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Macroeconomic consequences of migration diversion: a CGE simulation for Germany and the UK

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Abstract

This paper examines the macroeconomic consequences of the diversion of migration flows away from Germany towards the UK in the course of the EU Eastern Enlargement. The EU has agreed with the new member states from Central and Eastern Europe transitional periods for the free movement of workers. The selective application of migration restrictions during the transitional periods has resulted in a reversal of the pre-enlargement allocation of migration flows from the new member states across the EU: Germany as the main destination before enlargement attracts only modest immigration flows since 2004, while the UK and Ireland which have been only marginally affected by immigration prior to enlargement absorb about 60% of the inflows in the post-enlargement period. The macroeconomic effects of this diversion process is analysed in this paper on the basis of a CGE model which considers wage rigidities. We find that higher migration is associated with larger GDP and employment gains, but also with a smaller wage increase and a smaller decline of the unemployment rate. The diversion of migration flows away from Germany towards the UK yields thus a higher GDP and employment growth in the UK. The joint GDP of Germany and the UK declines by 0.1 per cent as a consequence of the migration restrictions.

Keywords: EU Eastern enlargement, international migration, computable equilibrium model, wage curve.

JEL code: F15, F22, C68, J61, J30.

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1 Introduction

This paper examines the macroeconomic consequences of the diversion of migration flows during the transitional periods for the free movement of workers in the course of the Eastern Enlargement of the European Union (EU). The EU has admitted eight new member states from Central and Eastern Europe in 2004[1] and another two countries in 2007.[2] The income gap between the incumbent and the new member states is in case of the EU Eastern enlargement larger than in previous accession rounds. At current exchange rates, the gross national income per capita of the ten new member states (NMS-10) amounts to 21 per cent of the EU-15, and – measured in purchasing power parities – to roughly 40 per cent of the EU-15 in 2005 (World Bank, 2007). This large income gap has fanned fears that the removal of immigration restrictions will yield a mass migration wave which will subsequently depress wages and increase unemployment in the incumbent EU member states.

Against this background the EU-15 countries decided at the European Council to impose transitional periods for the free movement of workers from the NMS. The so-called "2+3+2" formula allows the individual member states to suspend the free movement of workers for a period of up to seven years. Extension of the transitional period is first considered after two years, then for a second time after three years. A second prolongation of the transitional period requires that the member state announces serious imbalances in its domestic labour market. However, the application of transitional periods for the free movement remains a sovereign decision of the individual member state.

In the course of the 2004 enlargement round, only Sweden applied fully the Community Law for the free movement of workers, and the UK and Ireland opened their labour markets without restrictions. Although most other EU member states have opened their labour markets partially by granting work permits for seasonal workers, (small) immigration quotas or by concluding bilateral guestworker agreements, the remaining migration restrictions can be regarded as relatively tight in the sense that they effectively hindered labour migration between the new and the incumbent member states.[3]

[1] The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia joined the EU at May 1, 2004. Cyprus and Malta also joined the EU in 2004, but the transitional periods for the free movement of workers do not apply to them.

[2] Bulgaria and Romania joined the EU at January 1, 2007.

[3] For details see European Commission (2006) and European Commission (2007).

The selective application of migration restrictions during the transitional periods had two effects: First, the existing restrictions have effectively hindered migration such that total migration into the EU is lower than in case of an EU-wide application of the Community Law for the free movement of workers. Second, it is likely that migration flows have been diverted away from the preferred destinations towards countries which have opened their labour markets immediately after the EU Eastern enlargement.

In this paper we analyse the macroeconomic effects of this diversion process for the two economies which are mainly affected in absolute terms, Germany and the UK. We therefore apply different policy scenarios for identifying the macroeconomic effects of migration diversion. The first policy scenario assumes that the existing immigration policies are maintained until the end of the transitional periods in 2011, i.e. that Germany continues to opt for a restrictive immigration policy while the UK keeps the doors for labour migration from the eight new member states from Central and Eastern Europe (NMS-8) open. The second policy scenario relies on the assumption that both Germany and the UK have opened their labour markets for migrants from the NMS-8 already in 2004, which implies that Germany receives more and the UK less migrants. Both scenarios rely on counterfactual assumptions about the length of transition periods. In a companion paper (Baas and Brücker 2007) we have already examined the impact of recent trade, capital and migration flows on the economies of Germany and the UK.

The analysis is based on a computable general equilibrium (CGE) model, which allows simulating the impacts of migration, trade and capital movements simultaneously.[4] The CGE model employed here considers wage rigidities and unemployment which is particularly relevant in the European context where many countries suffer from high unemployment. More specifically, we model the empirical relationship between wages and unemployment in form of a 'wage curve' following Blanchflower and Oswald (1994; 1995).

We find that higher migration is associated with larger GDP and employment gains, but also with a smaller wage increase and a smaller decline of the unemployment rate. The diversion of migration flows away from Germany towards the UK yields thus a higher GDP and employment growth in the UK and a lower in Germany.

The remainder of this paper is organised as follows. The next section presents descriptive evidence on the diversion of migration away from main destinations such as Germany and Austria towards the UK and Ireland by

[4]The equations of the CGE model are available from the authors on request.

comparing migration patterns before and after the EU Eastern enlargement (Section 2). Section 3 provides the two migration scenarios which form the basis for the further analysis. Section 4 discusses the methodology and theoretical foundations of the CGE model. Section 5 presents the results of our simulations and Section 6 concludes.

2 Migration diversion after EU enlargement

The 2004 enlargement round has resulted in a distinct increase in migration from the NMS-8 into the EU-15, although total migration flows have been lower than predicted for the case of an EU-wide introduction the free movement of workers. Table 1 presents the stock of foreign nationals from the NMS-8 residing in the EU-15. Migration data are poorly reported in most EU member states, such that some uncertainty surrounds the estimates of the actual scale of east-west migration.[5] Based on the information of those countries which provide migration figures by country of origin and on the information of the European Labour Force Survey (LFS) for those countries which do not, we can estimate the net increase in the number of foreign residents from the NMS-8 in the EU-15 at 200,000-250,000 persons per annum since 2004.[6]

Table 1 about here

This net increase in the stock of migrants from the NMS-8 is below most estimates which have been carried out prior to the EU Eastern enlargement under the counterfactual assumption that all EU-15 member states will open their labour markets at the same time. There has been a wide range of studies which have estimated potential migration from the NMS (see Alecke *et al.*, 2001; Brücker and Siliverstovs 2006a, 2006b; Straubhaar, 2002, for reviews). These studies have relied either on extrapolations of south-north migration in Europe during the 1960s and 1970s (e.g. Layard *et al.*, 1992), surveys among the population of the new member states (e.g. Krieger,

[5]This is particularly true for Ireland and the UK, the main destinations of migration from the NMS since enlargement. For a detailed examination of the UK immigration data see Blanchflower *et al.* (2007).

[6]Note that the number of foreign residents from the NMS-8 in Table 1 would have been about 70,000 persons higher in 2005 and 2006 if Germany would have not revised the foreigner statistics.

2003), or econometric estimates considering inter alia differences in income levels and labour market conditions across countries as explanatory variables (e.g. Alvarez-Plata *et al.*, 2003; Boeri and Brücker, 2001; Dustmann *et al.*, 2003). Under the counterfactual assumption that the free movement will be introduced in all EU member states at the same time, the majority of these studies predicted for the EU-15 a long-run migration potential of 3-5 percent of the population from the NMS, and a short-run net inflow of about 300,000-400,000 persons per annum (Alvarez-Plata *et al.*, 2003; Bauer and Zimmermann, 1999; Boeri and Brücker, 2001; Bruder, 2004; Krieger, 2003; Layard *et al.*, 1992). These estimates have been confirmed by some recent estimates which have been carried out after enlargement and use current data (Pytlikova, 2007; Zaiceva, 2006). Some studies have obtained significantly lower (Fertig, 2001; Fertig and Schmidt, 2001; Dustmann *et al.*, 2003) or higher estimates (Sinn *et al.*, 2001) for the migration potential. However, Alvarez-Plata *et al.* (2003) and Brücker and Siliverstovs (2006a; 2006b) have demonstrated that the forecasting performance of the fixed effects estimators which are employed by most of the mainstream projections dominate other estimators such as the pooled OLS estimator which is *inter alia* used by Sinn *et al.* (2001) and yields much higher estimates of the migration potential. We thus conclude that actual post-enlargement migration flows from the NMS-8 into the EU-15 stand at about two-thirds of the migration potential which has been predicted by most studies.

That actual migration flows are below the predictions before EU enlargement is hardly surprising, given that many of the incumbent EU member states have opened their labour markets only partially or not at all. We however observe also a reversal in the allocation of migration flows from the NMS-8 across the EU-15 countries since enlargement: In 2000, nearly 70 percent of the foreign citizens from the NMS-8 residing in the EU were registered in Austria and Germany. This share has fallen to 43 percent in 2006. At a net increase of the foreign population of 110,000 and 150,000 persons per annum in the two years following enlargement, the UK and Ireland receive 56% of the net inflows since 2004 compared to 15% before enlargement. In contrast, Austria and Germany receive only 21% of the inflows since 2004.[7]

As a consequence, the UK and Ireland have received much higher migration inflows than predicted by most studies under the counterfactual

[7] We have corrected for the revision of the migration statistics in Germany by using the net immigration figure for the increase of the migration stock in 2005 in the calculation of the net inflows.

assumption that all EU-15 countries will open their labour markets at the same time. Interestingly enough, this does not hold true for the Scandinavian countries: although Sweden has opened its labour market completely, and Denmark largely, net migration flows into these two countries have been - at some 6,000 persons - almost negligible in the two years since enlargement. Language, and, perhaps, differences in labour market institutions, might have played an important role in shaping the direction of east-west migration flows.

Altogether, we conclude that the selective application of immigration restrictions during the transitional periods has resulted in (i) a lower immigration from the NMS-8 into the EU-15 than expected under the assumption of an EU-wide introduction of the free movement, and (ii) a substantial diversion of migration flows away from the main destinations prior to enlargement towards the UK and Ireland which have opened their labour markets immediately after EU enlargement.

3 Migration scenarios and other assumptions

For the assessment of the macroeconomic effects of migration diversion we employ two policy scenarios and a benchmark scenario. The first policy scenario is based on the assumption that both Germany and the UK maintain the status quo in their immigration policies. Germany applies thus the same set of immigration restrictions for workers from the NMS-8 until the end of the transitional periods, while the UK continues to grant workers from the NMS-8 free access to its labour market.

As a consequence, we assume that the UK continues to receive a large inflow of migrants from the NMS-8. The scenario for migration from the NMS-8 to the UK is derived from the migration scenario in Alvarez-Plata *et al.* (2003) for Germany. More specifically, we have assumed that the proportion of migration from the NMS-8 to the UK in the years 2004-06 relative to potential migration from the NMS-8 to Germany according to the scenario in Alvarez-Plata *et al.* (2003) remains constant over time. This implies that the number of immigrants tends to decrease over time. For Germany we assume that the average net immigration rate from the NMS-8 following the first two years after enlargement remains constant until the end of the transitional periods.

The second policy scenario relies on the counterfactual assumption that Germany and the UK have both opened their labour markets for workers from the NMS-8 already in 2004. As a consequence, total migration from

the NMS-8 into the EU-15 will increase. Germany receives more migrants and the UK less.

This counterfactual policy scenario is of course hard to quantify since we cannot observe actual migration flows under the assumption of an EU-wide application of the Community rules for the free movement of workers. For a quantification of this assumption we use again the migration scenario in Alvarez-Plata *et al.* (2003), which is based on the estimation of the elasticities of migration with respect to income differences and employment rates under the condition of free movement. Moreover, in contrast to most other studies in the literature, Alvarez-Plata *et al.* (2003) have tested the out-of-sample forecasting performance of different estimators before applying a certain estimation method. Alvarez-Plata *et al.* (2003) provide an estimate of potential migration from the NMS to Germany and extrapolate this estimate to the other EU-15 countries.[8] Following this approach, we extrapolate the projection in Alvarez-Plata *et al.* (2003) on basis of the pre-enlargement distribution of migration stocks from the NMS-8 across the EU-15 in the beginning of the year 2004 to the UK.[9] The policy scenarios are displayed in Table 2.

Table 2 about here

The EU Eastern enlargement does not only affect migration, but also trade and capital movements. We assume therefore in both policy scenarios that the removal of barriers to trade and capital movements is irreversible and that therefore the dynamic development in trade and capital flows continues. Trade and capital movements have considerably increased before and after the EU-enlargement, but the individual member states are affected in different ways: The EU-15 countries neighbouring the NMS such as Austria and Germany have the highest trade shares with the NMS, while the UK

[8] Most EU-15 countries do not provide long-time series of migration stocks and flows which can be used for reliable forecasts. Particularly the migration data for the UK which rely on the Passenger Survey suffer from several shortcomings, see e.g. Blanchflower *et al.* (2007) and Dustmann *et al.* (2003). The forecasting performance of gravity-type estimates which are based on panels of receiving and sending countries in the EU is therefore relatively poor compared to estimates which are based only on one destination and a panel of sending countries. See Alvarez-Plata *et al.* (2003).

[9] Our figures however deviate from those in Alvarez-Plata *et al.* (2003) since we use the regional distribution across the EU-15 at the beginning of 2004 and not that of the year 2000.

and Ireland are only moderately affected. As an example, Germany exported goods of a value of 89.7 billion Euros to the NMS and imported goods of a value 74.2 billion Euros from the NMS in 2006 (Deutsche Bundesbank, 2007), while exports of the UK to the NMS amounted to 31.2 billion Euros and imports to 41.1 billion Euros (ONS, 2006). We assume here that the dynamic development of trade and capital movements continues. The impact of opening labour markets to migration on trade and capital movements is reflected by our CGE model.

The effects of the two policy scenarios are compared with a baseline scenario which describes a world without enlargement. Our policy scenarios have to be considered as a counterfactual experiment which tempt to capture potential diversion effects. All studies which forecast the migration potential from the NMS highlight the uncertainty surrounding the estimates such that all results have to be interpreted with care.

4 Outline of the CGE Model

The CGE model employed here can be classified as a comparative static model based on the IFPRI framework. The IFPRI type models follow the neoclassic-structuralist modeling tradition first presented in Dervis *et al.* (1982). The equations of the model are derived from microeconomic assumptions about the behaviour of price taking agents. Consumers maximise utility subject to their budget constraints. Producer chose inputs so as to minimise production costs. Production technologies are characterised by a CES or Leontief function whereby resources are limited and distributed by market forces.

The model consists of $n = 16$ commodities, $m = 16$ domestic industries, and $n = 2$ type of households, migrants and natives. In total there are 2 agricultural industries, 4 manufacturing industries and 10 service industries. Each commodity corresponds to an industry. The consideration of two types of households allows considering the different consumption behaviour of native and migrant households. The empirical basis of the model form the current input-output matrices from Eurostat which enables us to consider the recent developments in the interconnection between trade, factor movements and production.

In order to capture the effects of the European integration process we enhanced the two country framework of the IFPRI model to a three country framework which reflects one country and two regions, the EU and the rest of the world. The German and the UK economy is linked to the EU and

to the rest of the world via trade in goods and services, capital flows and the migration of labour. Transaction costs within the EU are lower. EU Enlargement therefore triggers the reduction of transaction goods for trade in goods and services as well as for capital movements and migration.

Government consumption is restricted to tax income and borrowing which has implications for other economic agents. Within the government sector transfers to the budget of the EU are considered. In particular, special features such as the Common Agricultural Policy (CAP) are modeled. The model captures thus both the effects of integrating the NMS into the Common Market of the EU as well as the effects of Enlargement on governmental transfers.

An important feature of the model is the reflection of labour market imperfections by a wage curve which is novel in the CGE literature on the effects of the EU Eastern enlargement.[10] The consideration of labour market rigidities through the specification of a wage curve postulates a negative relationship between the real wage rate and the unemployment rate (Blanchflower and Oswald, 1994):

$$\frac{w}{P} = f(u), \qquad f' < 0, \tag{1}$$

where w denotes the wage rate, P the consumer goods price index and u the unemployment rate. The wage curve can be considered as a short-cut whose microeconomic foundations can be derived from different modes of wage setting, e.g. models with a monopoly union or a bilateral bargaining monopoly (e.g. Layard *et al.*, 1991), efficiency wage theories (e.g. Salop, 1979) or shirking-models (Shapiro and Stiglitz, 1984).

The elasticities between the unemployment and the wage rates are taken from the empirical literature (Blanchflower and Oswald, 1994; Blanchflower and Oswald, 1995). Different labour market conditions in Germany and the UK are reflected by different elasticities of the wage curve. The wage curve has thus an elasticity of -0.1 in Germany and of -0.13 in the UK.

The model is solved using the GAMS software initially developed by the World Bank. Within the GAMS package we use the Path Solver which is designed to solve mixed complementarity problems.

[10] For a similar approach in an analytical model see Boeri and Brücker (2005) and Levine (1999).

5 Results

Table 3 presents the macroeconomic effects of the EU Eastern enlargement for the UK and Germany. The simulations presented here consider the impact of Eastern enlargement on migration, trade, capital movements and governmental transfers. As outlined in Section 3, the effects of migration diversion are captured by two policy scenarios: the first scenario displays the status quo in immigration policies for both Germany and the UK, while the second scenario is based on the counterfactual assumption that all EU member states have opened their labour markets for migration from the NMS already in 2004. We can thus compare the counterfactual scenario of a world with free movement with a world where migration barriers hinder migration and divert migration flows away from the preferred destinations. These two policy scenarios are compared with a baseline scenario which describes a world without enlargement. The scenarios are calculated for the period from 2004 to 2011, i.e. they capture the period until the end of the transitional arrangements for the free movement of workers.

Table 3 about here

The EU Eastern enlargement increases GDP, trade, investment, private and governmental consumption and employment in all scenarios. Moreover, enlargement has lifted all boats in the incumbent EU member states: The real return on capital and wages have increased in the sequitur of the EU Eastern enlargement, while the unemployment rate is declining. The benefits from enlargement are however not equally distributed: Capital owners benefit more than workers from the integration of the labour abundant NMS.

The diversion of migration flows during the transitional periods has resulted in a higher GDP gain for the UK – 1.1 per cent compared to 0.7 per cent in case of an EU-wide free movement. In contrast, the German GDP declines in the status quo relative to free movement scenario by about 0.4 per cent. Accordingly, the migration diversion towards the UK increases investment, private consumption, governmental consumption and trade there by between 0.4 per cent and 0.6 per cent, while the migration restrictions reduce it in Germany by a similar amount.

Migration and trade are complements in our simulations, which can be traced back to the fact that migrants tend to move more than proportional into the tradable sectors. The diversion of migrants towards the UK in-

creases exports and imports there by about 0.5 per cent, while German export and imports fall by about 0.6 per cent compared to the free movement scenario.

The diversion of migration flows increases the income of capital owners in the UK by almost 0.6 per cent and reduces it in Germany by the same amount. In contrast, the wage gains drop by 0.4 per cent in the UK as a result of migration diversion, while lower immigration increases the wage gains in Germany by 0.3 per cent. Moreover, the diversion process reduces the decline in the unemployment rate of the UK by 0.3 percentage points, while the German unemployment rate falls by 0.6 instead of 0.3 percentage points. Altogether, the migration diversion increases GDP gains from Eastern enlargement and the income of capital owners in the UK, but reduces the gains of workers in terms of higher wages and lower unemployment risks. The converse holds true for Germany.

Note that we find larger economic gains from the EU Eastern enlargement than previous studies. As an example, Baldwin *et al.* (1997) calculate the total gain in GDP for the EU-15 at 0.2 per cent, while Heijdra *et al.* (2002) predicted that EU enlargement will increase the GDP in Germany by 0.67%. The Hejdra *et al.* (2002) study is inter alia based on a migration projection which is similar to our free movement scenario. The difference between the findings in the previous literature and ours can be traced back mainly to the fact that trade links between the incumbent and the new EU member states have been largely underestimated in the pre-enlargement studies.

6 Conclusion

The transitional periods for the free movement of workers have resulted in a reversal of the pre-enlargement distribution of migrants from the NMS across the EU-15. Based on a counterfactual scenario, which relies on the assumption that the free movement of workers would have been granted to the citizens of the NMS-8 in all EU-15 countries already in 2004, we have analysed the macroeconomic consequences of this diversion process for two mainly affected countries, Germany and the UK. Our findings indicate that the diversion of migration flows has increased the GDP in the UK and reduced it in Germany. Altogether, the migration restrictions during the transitional periods have reduced the joint GDP of Germany and the UK by about 0.11 per cent relative to our counterfactual scenario, which equals 5 billion Euros.

The transitional periods for the free movement of workers also impact the distribution of income. The productivity gains from the EU Eastern enlargement and the increase in trade involves that the income of workers and capital owners increase, while the unemployment rate declines in all scenarios. However, the redirection of migration flows towards the UK reduce the wage gains, while the unemployment rate declines less than in case of an EU-wide introduction of the free movement. In contrast, workers in Germany benefit from the diversion of migration flows during the transitional periods. Thus, although the transitional migration restrictions in Germany and other EU-15 countries create an aggregate loss for the incumbent EU member states, their distributional impact remains ambiguous.

References

Alecke, B., P. Huber, G. Untiedt (2001), "What a difference a constant makes: how predictable are international migration flows?", OECD (ed.): Migration Policies and EU Enlargement. The Case of Central and Eastern Europe, Paris: OECD, 63-78.

Alvarez-Plata, P., H. Brücker, B. Siliverstovs (2003), *Potential Migration from Central and Eastern Europe into the EU-15 - An Update*, Report for the European Commission, Brussels: DG Employment, Social Affairs and Equal Opportunities.

Baldwin, R.E., J.F. Francois, R. Portes (1997), "EU enlargement. Small costs for the west, big gains for the east," *Economic Policy*, 24, 127-175.

Baas, T., H. Brücker (2007), "Macroeconomic Impact of Eastern Enlargement on Germany and the UK: evidence from a CGE model", *Applied Economics Letters*, forthcoming.

Bauer, T., K.F. Zimmermann (1999), Assessment of Possible Migration Pressure and Its Labour Market Impact Following EU Enlargement to Central and Eastern Europe, IZA Research Report 3, Bonn.

Blanchflower, D.G., A.J. Oswald (1995), "An introduction to the wage curve", *Journal of Economic Perspectives*, 9(3), 153-167.

Blanchflower, D.G., A.J. Oswald (1994), *The Wage Curve*, Cambridge, MA: MIT Press.

Blanchflower, D.G., J. Saleheen, C. Shadforth (2007), The Impact of the Recent Migration from Eastern Europe on the UK Economy, IZA Discussion Paper 2615, Bonn.

Boeri, T., H. Brücker (2005), "Why are Europeans so tough on migrants?," *Economic Policy*, 44, 1-76.

Boeri, T., H. Brücker *et al.* (2001): *The Impact of Eastern Enlargement on Employment and Labour Markets in the EU Member States*, Report for the European Commission, DG Employment and Social Affairs, Brussels.

Brücker, H., B. Siliverstovs (2006a), "Estimating and forecasting European migration: methods, problems and results", *Journal for Labour Market Research*, 39(1), 35-53.

Brücker, H., B. Siliverstovs (2006b), "On the Estimation and Forecasting of International Migration: How Relevant Is Heterogeneity Across Countries?", *Empirical Economics*, 31(3), 735-54.

Bruder, J. (2004), East-West Migration in Europe, 2004-2015, Thuenen Series of Applied Economic Theory 40, University of Rostock, Institute for Economics.

Dervis, K., J. de Melo, S. Robinson (1982), General equilibrium models for development policy. New York: Cambridge University Press.

Deutsche Bundesbank (2007), *Monthly Report*, Supplement 3: Balance of Payment Statistics, Frankfurt.

Dustmann, C., M. Casanova, M. Fertig, I. Preston, C.M. Schmidt (2003), "The impact of EU enlargement on migration flows", Home Office Online Report 25/03, http://www.homeoffice.gov.uk/rds/pdfs2/rdsolr2503.pdf.

European Commission (2006), Report on the Functioning of the Transitional Arrangements set out in the 2003 Accession Treaty (period 1 May 2004-30 April 2006), Communication from the Commission to the Council, The European Parliament, the European Economic and Social Committee and the Committee of the Regions.

European Commission (2007), Enlargement - Transitional provisions. $http://ec.europa.eu/employment-social/free-movement/enlargement-en.htm$, July 13, 2007.

Fertig, M. (2001), "The economic impact of EU enlargement: assessing the migration potential", *Empirical Economics*, 26, 707-720.

Fertig, M., C.M. Schmidt (2001), Aggregate-Level Migration Studies as a Tool for Forecasting Future Migration Streams, University of Heidelberg, Economics Department Discussion Paper 324.

Heijdra, B.J., C. Keuschnigg, W. Kohler (2002), Eastern Enlargement of the EU: Jobs, Investment and Welfare in Present Member Countries, CESifo Working Paper 718.

Krieger, T. (2003), *Migration trends in an enlarged EU*, European Foundation for the Improvement of Working and Living Conditions, Dublin.

Layard, R., O. Blanchard, R. Dornbusch, P. Krugman (1992), *East-West Migration: The Alternatives*. Boston: MIT Press.

Layard, R., S. Nickell, R. Jackman (1991), *Unemployment - Macroeconomic Performance and the Labour Market*. New York: Oxford University Press.

Levine, P. (1999), "The welfare economics of migration control", *Journal of Population Economics*, 12, 23-43.

Office of National Statistics (ONS) (2006), *UK Balance of Payments. Pink Book 2006*, London: Palgrave/McMillan 2006.

Pytlikova, M. (2007), EU Enlargement: Migration from New EU Member Countries, Paper Presented at the EALE Conference 2007, Oslo.

Salop, S. (1979), "A Model of the Natural Rate of Unemployment", *American Economic Review*, 74, 117-125.

Shapiro, C., J. Stiglitz (1984), "Equilibrium Unemployment as a Worker Discipline Device", *American Economic Review*, 74, 433-444.

Sinn, H.-W., G. Flaig, M. Werding, S. Münz, N. Düll, H. Hoffmann (2001), *EU-Erweiterung und Arbeitskräftemigration. Wege zu einer schrittweisen Annäherung der Arbeitsmärkte*, Munich: Ifo-Institute.

Straubhaar, T. (2002), "Ost-West Migrationspotenzial: Wie groß ist es?", *Jahrbücher für Nationalökonomie und Statistik*, 222, 20-41.

World Bank (2006), World Development Indicators 2007, Washington DC.

Zaiceva, A. (2006), Reconciling the Estimates of Potential Migration into the Enlarged European Union, IZA Discussion Paper 2519.

Table 1: *Residents from the NMS-8 in the EU-15, 2003-2006*

	2003	2004	2005	2006	2003	2004	2005	2006
	residents from NMS-8							
	in 1,000 persons				*in % of host population*			
Austria[1]	41.0	53.7	80.5	78.9	0.5	0.7	1.0	1.0
Belgium[1]	9.5	15.6	25.6	59.9	0.1	0.1	0.2	0.6
Denmark[2]	10.2	10.5	11.3	13.3	0.2	0.2	0.2	0.2
Finland[3]	15.8	16.5	18.3	17.8	0.3	0.3	0.3	0.3
France[1]	35.1	43.0	46.8	29.6	0.1	0.1	0.1	0.0
Germany[4]	466.4	480.7	438.8	481.7	0.6	0.6	0.5	0.6
Greece[1]	16.4	15.2	20.6	20.1	0.1	0.1	0.2	0.2
Ireland[5]	49.1	54.1	58.5	63.0	1.2	1.3	1.4	1.5
Italy[6]	42.2	55.6	67.8	79.8	0.1	0.1	0.1	0.1
Luxembourg[1]	1.1	1.1	0.7	0.7	0.2	0.2	0.2	0.2
Netherlands[7]	12.2	13.1	17.9	23.2	0.1	0.1	0.1	0.1
Portugal[8]	0.6	0.7	0.8	0.3	0.0	0.0	0.0	0.0
Spain[1]	41.5	46.7	61.8	74.3	0.1	0.1	0.1	0.2
Sweden[9]	21.4	21.1	23.3	26.9	0.2	0.2	0.3	0.3
UK[10]	78.6	81.4	180.8	328.6	0.1	0.1	0.3	0.5
EU-15	841.1	909.0	1,053.4	1,298.0	0.2	0.2	0.3	0.3

All figures refer to January 1 of each year.

Notes: 1) Eurostat Labour Force Survey 2006.– 2) Statistics Denmark (population statistics).– 3) Statistics Finland (population statistics), 2006: Eurostat LFS.– 4) Statistisches Bundesamt (population statistics), 31.12. of previous year. 2006 and 2005 not comparable to previous years due to data revision.– 5) 2002: population census; 2005: LFS, other values estimated.– 6) 2004-06: ISTAT (population statistics); 2000-03: Council of Europe.– 7) Statistics Netherlands (population statistics).– 8) 2000-02: Eurostat LFS. 2003-06: extrapolation.– 9) Statistics Sweden (population statistics), 31.12.– 10) Eurostat LFS 2006. UK LFS data report 240,000 residents for 2004 and 365,000 residents for 2006 from NMS-8.

Table 2: *Migration scenarios, 2004-2011*

scenario	2004	2005	2006	2007	2008	2009	2010	2011
	residents from NMS-8 in 1,000 persons							
	Germany							
status quo	24.0	45.5	33.3	33.3	33.3	33.3	33.3	33.3
free movement in EU-25	133.6	178.1	178.4	160.4	135.8	110.7	88.1	80.0
	United Kingdom							
status quo	99.4	147.8	124.9	112.3	95.0	77.5	61.6	56.0
free movement in EU-25	20.1	26.9	26.9	24.2	20.5	16.7	13.3	12.1

See text for assumptions of scenarios.

Table 3: *Macroeconomic effects of migration diversion*

	status quo scenario[1]		free movement scenario[2]	
	UK	Germany	UK	Germany
	change in %, unemployment rate: change in %-points			
real GDP	1.11	0.86	0.67	1.32
private consumption	1.48	1.27	1.08	1.63
investment	0.78	0.78	0.42	1.28
government consumption	1.31	0.52	0.66	0.80
tax revenue	1.17	0.86	0.72	1.32
exports to EU[3] countries	2.59	2.57	2.12	3.19
exports to RoW[4] countries	1.33	1.05	0.91	1.67
imports from EU countries	3.75	3.38	3.31	3.75
imports from RoW countries	1.63	1.50	1.14	1.86
capital income	2.02	1.81	1.46	2.37
wage rate	0.20	0.89	0.63	0.51
employment	1.48	0.90	0.75	1.65
unemployment rate	-0.13	-0.58	-0.41	-0.34

Notes: 1) The status quo scenario assumes that Germany maintains its migration restrictions and that UK keeps its labour markets open.– 2) The free movement scenario assumes that all EU-15 countries grant free movement for workers from the NMS-8.– 3) EU countries are the other EU-25 member states.– 4) RoW countries are all other trading partners.

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