

The Local Labour Market Effects of Immigration in the UK

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Abstract

This paper provides a comprehensive picture of the way immigration affects labour market outcomes of native born workers, embedded into a representation of the underlying theoretical mechanisms, and under the constraints given by the availability of data sources. Our investigation is the first for Britain. The analysis concentrates on employment effects of immigration. We show that on a theoretical level, the effects of immigration on labour market outcomes depend on assumptions regarding the number of goods produced in the economy, and whether these goods are tradable or not. Differences in these assumptions relate mainly to long run effects. Theory does not necessarily suggest negative employment effects of immigration. We then discuss the problems that may arise in empirical estimations, and suggest ways to address these problems. Our empirical analysis is based on data from the Labour Force Survey. There is some evidence that immigration affects employment prospects negatively; however, estimated effects are very small, and in most cases, the effects are not significantly different from zero.

1 Introduction

The possible negative effects of immigration on wages and employment outcomes of native workers is one of the core concerns in the public debate on immigration. The possibility that changes in the size or composition of the labour force resulting from immigration could harm the labour market prospects of some native workers is compatible with simple economic models. There is a considerable number of papers addressing this issue for the US, and some papers for other European countries. The common conclusion of this work, apart from a small number of exceptions, is that immigration has only very small, or no effect on employment and wages of native workers. No work exists for the UK.

One purpose of the current research is to fill this gap. In addition, we explore the theoretical framework into which the empirical analysis is embedded. We explicitly acknowledge the multiplicity of dimensions in which the economy can adjust to immigration and the openness of the economy to trade in final output.

Our empirical model is directly derived from the theoretical work, and allows therefore a straightforward interpretation of parameters within the framework set out by the theory. The dominant methodology in the literature, which we follow also in this report, is to seek to infer labour market effects from spatial correlations between local immigrant inflows and local changes in the labour market outcomes of natives. At the stage of empirical implementation, this methodology raises a number of important issues. Most of these relate to a clear isolation of the effect of immigration on native labour market outcomes from other associated phenomena, particularly in a context where immigrant inflows are themselves the outcome of economic decisions. Much of the empirical literature is concerned with addressing these problems. We shall discuss the appropriate empirical strategies to solve these problems, and implement them as

far as our data allows us to do so.

One problem with studies on the impact of immigration on labour market outcomes is that spatial information is necessary to construct measures of regional concentration of immigrants. Many survey data sets do not include detailed spatial information - for instance, the British Labour Force Survey (LFS) includes spatial information only on regional level. A further problem is that surveys contain only small numbers on immigrants, so that the allocation of that information to spatial units, even if not detailed, may be miss-measured. Also, sample size may be an obstacle to any impact analysis that is intended to distinguish between different groups in the native population (for instance, by gender and skills). In this paper, we will use data from the LFS.

We commence in the next section with a brief account of the background to this literature. This includes the relevant economic theory that underlies the subsequent empirical work, and a discussion of the problems which occur on the empirical level. Next we explain the data sources we use. We then report results of our empirical analysis. Finally, we draw conclusions and suggest avenues for future work.

2 Background

2.1 Theory

The theoretical analysis of the labour market effects of immigration sees effects as arising from the changes it introduces in supply of skills and consequent change in labour market equilibrium. Typically a distinction is drawn between skilled and unskilled labour. Immigration inflows affect the skill composition of the labour force if the skill composition of immigrants does not match the skill composition of natives.

This change in skill composition leads to disequilibrium between supply and demand of different labour types at existing wages, prices and output levels. Restoration of equilibrium will almost certainly involve short run changes in wages and employment levels of different skill types and may or may not require long run changes¹.

The literature includes different approaches to theoretical modelling of these processes and different conclusions about the nature of long run effects. The main differences in assumptions made involve (i) differences in the number of goods produced and therefore in the flexibility of the economy to adapt through changes in mix of outputs, and (ii) differences in openness of the goods sector to trade and therefore in the extent to which output prices are set locally or on world markets.

Models assuming limited flexibility of output mix or closedness to international trade tend to predict that immigration will have long run wage and employment effects. Such features are typical of the underlying framework used as a motivation for empirical work in this literature (see for example the models of Borjas 1999 or Card 2001).²

On the other hand, models assuming a sufficiently high degree of flexibility in output mix and openness to trade predict an absence of long run effects on labour market outcomes, at least to small scale immigration. Leamer and Levinsohn (1995) refer to this as the hypothesis of *factor price insensitivity*³. In the context of discussion

¹Another less common approach (see for example Lalonde and Topel 1991) treats immigrant and native labour as different labour types. In such a model the effect of immigration depends on substitutability between immigrant labour and native labour of different skill levels. The form of equations arising for estimation are nonetheless not dissimilar to those under the more common approach.

²In this, these models share the features of standard models used in the broader literature on wage determination. See, for example, the influential papers of Katz and Murphy 1992 or Murphy and Welch 1992

³This result is related to the well known factor price equalisation result of trade theory - see, for example, Woodland 1982, Samuelson 1948 - although it is a weaker result.

of immigration this is sometimes referred to as the *structural hypothesis*. Although it is not often a feature of the models favoured in the empirical literature on the impact of immigration, this fact is sometimes mentioned ⁴ (see, for example, Borjas 1999, Card 2001 or Pischke and Velling 1997, Chiswick 1993). Several recent contributions lay more stress on the need for models with multiple goods and openness to trade (see, for example, Kuhn and Wooton 1991, Scheve and Slaughter 2001, Hanson and Slaughter 1999, 2001, Gaston and Nelson 2000, 2001).

Consider a model with the following features: The economy produces several goods using several labour types. Some of these goods are traded internationally at prices fixed on world markets. The number of workers of each labour type is determined by immigration. Their labour is flexibly supplied depending on the wage. In the long run, there is free entry of firms into profitable sectors.

We assume conventionally that in such an economy, wages, prices and output levels vary in the long run to maintain equilibrium between supply and demand in labour markets, to maintain equilibrium between supply and demand in product markets, and to maintain no incentive to further entry of firms by keeping zero profits in goods markets.

In the short run, disequilibria can exist, allowing excess demand or supply of labour and positive or negative profits in particular markets.

The nature of the labour market impact of immigration depends crucially on the scope for absorbing the impact through changes in the mix of output in the traded goods sector.

Consider, for instance, an economy with a small and homogeneous traded goods

⁴Maybe because most applications are to the US, which is less plausibly viewed as a small open economy than, say, the UK.

sector (and, therefore, relatively little flexibility in the output mix of traded goods), long run responses do involve long run changes in the wage and employment structure as well as output structure. The lack of flexibility in output mix means that there are insufficient degrees of freedom to accommodate changes in the skill mix through changes in the output mix. Wage changes are therefore not zero even in the long run. This is the sort of case typically presented as theoretical background literature to empirical studies.

Now consider an economy with a large and heterogeneous traded goods sector (and, therefore, relatively high flexibility in the output mix of traded goods). In such an economy, long run wages and employment levels are insensitive to immigration. This is the Leamer and Levinsohn (1995) *long run factor price insensitivity* result already discussed. Wages are determined by world prices and technology. Rather than impacting on wages, long run effects of immigration are felt in the output mix.

However, wages can be affected in the short run. The mechanism by which the economy adjusts is as follows. Any depressive effects on wages lead to positive profits being earned in sectors using intensively labour types which become cheaper. As a consequence, output in such sectors expands, driving back up wages. In the long run, equilibrium will be restored with wages driven back to their initial levels.

This exposition (which we formulate in much detail in associated work) shows that a variety of possible outcomes are compatible with economic theory. Immigration may depress wages and employment of natives. However, it is by no means inconsistent with economic theory to think that long run responses to immigration may involve no effect. What matters is the openness of the economy to trade⁵ and the flexibility of

⁵It should be noted that the empirical analysis below applies to regions within the UK. These are certainly open to trade with each other for much of their production.

the economy to adjust in respects other than wages and in particular through the mix of output produced.

2.2 Previous Literature

An extensive empirical literature exists on the impact of immigrants on the labour markets of host countries (see Borjas 1994, 1999, for an overview). Most of these studies relate to the US and typically use microdata from the US census. The common consensus of most of this work is that the impact of immigration on wages and employment in local labour markets is, if at all, modest. Much less work exists for countries outside the US. Pischke and Velling (1994) and de New and Zimmermann (1994, 1999) analyse data for Germany, Hunt (1992) analyses data for France, Carrington and Lima (1996) analyse data for Portugal and Winter-Ebmer and Zweimüller (1996, 1999) analyse Austria. Findings of these studies are typically in line with the US evidence, establishing only small effects of immigration on local labour markets.

The consensus in the literature is that employment and wage effects of immigration are small. Lalonde and Topel 1991 notice that “... increased immigration reduces the wages and earnings of immigrants and their close substitutes, though in our view the effects are not large ... Labor market effects on non-immigrants appear to be quantitatively unimportant.” Altonji and Card 1991 conclude “Our empirical findings indicate a modest degree of competition between immigrants and less skilled natives ... We find little evidence that inflows of immigrants are associated with large or systematic effects on the employment or unemployment rates of less skilled natives.” Card (2001) does find employment effects, but he states that: “the conclusion that immigrant inflows affect native employment rates is new. However, the implied effects for natives as a whole are very small. Even for workers in the bottom of the skill

distribution, I find relatively modest employment effects of recent immigrant inflows in all but a few high - immigrant cities.”

Conclusions of studies for Europe are very similar. De New and Zimmermann (1994) report that: “Immigration ... appears to have an overall negative effect on German wages. ... However ... the estimated effects are far from being dramatic and are well in line with economic theory.” Pischke and Velling (1997) find “little evidence for displacement effects due to immigration.” Finally, Winter-Ebmer and Zweimüller (1999) conclude that “The results indicate only a modest impact of immigration on the unemployment risk for native employees.”

2.3 Data used for the analysis

The data set we use for our analysis is the Labour Force Survey (LFS). The LFS is a household survey, conducted by the Office for National Statistics (ONS) on behalf of the Department for Education and Employment (DfEE). It provides a wide range of data on labour market statistics and related topics such as training, qualifications, income and disability. The LFS has been carried out in the UK since 1973. Between 1973 and 1983 a biennial survey was carried out during the spring. Between 1983 and 1991, the LFS was undertaken annually in the Spring of each year and before that every 2 years, beginning in 1973, originally to derive comparable labour market statistics that were required for Britain's accession to the European Union in 1975. The sample size was around 60,000 households in each survey, around 0.5% of the population. In Spring 1992, for the first time, the data were made available quarterly, with a quarterly sample size approximately equivalent to that of the previous annual data, thus becoming the Quarterly Labour Force Survey. Each quarter interviews are achieved at about 59,000 addresses with about 138,000 respondents. A core of questions covering household, family structure, basic housing information and demographic details of individuals in the households is included in every survey, together with non-core questions which vary from quarter to quarter. The British LFS contains spatial information only at regional level, except for a brief interval between 1997 and 1999 when data was made available at county level.

3 Empirical Implementation

The dominant approach to estimation of such a model in the literature is that referred to by Borjas (1999) as the “spatial correlations” approach. Effects of immigration are

identified from the spatial correlation between immigrant labour inflows and changes in native or overall labour market outcomes (or between immigrant population shares and levels of these outcomes). Spatial units are intended to correspond to geographical labour markets. In the US context, the spatial units usually used for empirical analysis are standard metropolitan statistical areas.

3.1 Problems in estimation

The typical empirical study regresses a measure of employment or wages of native workers in a given area on relative quantities of immigrants in that particular locality and appropriate controls. We discuss these problems and the way intend to solve them.

Fixed effects: Levels of immigrant shares and levels of labour market outcomes may be spatially correlated because of common fixed influences, leading to a positive or negative statistical correlation between immigrant concentration and economic outcomes, even in the absence of any genuine effects of immigration. To address this problem, we use difference and within groups estimation.

Simultaneity: The direction of causality between immigrant inflows and labour market outcomes is not necessarily clear-cut. Immigrants may be attracted to those areas that are enjoying current economic success. In this case it is not only that immigrant inflows are driving labour market changes, but that labour market changes are driving inflows. This selective settlement would lead to an upwardly biased estimate of the effects of immigrants' concentration on labour market outcomes of natives.

A possible solution to this problem is instrumental variables regression. As instruments, we use measures of historic settlement patterns. The underlying assumption is that immigrants take account of existing networks and the presence of individuals with the same culture and language as themselves. Thus, besides possibly choosing areas

that were subject to favourable recent economic shocks (which creates the problem), immigrants settle in areas with already high immigrant concentrations. Preexisting immigrant concentrations are unlikely to be correlated with current economic shocks if measured with a sufficient time lag, since existing concentrations are determined not by current economic conditions, but by historic settlement patterns of previous immigrants.⁶ Of course, the assumption that lagged values of immigrant stocks are correlated with employment changes only through their relation with immigrant inflows is an identifying assumption that is not testable. It could be problematic if local economic shocks were persistent and instruments were insufficiently lagged. The strength of correlation between lagged concentrations and current inflows is observable in data and can therefore be assessed.

Measurement error: Measures of immigrant concentrations may suffer from measurement error due to small sample size. This is likely to be the case in our analysis that is based on the LFS. The consequences of any measurement error is aggravated when using difference or within groups estimation. To address this problem, we use instrumental variables regression. We use historic settlement patterns as instruments.

Native outflows: Local labour markets are not closed economies and native workers are free to move out. If immigration does drive down local wages for certain skill groups then one would expect there to be pressure for native workers of that skill type to move elsewhere. This will tend to disperse the impact of immigration through the national economy and undermine the ability to identify the impact from looking at effects within localities, leading to upward biased estimates of the effect of immigration on employment of native workers. This point has been stressed in numerous contributions. The

⁶Work following this approach (see e.g. Card 2001) has been influenced by the findings of Bartel (1989) who argued that immigrants in the US tend to settle in areas where immigrant settlement is already strong.

US literature contains conflicting opinions on the seriousness of the problem. Borjas (1999) regards it as more serious than Card (2001). The problem is one of an omitted term in the estimated equation. The most attractive resolution to this problem is available if native outflows are observable and therefore amenable to incorporation directly into the estimation, as is the case in one of our data sources. However such outflows are likely to be correlated with shocks to local economic conditions for the same reasons as immigrant flows, discussed above, creating a further simultaneity issue. These outflows therefore also need instrumenting and it is theoretically less clear what would serve as a suitable instrument. In practice we rely on lags.

3.2 Estimation Strategy

The discussion we had above on the possible problems at the empirical stage can be summarised in the following equation:

$$U_{it} = \beta_0 + \beta_1 \pi_{it} + \beta_2 \ln \mathbf{n}_{it} + \beta_3 \mathbf{a}_{it} + \lambda_t^U + \mu_i^U + u_{it}^U \quad (1)$$

where U_{it} denotes unemployment rate, π_{it} denotes the ratio of immigrant to native population, \mathbf{n}_{it} denotes a vector of native skill group populations and \mathbf{a}_{it} denotes a vector of average ages, all in the i th region in the t th period. Here λ_t^U are year effects, μ_i^U are region effects and u_{it}^U are disturbance terms.

Homogeneity is imposed on the native skill group effects by omitting one skill category and expressing the others as ratios with the size of the omitted skill group.

All estimates are calculated in GAUSS using DPD98 (see Arellano and Bond 1991, 1998). Instrumental variables estimates are calculated by GMM imposing the moment restriction that Δu_{it}^U is uncorrelated with the chosen instruments, which in each case

are two- and three-period lags of the endogenous variables π_{it} and \mathbf{n}_{it} . Weighting of restrictions and calculation of standard errors recognises the anticipated first order serial correlation in the differenced residuals.

Tests are reported for first and second order serial correlation of residuals and for the overidentifying restrictions implied by choice of instruments. For all IV estimates reported below there is clear evidence of first order serial correlation, as should be expected given differencing of the residuals, but absence of second order serial correlation cannot be rejected at usual significance levels. The overidentifying restrictions are rejected in none of the specifications reported.

We provide estimates using a number of different estimators. Although several of these have obvious drawbacks they nonetheless offer a useful point of comparison to results of more robust methodologies and also to comparable results in the empirical literatures for other countries.

In all estimated specifications we include a full set of year effects so that aggregate time series variation is completely absorbed. Immigration may certainly have an important impact at the level of the whole economy but we do not think it wise to attempt to disentangle this from the effects of cyclical variation empirically. We are aware of no study which does this. We also include controls for average age of immigrants and natives. These are taken as given in subsequent discussion. Size of native skill groups are also entered as controls in order to allow for the effect of native outflows.⁷

We report results using the OLS estimator, a difference estimator, and the IV estimator in differences. With OLS, the effect of immigration on economic outcomes is identified from the period-by-period cross sectional correlation between relative immi-

⁷We impose the standard assumption that equiproportionate changes in all skill groups will have no effect.

grant stocks and employment levels. This offers a basic and straightforward point of comparison. However it is clearly subject to a number of serious problems, which we have discussed above. The within groups (difference) estimator adds region-specific effects to a levels regression (or estimating a relationship between differences over time in immigrant shares and differences over time in employment) will absorb any fixed element in the cross sectional variation. Identification of the effect is now from changes over time in the pattern of cross sectional variation. Either of these is more robust than simple OLS. However both still have problems with measurement error and simultaneity.

Combining estimation in differences with use of instrumental variables addresses both the issues of measurement error and simultaneity. In many ways this is the most attractive approach, subject to the appropriateness of the chosen instrumental variables.

We take two- and three-period lagged values of immigrant shares and of native skill supplies as instruments.

4 Analysis of LFS Data

Labour Force Survey data on employment are available from 1979 onwards and available at yearly frequency from 1983 onwards. Because raw microdata is available there is scope to construct variables in ways corresponding to objects of theoretical interest. For example, native unemployment rates can be distinguished from overall unemployment rates allowing an effective isolation of the economic effect of immigration on natives. The presence of relatively rich information on native skills also permits estimation of separate equations for different skill types as well as control for outflows of native

workers by skill type. However sample sizes within years are small and measurement errors therefore more pronounced, particularly as regards the key variable, inflows of immigrants.

Table 1 presents a series of different estimates of effects on total native unemployment in a way similar to Table ??, but based on LFS data, and adding the additional controls we have just discussed. OLS regression shows a slight negative relationship between unemployment and immigrant native population ratio. Removing persistent correlated effects by within groups estimation or differencing switches the sign of the relationship. Immigration is now associated with a positive increase in unemployment.

These estimates may be compromised by the possible simultaneity between immigrant inflows and positive economic shocks, leading to an underestimate of the impact in simple differences. Using lagged immigrant concentrations as instruments in the differenced equation increases the size of the estimated effect,⁸ as we would expect. Nonetheless, for the final and most robust of these estimates, the hypothesis of no effect can not be rejected and the value of the coefficient is modest. An increase in immigration amounting to one per cent of the native population would lead, according to this result, to an increase of 0.18 percentage points in the native unemployment rate.

Distinguishing between different skill- and demographic groups

As already noted, one of the advantages of using LFS data is the ability to analyse effects on different skill groups separately. Table 2 reports separate regressions for unemployment among skilled, semiskilled and unskilled workers. All effects are positive but individually statistically significant only for the semiskilled.⁹

Separating the workforce into demographic groups as in Table 3 also reveals esti-

⁸Two- and three-period lags are used as instruments. Full details of specification and full reporting

Table 1: Effect of immigration on unemployment

LFS 1983-2000

Variable	Levels			Differences				
	OLS		Within groups t value	OLS		IV t value		
	Coeff	t value		Coeff	t value			
Immigrant-native ratio	-0.050	-1.940	0.245	5.551	0.106	1.580	0.178	1.341
\ln skilled/unskilled	-0.046	-6.059	-0.023	-1.928	-0.027	-2.451	-0.228	-1.721
\ln semiskilled/unskilled	-0.044	-5.047	0.006	0.534	-0.004	-0.375	0.027	0.505
Mean native age / 100	-1.578	-5.178	-0.156	-0.673	-0.082	-0.396	0.739	1.219
Mean immigrant age / 100	-0.033	-0.510	0.177	3.670	0.063	1.392	0.083	1.054
M_1	12.858	p =3D 0.000	-4.489	p =3D 0.000	-4.685	p =3D 0.000	-2.049	p =3D 0.040
M_2	11.496	p =3D 0.000	0.272	p =3D 0.785	0.515	p =3D 0.606	0.379	p =3D 0.705
W_1	$\chi^2_3=3D313.642$	p = 0.000 =	$\chi^2_5=351.445$	p = 0.000 =	$\chi^2_5= 14.312$	p = 0.014 =	$\chi^2_5= 9.853$	p = 0.080
W_2	$\chi^2_{17}= 234.676$	p = 0.000	$\chi^2_{17}= 356.959$	p =0.000	$\chi^2_{17}=715.994$	p = 0.000	$\chi^2_{15}=220.905$	p = 0.000
S							$\chi^2_3= 1.833$	p = 0.608
Sample size	306		306		289			255

Notes:

M_1 is a test for first-order serial correlation, asymptotically distributed as a standard normal

M_2 is a test for second-order serial correlation, asymptotically distributed as a standard normal

W_1 is a Wald test for joint significance of the reported regressors

W_2 is a Wald test for joint significance of the unreported time dummies

S is a χ^2 test of the overidentifying restrictions implied by choice of instruments underlying IV estimates

Table 2: Effect of immigration on unemployment by skill group
LFS 1983-2000

Variable	IV, Differences					
	Skilled		Semiskilled		Unskilled	
	Coeff	<i>t</i> value	Coeff	<i>t</i> value	Coeff	<i>t</i> value
Immigrant-native ratio	0.104	0.915	0.390	2.219	0.026	0.112
<i>ln</i> skilled/unskilled	-0.084	-0.768	-0.247	-1.343	-0.233	-0.997
<i>ln</i> semiskilled/unskilled	-0.023	-0.529	0.090	1.269	0.003	0.036
Mean native age	0.437	0.869	0.706	1.032	-0.099	-0.086
Mean immigrant age	-0.052	-0.475	0.312	2.953	-0.093	-0.669
Mean skilled native age	0.089	0.850				
Mean semiskilled native age			0.486	0.642		
Mean unskilled native age					0.116	0.238
M_1	-4.968 p = 0.000		-2.141 p = 0.032		-4.240 p = 0.000	
M_2	0.186 p = 0.852		0.944 p = 0.345		-0.632 p = 0.527	
W_1	$\chi^2_6=6.739$ p = 0.346		$\chi^2_6=14.450$ p = 0.025		$\chi^2_6=5.536$ p = 0.477	
W_2	$\chi^2_{15}= 200.615$ p = 0.000		$\chi^2_{15}= 246.459$ p =0.000		$\chi^2_{15}=60.992$ p = 0.000	
S	$\chi^2_3= 1.187$ p = 0.756		$\chi^2_3= 0.714$ p = 0.870		$\chi^2_3= 0.353$ p = 0.950	
Sample size	255		255		255	

Notes:

As for Table 1

Table 3: Effect of immigration on unemployment by demographic group
LFS 1983-2000

Variable	IV, Differences					
	Male		Female		Minority	
	Coeff	<i>t</i> value	Coeff	<i>t</i> value	Coeff	<i>t</i> value
Immigrant-native ratio	0.198	1.206	0.154	1.330	0.071	0.047
<i>ln</i> skilled/unskilled	-0.277	-1.670	-0.154	-1.311	-1.856	-1.234
<i>ln</i> semiskilled/unskilled	0.018	0.273	0.041	0.873	0.250	0.416
Mean native age	1.421	1.146	0.346	0.475	7.790	1.131
Mean immigrant age	0.093	0.945	0.073	1.041	-0.772	-0.858
Mean male native age	-0.406	-0.486				
Mean female native age			0.023	0.039		
M_1	-2.006 p = 0.045		-2.886 p = 0.004		-2.314 p = 0.021	
M_2	0.621 p = 0.534		-0.449 p = 0.654		-1.719 p = 0.086	
W_1	$\chi^2_5=9.771$ p = 0.135		$\chi^2_6=5.511$ p = 0.480		$\chi^2_6=3.102$ p = 0.684	
W_2	$\chi^2_{15}=253.392$ p = 0.000		$\chi^2_{15}=141.670$ p = 0.000		$\chi^2_{15}=8.185$ p = 0.916	
S	$\chi^2_3=1.111$ p = 0.774		$\chi^2_3=2.259$ p = 0.521		$\chi^2_3=0.128$ p = 0.988	
Sample size	255		255		255	

Notes:

As for Table 1

mated effects of similar sign and modest size, though consistently insignificant statistically. There is no strong evidence here that men or women are particularly harmed. Nor is it evident that minorities - defined here as immigrants arriving before 1981 - suffer specifically.

Table 4 separates the population into three age groups and estimates employment effects for each. The largest effect is for the oldest group but even here the coefficient is only on the margin of conventional statistical significance.

In none of these specifications have the dynamics of the relationship been explored.

of estimates and associated test statistics are available on request

⁹Even this is below the critical point for the maximum of three independent *t* values, suggesting that the evidence for any effect is not strong.

Table 4: Effect of immigration on unemployment by age
LFS 1983-1999

Variable	IV, Differences					
	Age 20-35		Age 26-50		Age 51-65	
	Coeff	<i>t</i> value	Coeff	<i>t</i> value	Coeff	<i>t</i> value
Immigrant-native ratio	0.207	1.463	0.070	0.366	0.292	1.961
<i>ln</i> skilled/unskilled	-0.134	-0.950	-0.335	-1.766	-0.089	-0.602
<i>ln</i> semiskilled/unskilled	-0.017	-0.302	0.065	0.853	0.032	0.540
Mean native age	0.931	1.446	0.940	1.084	-0.350	-0.515
Mean immigrant age	0.160	1.906	-0.026	-0.234	0.009	0.100
M_1	-3.773 p = 0.000		-2.310 p = 0.021		-3.871 p = 0.000	
M_2	1.340 p = 0.180		0.360 p = 0.719		-1.398 p = 0.162	
W_1	$\chi^2_5=12.392$ p = 0.030		$\chi^2_5=4.527$ p = 0.476		$\chi^2_5=9.836$ p = 0.080	
W_2	$\chi^2_{15}= 297.494$ p = 0.000		$\chi^2_{15}= 48.544$ p =0.000		$\chi^2_{15}=86.942$ p = 0.000	
S	$\chi^2_3= 3.835$ p = 0.280		$\chi^2_3= 1.797$ p = 0.616		$\chi^2_3= 0.234$ p = 0.972	
Sample size	255		255		255	

Notes:

As for Table 1

We have been unable to find statistically reliable and well determined estimates of dynamic specifications and have therefore refrained from commenting on differences between short run and long run effects. We note however that considerations of economic theory suggest that long run adjustments to immigration are likely to lower the magnitude of effects and that the estimates here, as hybrids of long and short run impact, are likely to overestimate long run responses.

5 Summary of Results and Discussion

In this paper, we analyse the impact of immigration on labour market outcomes of native workers. Our analysis is the first for the UK. We commence by discussing the theoretical background, which suggests that there are realistic routes by which immigration can affect labour market outcomes but the absence of any long run impact is by no means implausible or inconsistent with theory for the case of an open economy with a large heterogeneous traded goods sector such as the UK.

The main result of the empirical analysis is that there is no strong evidence of large adverse effects of immigration on native employment or wages. In this respect our findings are consistent with empirical results from existing international research. There is some weak evidence of negative effects on employment but these are small and for most groups of the population it is impossible to reject the absence of any effect with the data used here. Insofar as there is evidence of any effect on wages, it suggests that immigration enhances native wage growth.

We have drawn attention to many weaknesses in the available data and conceptual problems in the empirical analysis all of which should urge caution before drawing strong conclusions. Nonetheless it seems to be fair to conclude that on current evidence

fear of large and negative employment and wage effects on the resident population are not easily justifiable grounds for restrictive immigration policy. The perception that immigrant take away jobs from natives, thus contributing to large increases in unemployment, or that immigrants depress wages of native workers, do not find confirmation in the analysis of data laid out in this report.

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