *et al.* 2004 b: 444).

<sup>3</sup>MSEP – Michigan Supported Education Program was developed in metropolitan Detroit. The project was federally funded for three years, as a research-demonstration, and involved public-academic collaboration between state and local mental health agencies and four academic institutions. The purpose of the research demonstration was to test out innovative ways of providing supports and assistance to individuals with psychiatric disabilities who wish to pursue postsecondary education (Bellamy and Mowbray, 1998).

<sup>4</sup>According to the Census Bureau: Mental Disability (ACS 2003-2005) definition based on a two-part question: "Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities: (a) learning, remembering, or concentrating ..." (asked of persons ages 5 years old and older)  
([http://www.ilr.cornell.edu/edi/disabilitystatistics/glossary.cfm?g\\_id=247&view=true](http://www.ilr.cornell.edu/edi/disabilitystatistics/glossary.cfm?g_id=247&view=true))

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